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► [Patient Activation: Utility in Elective Lumbar Spine Surgery](#)

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## Paid Work and Parent–Child Relationship Quality

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### Synonyms

[Employment status and schedule](#); [Family life and parenting](#); [Family relationships](#); [Home environment](#); [Parental acceptance and work](#); [Parent–child conflict](#); [Work demands and resources](#)

### Description

#### Introduction

The increase in female labor force participation prompted a great deal of research on the ways in which work demands impact family life. In general these studies approached the topic from a “conflict approach” and (implicitly) argued that work absorbs time, energy, and attention

that are necessary to foster a healthy parent–child relationship and sound parenting (e.g., Greenhaus & Beutell, 1985; Huston & Rosenkrantz Aronson, 2005). Prior research studied a wide range of family outcomes, such as ► [child well-being](#), marital relationship quality, and parenting practices (see Bianchi & Milkie, 2011; Perry-Jenkins, Repetti, & Crouter, 2001 for reviews). This entry addresses existing knowledge on the association between paid work and parent–child relationship quality. In addition to setting out the ways through which paid work has been argued and found to *harm* parent–child relationship, it will address the enriching effects and discuss the mediating role of parents’ temporal involvement.

#### The Work-Stress and Work-Socialization Perspectives

Studies on family outcomes can be organized along the lines of two theoretical perspectives. First, *the work-stress perspective* (Menaghan & Parcel, 1990) argues that paid work harms family life because work stressors deplete parents’ resources. Empirical results indeed showed that higher work demands are associated with more parental role overload, withdrawal, and parent–adolescent conflict and with less parental nurturing behavior and parental acceptance (e.g., Crouter, Bumpus, Head, & McHale, 2001; Crouter, Bumpus, Maguire, & McHale, 1999; Larson, Wilson, & Beley, 1994; Repetti, 1994). Parental well-being is an important ► [mediator](#),

especially when the effects of parental work on parenting behavior are concerned (e.g., Galambos, Sears, Almeida, & Kolaric, 1995; MacEwen & Barling, 1991; see Perry-Jenkins, Repetti, & Crouter, 2000 for a review). As an example, Bumpus, Crouter, and McHale (1999) found that parental work pressure increased parent-adolescent conflict via parental role overload.

Second, the contrasting *work-socialization perspective* (Menaghan & Parcel, 1990) stresses the beneficial effects of paid work on family life. This perspective parallels the “enrichment approach” (Greenhaus & Powell, 2006). In line with this approach, research demonstrated that parents with more complex and challenging jobs show sounder parenting behavior and provide a more intellectual and physically suitable home environment for their children (e.g., Menaghan & Parcel, 1990; Perry-Jenkins et al., 2000).

### Research on Paid Work and Parent–Child Relationship Quality

Research on paid work and parent–child relationship quality is scarce, especially as compared to the literature on the marital relationship (Crouter et al., 2001; Poortman, 2005). There are some notable exceptions however. First, in a study that focused mostly marital quality, Rogers and White (1998) found that parents’ employment status and schedule were *not* associated with parents’ own evaluations of the parent-child relationship. This finding rejects both the work-stress and work-socialization perspective.

Second, Crouter et al. (2001) looked at father-adolescent conflict and acceptance and studied how these indicators of father-child relationship quality were associated with fathers’ work demands. They found that father-adolescent relationships were of a lower quality when fathers worked long hours and reported more role overload. The detrimental effects of these work stressors were mutually reinforcing.

Third, Huston and Rosenkrantz Aronson (2005) studied the association between mothers’ employment status and a range of indicators of the relationship with their infant children (e.g., maternal sensitivity and the level of security of the child’s attachment). Similar to Rogers and

White, the authors found no detrimental effects of maternal employment. Instead they found some evidence that mothers who worked longer hours provided *higher quality* home environments, a finding that is in line with the enrichment approach. Summarizing, the findings of research on the link between parental paid work and parent–child relationship quality are inconclusive and do not provide convincing support for either the work-stress or the work-socialization perspective.

### The Mediating Role of Temporal Involvement

Although research established that paid work affected both the time spent with the family (e.g., Bianchi, Robinson, & Milkie, 2006) and aspects of the quality of family relationships, such as ► [marital satisfaction](#) (e.g., Crouter et al., 2001; Schoen, Rogers, & Amato, 2006), these two outcomes have seldom been linked. Nevertheless, it is likely that parents who face high work demands may have lower quality family relationships exactly because their work restricts them from spending quality time with their family.

Both Crouter et al. (2001) and Huston and Rosenkrantz Aronson (2005), indirectly or directly, investigated the mediating role of parent–child time. Crouter and colleagues (2001) found that work overload affected conflict but not father-adolescent time, and from this, they concluded that joint time did not mediate the association between work overload and father-adolescent conflict. Huston and Rosenkrantz Aronson (2005) included time diary data and found that employed mothers spent less time with their infants than did nonemployed mothers, which, in turn, decreased the mother-child relationship quality. Furthermore, they demonstrated that the quality of time matters, as social interaction time had the strongest effect on the quality of the home environment.

The idea that association between paid work and parent–child relationship quality is mediated by parents’ temporal involvement was further elaborated upon by Roeters, Van der Lippe, and Kluwer (2010). Using Dutch household data, this

study extended prior research by (1) studying a wide range of work characteristics, covering characteristics that both potentially conflict with and enrich family life, (2) considering the quality of time from a time use perspective, and (3) including both fathers and mothers. The next section elaborates on this study’s theoretical approach, data, and findings.

**Roeters et al. (2010): “Work Characteristics and Parent–child Relationship Quality: The Mediating Role of Temporal Involvement”**

Combining the Conflict and Enrichment Approach

Whereas prior research on the mediating role of parent–child time focused on work stressors (Crouter et al., 2001; Huston & Rosenkrantz Aronson, 2005), Roeters et al. (2010) incorporated insights from the role socialization perspective. On the basis of the conflict approach (Greenhaus & Beutell, 1985), the authors expected that *work demands* would reduce the amount of parent–child time. In addition to paid work hours, the authors considered a “family-unfriendly” ► [organizational culture](#), ► [job insecurity](#), and ► [stress](#) as work demands, as these characteristics absorb time, energy, and attention as well.

The enrichment approach, in contrast, suggests that facilitating work characteristics enhance parents’ time and energy availability and are therefore likely to increase the frequency of parent–child activities. Positive work experiences as well as skills, abilities, and values that are acquired in the work domain increase a parent’s general well-being and can therefore improve interactions at home (Greenhaus & Powell, 2006). For example, if work engagement increases parental well-being, these parents are more likely to take up activities with their children because they feel more energetic (Bakker & Geurts, 2004). Also, parents who work nonstandard hours and with more flexible jobs can arrange their work in such a way that they match their hours to their children’s needs and availability.

The likely beneficial aspects of job flexibility, nonstandard hours, and work engagements

notwithstanding, there may be counteracting effects at play simultaneously. Arguments from the conflict approach pertain to the above-mentioned work characteristics as well. Nonstandard hours often conflict with family hours on evenings and weekends (Presser, 1994) and job flexibility erodes the boundaries between work and family in a similar way (Peters & Van der Lippe, 2007). Furthermore, as work engagement increases work commitment, this could come at the expense of family commitment (Bielby, 1992). Because arguments from both the enrichment and the conflict approach apply, the authors labeled flexibility, nonstandard hours, and work engagement as “double-edged” work characteristics that could be associated with both a *higher* and *lower* frequency of parent–child activities.

The authors argue that less parent–child time is associated with a lower parent–child relationship quality, arguing that this inhibits children to securely attach to their parents and limits parents’ knowledge of and sensitivity for their children. This expectation is in line with attachment theory (Hill, 1988) and self-expansion theory (Ickes & Duck, 2000) and the idea that activities are relationship-specific investments that strengthen mutual commitment (Hill, 1988).

The Mediating Role of the Quality of Time

*Measuring Quality Time.* Whereas prior research on the amount of parent–child time strongly suggested that parents protect parent–child time (Bianchi et al., 2006), Roeters et al. (2010) anticipated that the effects on the quality of time would be more difficult to protect because the nature of time is less tangible and more difficult to plan and control. Whereas Huston and Rosenkrantz Aronson (2005) differentiated between social and instrumental parent–child time, Roeters et al. (2010) measured the quality of time using indicators from the time use literature. The quality of time was measured as the level of disturbance (contamination and fragmentation) by paid work. Time use research demonstrated that people – women in particular – often multitask and that secondary activities affect the nature of primary activities (e.g., Bianchi et al., 2006; Mattingly & Bianchi, 2003). In line with

this, it was argued that a child-related activity that is combined with a work-related activity has a different nature from that of an activity solely focused on the child. Disturbance was measured by asking parents how often parent–child activities were combined with (i.e., contamination) or interrupted (i.e., fragmentation) by work-related secondary activity. For example, child-related activities are considered to be more fragmented when the episodes are short because of interruptions by other activities, such as a phone call from work.

*Work Characteristics and the Quality of Time.* With regard to the work demands, the authors anticipated that these would increase the disturbance of parent–child time. Jobs that are “greedier” because they absorb more time, energy, and attention put a larger claim on family life, forcing parents to be strongly involved in their work and constantly stay updated. As a result, such parents may experience more difficulties focusing on their children and buffering work encroachments. For example, a mother who arrives home from work late has less time to regain her energy, which may make it hard to focus on her children without thinking about work.

The authors further presumed that double-edged work characteristics would increase the disturbance of parent–child time. Work may interfere more with family activities when nonstandard hours and flexibility make it more difficult to separate paid work and family life. Moreover, parents who are more engaged in their work may be more inclined to take their work home. Summarizing, work stressors are expected to reduce both the quantity and quality of time, whereas the double-edged work characteristics are expected to reduce the quality of time but not necessarily the quantity.

In line with the expectations on the quantity of time, the authors expected parents to establish higher quality relationships with their children when joint activities would be less disturbed by work. Quality time further enhances children’s secure attachment to their parents and the parents’ psychological availability improves communication, makes parents more attentive, and enables them to tune in to their children’s

needs. This, in turn, is likely to increase parents’ knowledge of and sensitivity for their children.

*Data and Results.* The results of structural equation models using data on 1,008 Dutch fathers and 989 Dutch mothers (collected in 2007) indicated that it was mostly the nature of time that mattered. Of the range of work characteristics (i.e., work hours, ► **job insecurity**, the organizational culture, ► **stress**, job flexibility, nonstandard hours, and work engagement) that was considered, only the number and timing of work hours and work engagement affected the *quantity* of parent–child time. In contrast, all work characteristics (with the exception of job insecurity and nonstandard hours for fathers) influenced the *quality* of parent–child time. The authors also found confirmation for the idea that work characteristics could be “double edged.” For example, whereas parents who reported more job engagement spent more time with their children, they also reported higher levels of disturbance. There were very few gender differences.

*Conclusions.* The results of this study indicate that although parenthood ideologies stimulate parents to protect the time they spend with their children, it is more difficult to limit encroachments on the quality of joint time. Parents seem to be able to limit the consequences of time-based conflicts, but it appears to be a greater challenge to limit the consequences of energy-based and attention-based conflict (Greenhaus & Beutell, 1985). The findings revealed few gender differences. This is surprising in the light of other studies on parent–child time (e.g., Roeters, Van der Lippe, & Kluwer, 2009) but could be explained by the composition of the sample. The children in the study were school-aged and prior research showed that the division of labor becomes more equal as children grow older (Craig & Sawrikar, 2009). The advantages of specialization may be higher when children are young and need more supervision.

### General Conclusion

The link between parental paid work and parent–child relationship quality is a topic that received relatively little attention in the abundance of

research on paid work and family life. This is surprising as the parent–child relationship has important implications for child and parental well-being and forms the basis for the parent–child relationship throughout the life course. The studies that have examined this topic demonstrated that the effects are not clear-cut. The association between paid work and parent–child relationship quality cannot be characterized as a “zero-sum game.” Parents seem to be able to limit the effects of work demands by protecting the amount of time they spend with their children. Nevertheless, because even “positive” work characteristics as work engagement harmed the quality of time, the unintended consequence of combining paid work and family responsibilities supports the case for taking a more detailed look at the quality of time.

## Cross-References

- ▶ [Commuting](#)
- ▶ [Spare Time](#)
- ▶ [Time Needed to Travel to Work](#)

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## Pain

- [Pain and Genetic Connections](#)

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## Pain and Breast Cancer

- [Breast Cancer](#)

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## Pain and Genetic Connections

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### Synonyms

[Genetic polymorphisms](#); [Genetic variations](#); [Nociception](#); [Pain](#); [Single nucleotide polymorphisms](#)

### Definition

The disposition toward pain perception and response to analgesics may be comparable to other common disorders, like cancer, diabetes, and cardiovascular diseases. That is, multiple genetic variations result in a disposition to a particular disease, and each variant makes a small contribution to overall susceptibility to pain. Perception of pain and response to analgesic medications are complex processes that involve multiple biochemical pathways.

## Description

### Introduction

It is well known that a wide range of interindividual variability exists in the perception of pain as well as in the dosage of analgesics that will provide pain relief, even in patients who have comparable disease severity and are undergoing comparable treatments. The disposition toward pain perception and response to analgesics may be comparable to other common disorders, like cancer, diabetes, and cardiovascular diseases. That is, multiple genetic variations result in a disposition to a particular disease, and each variant makes a small contribution to overall susceptibility to pain. Perception of pain and response to analgesic medications are complex processes that involve multiple biochemical pathways (e.g., neurotransmission, inflammation, drug transport and metabolism). Each of these pathways involves significant genetic factors that may modify pain perception or response to analgesics.

### Neurotransmission

Pain is the consequence of interactions between a stimulus and the body's pain-transmission system (National Research Council [NRC], 1999) receptors and activate pain-transmission pathways. Several neurotransmitters and receptors – e.g., serotonin (5-hydroxytryptamine, 5-HT), catecholamines, and gamma-amino butyric acid (GABA) – contribute to the transmission of the sensations of pain within the brain and spinal cord. Genes that modulate expression and activity of these proteins may explain individual differences in pain perception and are potential targets for analgesic drug development (Table 1).

### Inflammation

Proinflammatory cytokines appear to play a central role in peripheral neuropathic pain and hyperalgesia (Lee et al., 2004). In animal models, inflammatory cytokines enhance nociception. Studies of mollusks have shown that the release of the cytokine interleukin 1 $\beta$  (IL-1 $\beta$ ) sensitizes withdrawal reflexes, a protective response of the body to pain stimuli (Maier & Watkins, 2003).

**Pain and Genetic Connections, Table 1** Neurotransmission pathway genetic variants associated with clinical pain phenotypes

Gene	Polymorphism	Pain phenotype	Sample	Reference
Catechol-O-methyltransferase (COMT)	rs4680	Morphine consumption	Patients with cancer	Rakvåg et al., 2005
		Nonmigraine headache	Women	Hagen, Pettersen, Stovner, Skorpen, & Zwart, 2006
	rs6269, rs4818, rs4633, rs4680	Musculoskeletal pain	Patients with myogenous temporomandibular joint disorder (TMJ)	Diatchenko et al., 2005
		Fibromyalgia	Patients with fibromyalgia	Vargas-Alarcón et al., 2007
	Haplotype of SNPs in intron 1	Side effects of opioids	Patients with cancer	Ross et al., 2008
Haplotype of 11 SNPs	Morphine consumption	Patients with cancer	Rakvåg et al., 2008	
Serotonin transporter (5-HTT)	rs2066713	Onset of postoperative pain	Postsurgical patients	Kim, Mittal, Iadarola, & Dionne, 2006
	rs2276307 rs1935349	Myalgia	Hypercholesterolemic patients treated with statins	Ruaño et al., 2007
	Intron 2 variable number tandem repeat	Joint pain	Patients with joint pain	Herken et al., 2001
	rs25531	Analgesic effect of remifentanyl	Healthy volunteers	Kosek, Jensen, Lonsdorf, Schalling, & Ingvar, 2009
μ-opioid receptor gene (OPRM1)	rs1799971	Pain perception and morphine consumption	Postcesarean women	Sia et al., 2008
			Postsurgical patients	Chou et al., 2006
			Patients with cancer	Klepstad et al., 2004
			Laboring women	Landau, Kern, Columb, Smiley, & Blouin, 2008

**Pain and Genetic Connections, Table 2** Polymorphisms in cytokine genes and clinical pain phenotypes

Gene	Polymorphism	Pain phenotype	Sample	Reference
<i>IL-1a</i>	rs1800587	Pain severity	Men with low back pain	Solovieva et al., 2004
IL-1RN	Tandem repeat within intron 2 1812 G/A	Morphine consumption	Postoperative women	Bessler, Shavit, Mayburd, Smirnov, & Beilin, 2006
		Occurrence of pain Pain severity Duration of pain	Men with low back pain	Solovieva et al., 2004
<i>IL-1b</i>	rs1143634	Pain severity	Patients with burning mouth syndrome	Guimarães et al., 2007
		Duration of pain	Men with low back pain	Solovieva et al., 2004
IL-6	rs1800795	Pain severity	Patients with rheumatoid arthritis	Oen et al., 2005
IL-8	rs4073	Response to opioids	Patients with lung cancer	Reyes-Gibby et al., 2008
		Pain severity	White non-Hispanic patients with lung cancer	Reyes-Gibby et al., 2007
<i>TNF-a</i>	rs1800629	Pain severity	Patients with lung cancer	Reyes-Gibby et al., 2008

**Pain and Genetic Connections, Table 3** Polymorphisms in genes related to analgesic response

Gene	Polymorphism	Analgesic	Reference
ABCB1	rs1045642	Morphine	Campa, Gioia, Tomei, Poli, & Barale, 2008
	rs2032582	Methadone	Coller, Barratt, Dahlen, Loennechen, & Somogyi, 2006
		Fentanyl	Park et al., 2007
CYP2B6	rs34830389	Methadone	Crettol et al., 2006
	rs2279343		
CYP2D6	rs35742686	Tramadol	Pedersen, Damkier, & Broesen, 2005
	rs3892097	Methadone	Coller et al., 2007
	rs5030655	Dextromethorphan	Shiran et al., 2009
	rs5030867		Cai, Chen, Tao, Ling, & Zhang, 2000
	rs1065852		Takashima, Murase, Iwasaki, & Shimada, 2005
CYP2C9	rs1799853	NSAIDs in general	Pilotto et al., 2007
	rs1057910		
UGT2B7	-840 G/A	Morphine	Darbari et al., 2008

In humans, inflammatory cytokines are thought to be the mediators that bridge the CNS and immune systems. Cancer and its treatments induce release of proinflammatory cytokines in both the CNS and periphery, which may modify the activity of nociceptors and contribute to pain. Structural damage to peripheral axons leads to an inflammatory reaction at the site of injury: inflammatory cells (e.g., macrophages, neutrophils, CD4<sup>+</sup>, and CD8<sup>+</sup> T cells) infiltrate the site, and levels of inflammatory cytokines (e.g., IL-1, leukemia inhibitory factor, and particularly TNF- $\alpha$ ) increase. Neuropathic pain develops as a result (Bennett, 2000). Table 2 lists polymorphisms in genes encoding cytokines that are associated with pain perception and/or response to analgesics.

### Drug Transport and Metabolism

*P-glycoprotein* (P-gp) is a membrane transporter that mediates the transport of several opioid peptides across biological membranes (e.g., the blood–brain barrier) and facilitates access to their targets. Nonpeptide opiates such as morphine are effluxed from the brain across the blood–brain barrier via P-gp. P-gp is encoded by the adenosine triphosphate-binding cassette (ABC) superfamily member B1 (*ABCB1*) (Higgins, 2001). *Cytochrome P450 enzymes* (CYP) constitute a large family of phase I enzymes involved in drug metabolism and

bioactivation that account for 75 % of total drug metabolism. Polymorphisms in cytochrome P450 isoforms appear to contribute to variations in analgesic efficacy and presence of side effects, generally in a drug-specific manner (Guengerich, 2008). *Uridine diphosphate glucuronosyltransferase* (UGT) is a phase II enzyme that catalyzes glucuronidation, which facilitates the elimination of most analgesics. Clearance of various NSAIDs, opioids, and acetaminophen are glucuronidated by UGTs (Armstrong & Cozza, 2003). Table 3 lists polymorphisms related to response to analgesics.

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## Pain Evaluation

- [McGill Pain Questionnaire](#)

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## Pain Measurement, Subjective

- [McGill Pain Questionnaire](#)

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## Pain, an Overview

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## Synonyms

[IASP; Quality of life and pain](#)

## Definition

The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (Mersky & Bogduk, 1994). The pain experience is a multidimensional phenomenon affected by affective, cognitive, behavioral, and sociocultural factors besides the physiological and sensory components (Ahles, Blanchard, & Ruckdeschel, 1983; Kim, McGuire, Tulman, & Barsevick, 2005).

## Description

Pain is described in many different ways such as acute or chronic pain (pain that lasts for more than 3 months), as nociceptive (visceral and somatic) or neuropathic pain, or due to its disease origin such as cancer pain or muscular/skeleton pain. Pain is a problem in many different patient groups as well as in the general population. A survey of cancer-related pain and treatment

across Europe found that 56 % suffered from moderate-to-severe pain at least monthly (Breivik et al., 2009) and that 63 % experienced breakthrough pain. It is also shown that 45 % of patients with chronic obstructive pulmonary disease report chronic pain (Bentsen, Hanestad, Rustoen, & Wahl, 2008), while 85 % of a sample of patients with heart failure reported pain (Rustoen et al., 2003). As many as 43 % of the patients with heart failure said the pain was in the severe or very severe range. Pain is also a great problem after surgery. One example is that 58 % of the patients getting total knee replacement reported moderate-to-severe pain on the first postoperative day (Wylde, Rooker, Halliday, & Blom, 2011). Pain is also found to be a significant problem in the general population. Chronic pain of moderate-to-severe intensity was found to occur in 19 % of adult Europeans, and Norway was on the top with a prevalence rate of 30 % (Breivik, Collett, Ventafridda, Cohen, & Gallacher, 2006).

When pain is such a great problem, it is important to not only focus on the presence of pain or pain intensity, but also how pain impacts on peoples' life – their quality of life (QOL). Niv and Kertler (2001) state that two major factors have contributed to the enhanced importance of QOL in recent years: the increasing frequency of pain and the recourses devoted to its treatment and the growing theoretical insight that pain affects the person as a whole (Niv & Kreitler, 2001).

### Cancer Pain and QOL

The relationship between pain and QOL in cancer patients is complex due to the number and the diversity of factors that can influence pain and QOL. Portenoy (1990) wrote more than 20 years ago that cancer pain is a subjective, multidimensional experience that strongly influences QOL of cancer patients. He listed that key components of cancer pain that may influence QOL include severity, chronicity, the perceived availability of relief, the meaning of the pain in relation to the underlying disease, and the psychosocial disturbances attributable to the pain.

In the survey of cancer patients across Europe, as many as 69 % reported pain-related difficulties with everyday activities (Breivik et al., 2009). Studies have shown that cancer pain have a negative impact on QOL (Black et al., 2011; Fredheim et al., 2011; Lee et al., 2004; Lin, Lai, & Ward, 2003), for instance, that cancer pain severity causes interference with function which in turn causes impairment of overall QOL (Hwang, Chang, & Kasimis, 2002). However, others have not been able to show an increase in QOL scores after pain reduction (Du Pen et al., 1999; Klepstad, Borchgrevink, & Kaasa, 2000).

In a study of oncology outpatients with pain from bone metastasis, the most important factors that predicted QOL were depression, social functioning, and physical functioning (Rustoen et al., 2005), and depression proved to be the most important predictor of QOL. The meaning of pain was significantly correlated with pain intensity and duration. The meaning the pain is shown to impact on QOL in the way that if patients consider pain as a threat, like the progression of the disease, it lowers QOL more (Niv & Kreitler, 2001).

### Chronic Pain and QOL

In the European survey of chronic pain, it was shown that 21 % had been diagnosed with depression because of their pain, 61 % were less able or unable to work outside the home, 19 % had lost their job, and 13 % had changed jobs because of their pain (Breivik et al., 2006). In a study evaluating the relationship between chronic pain and QOL, no significant relationship between chronic pain and QOL was found (Wahl et al., 2009). Stress-related symptoms were related most strongly to QOL, and these findings might support the assumption of a complex and indirect relationship between chronic pain and QOL. Many other variables might be of importance. Men in chronic pain reported a poorer QOL than women did (Rustoen et al., 2004), and the prevalence rates for chronic pain are shown to vary with age (Rustoen et al., 2005). The older age group reported pain of longer duration and they had

better QOL, were more satisfied with their material comforts and social life, and reported better mood. The middle-aged group reported the largest number of pain locations, and they were less satisfied with their social life than the older age group.

### Acute Pain and QOL

Acute pain even associated with tissue injury may last for less than 1 month, but at times for longer than 6 months (Mersky & Bogduk, 1994). Not many studies have investigated the relationship between acute pain and QOL. A cross-sectional study with acute pain in patients with herpes zoster reported that a greater pain burden, as assessed by the product of pain intensity and duration, was associated with poorer physical functioning, increased emotional distress, and decreased role and social functioning (Katz, Cooper, Walther, Sweeney, & Dworkin, 2004). A prospective cohort study of postoperative pain found that postoperative pain interfered with the ability to participate in desired activities, ability to sleep, and with normal sexual functioning. During the first month after surgery, postoperative pain contributed to diminished QOL and interfered with activities considered important to patients (Strassels et al., 2004).

### Discussion

There is a challenge that so many patients still suffer from pain. More work should be done in identifying the most important variables for their QOL. Another important area is that symptom management research has taken a reductionistic approach and studied symptoms individually. The new frontier in symptom management research is an evaluation of the impact of symptom clusters on patient outcomes (Miaskowski, Dodd, & Lee, 2004). The definition of symptom clusters is a stable group of two or more concurrent symptoms that are related to one another and independent of other symptoms or symptom clusters (Kim et al., 2005). Pain seems to be an important symptom in many described symptom clusters, and maybe we need to look at symptoms together to manage to help patients with their pain.

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## Pain, Sexual

- ▶ [Dyspareunia](#)
- ▶ [Sexual Functioning](#)

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## Painting

- ▶ [Arts and Quality of Life](#)

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## Painting/Drawing

- ▶ [Arts in British Columbia, Canada](#)

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## Pairwise Comparisons

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## Synonyms

[Follow-up tests](#); [Mean differences](#); [Planned comparisons](#); [Post hoc tests](#)

## Definition

Pairwise comparisons refer to a statistical method that is used to evaluate relationships between pairs of means when doing group comparisons.

## Description

The typical application of pairwise comparisons occurs when a researcher is examining more than two group means (i.e., the independent variable has more than two levels), and there is a statistically significant effect for the omnibus ▶ [ANOVA](#). The rejection of the omnibus null hypothesis merely indicates that there is a difference between two or more of the means but does not specify where the differences between the groups may lie; at this point, follow-up comparisons may often be required. Comparisons of this nature are often undertaken in a post hoc manner, that is, when the omnibus null hypothesis for ANOVA is rejected, further analysis between the pairs of means will indicate where group differences lie.

Alternatively, comparisons (i.e., contrasts) can be conducted a priori instead of the overall

F test. In this case, they may be referred to as planned comparisons. Because the chance of making a Type I error increases for each pair that is compared, researchers will usually choose only certain differences related to the research question being examined. The result of a smaller number of contrasts is an increase in statistical power; thus, the contrasts investigated must be considered carefully by the researcher.

The total number of pairwise comparisons in any given design can be determined by  $a(a - 1)/2$ , where  $a$  is the total number of groups in the design (Keppel, 1982). Consequently, as the number of statistical tests on any given data set increases, the vulnerability to making a Type I error increases. That is, as more comparisons are added, there is an increased chance the researcher will say there is an effect of treatment or condition when in fact there is not. Thus there is a general consensus that comparisons should be limited by the researcher and only the most interesting and meaningful comparisons are tested using conventional alpha levels (e.g.,  $\alpha = 0.05$ ; Tabachnick & Fidell, 2001).

In statistical analysis software programs (e.g., SPSS), there are many choices for multiple comparisons (e.g., Bonferroni, Sidak, Scheffé, Tukey, and Dunnett). Selecting the appropriate test depends on the type of research design one is using, but a pragmatic approach is to choose the test that is the most liberal and allows one to perform all of the comparisons of interest (Keppel, 1982; Tabachnick & Fidell, 2001). Tests that allow more comparisons compensate by adjusting the nominal alpha to a more stringent level. For example, a Tukey test (Tukey, 1977) can accommodate all pairwise comparisons of means, whereas the Dunnett test (Dunnett, 1955) allows for only a comparison between a single control group mean and each of the treatment group means. Thus, the Tukey test would have a more stringent alpha level than the Dunnett test to accommodate the extra comparisons. Using pairwise comparisons allow for a more detailed investigation into the nature of the relationship between more than two groups on one or more dependent variables.

## Cross-References

- ▶ [Analysis of Covariance \(ANCOVA\)](#)
- ▶ [Analysis of Variance](#)
- ▶ [Data Analysis](#)
- ▶ [Mean Differences](#)

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## Palliative Care

- ▶ [Hospice](#)

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## Palliative Medicine

- ▶ [Spiritual Needs of Those with Chronic Diseases](#)

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## Palliative Patients, Symptom Cluster Measurement

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## Definition

### Symptoms

Symptoms are defined as subjective sensations reflecting changes in the biological and/or

psychosocial sphere(s) of one's daily life (Dodd et al., 2001). For this reason, symptoms often trigger the decision to seek health care. A symptom may indicate that a person is at risk for a disease or that a disease is already present.

Because of the subjective nature of symptoms, symptom assessment scales must be completed by the person experiencing the symptoms. Unfortunately, symptom assessment is not as straightforward as it may seem. Most symptom assessment instruments ask patients to rate only the severity of any given symptom, but some authors have argued that clinicians and researchers who wish to understand symptom experience must also obtain information about additional dimensions of symptoms, such as the frequency of the symptom and the degree of distress associated with it (Portenoy et al., 1994). Timing also makes a difference to assessment results; while the directions on some assessment scales ask patients to rate their symptoms based on how they feel at the present moment, others ask patients to rate their symptoms based on the past week or some other time frame. Clearly, these two approaches could yield very different information.

Symptoms may also develop due to the treatment provided for a disease. For this reason, symptoms are sometimes used as indicators of treatment toxicity. The grading scales used to assess treatment toxicity should not be considered symptom assessments, as such assessments are usually completed by a member of the health care team, based on his or her assessment of the patient, rather than by the patient directly.

### Symptom Clusters

Patients seldom experience only one symptom. Dodd and colleagues originally defined symptom clusters as the co-occurrence of three or more symptoms that were related to each other in some way but that may or may not share etiology (Dodd, Miaskowski, & Paul, 2001). More recently, symptom clusters have been defined as two or more co-occurring symptoms that are stable and that are relatively independent of other groups of symptoms (Kim, McGuire, Tulman, & Barsevick, 2005).

The correct identification of symptom clusters is important for at least two reasons. First, because the symptoms within a cluster are assumed to have a common cause, the effective treatment of one symptom within a cluster may have a beneficial effect on the other symptoms in that cluster. Second, a growing number of authors have shown relationships among symptom clusters and important health outcomes such as ► [quality of life](#) (Ryu, Kim, Cho, Kwon, Kim, & Fu, 2010) and functional status (Dodd, Miaskowski, & Paul, 2001).

## Description

### Identification of Symptom Clusters

The identification of symptom clusters is a difficult task because it depends on which symptoms are assessed and issues such as dimensionality and timing as discussed in the previous section. For example, if the set of symptoms being analyzed included only a subset of all symptoms experienced, important relationships associated with symptoms that were not included could be missed. Furthermore, if only severity were included in the symptom assessment, the impact of frequency and distress on the symptom cluster would not be reflected.

The most common statistical approach for identifying symptom clusters is ► [factor analysis](#). The goal in factor analysis is to identify patterns of variability in the correlations among a set of variables and then use these patterns to reduce a larger number of variables down to a smaller number of "factors." Various types of factor analysis are available, but most research groups studying symptom clusters tend to use ► [exploratory factor analysis](#) as the number of underlying factors is unknown. The assumption in factor analysis is that there is some underlying "cause" that links items in any one factor. Using factor analysis, Roiland and Heidrich (2011) identified seven factors in a data set comprised of distress scores for 32 symptoms experienced by a sample of older breast cancer survivors. Six of the seven factors, including musculoskeletal, neurocognitive, dryness, urinary, circulator, and

sleep, were significantly correlated with both physical and mental quality of life, and the seventh factor – hormonal – was a significantly correlated mental quality of life only. Researchers wishing to use this approach to study symptom clusters are referred to the best practice guidelines for factor analysis published by Costello and Osbourne (2005) but should remember that according to the assumptions that underpin factor analysis, items within a factor are not permitted to influence each other; rather, they are assumed to be linked together by some underlying common cause.

A second statistical approach used in symptom cluster research is ► [cluster analysis](#). The goal in cluster analysis is to create groups of individuals who have a similar profile based on some preset list of variables. Applied to symptom cluster research, the profile of interest is scores on a symptom assessment tool. Karabulu, Erci, Ozer, and Ozdemir (2009) used hierarchical cluster analysis to study symptom clusters in a sample of Turkish cancer patients. Symptom data included information about presence or absence of 13 symptoms, the severity of the symptoms present, and the degree to which these symptoms interfered with key elements of daily life. The most common symptoms were ► [fatigue](#), difficulty remembering, sadness, appetite loss, and lack of enjoyment of life, ► [pain](#), distress, difficulty walking, and dry mouth. Barsevick, Whitmer, Nail, Beck, and Duddley (2006) distinguish between cluster analysis and factor analysis by noting that while factor analysis finds patterns in data, cluster analysis finds patterns among people.

Structural equation modeling (SEM) can also be used to identify symptom clusters. This approach may be more appropriate for studying the etiological basis of symptom clusters because it allows the researcher to test hypotheses about causal relationships. Olson and colleagues (2008) used SEM to challenge assertions by others about the stability of symptom clusters. Using a data set comprised of severity scores for eight common symptoms for a set of 82 individuals 1 month before death and 1 week before death, they first tested each time point separately and found that pain had an effect on both appetite and tiredness

1 month before death but only on tiredness at 1 week before death. ► [Anxiety](#) had a significant effect on depression at both 1 month and 1 week before death and the relationship between tiredness and drowsiness remained significant at both time points as well. These findings were supported when the data from both time points were tested simultaneously (Hayduk, Olson, Quan, Cree, & Cui, 2010). The authors recommend continuing to use SEM to examining shifts in relationships among symptoms over longer periods of time and for differing medical conditions and social contexts.

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## Panic

- ▶ [Anxiety](#)

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## Parachute Children

- ▶ [Child Well-Being and Transnational Families](#)

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## Paradox of Social Life

- ▶ [Relative Deprivation Theory](#)

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## Paradoxes in Subjective Well-Being

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### Definition

Paradoxes can arise from unexpected empirical relationships between measures of subjective well-being and other variables if they conflict with what is commonly thought to be likely or possible. The ▶ [Easterlin paradox](#), the subject of a separate entry, is the best-known example. Here, we deal with other proposed happiness paradoxes: the paradox of declining female happiness, the “hedonistic paradox” (whereby the pursuit of happiness fails to attain it), and the “happiness in hardship” paradox (where people in difficult circumstances seem happier than expected).

### Description

There are at least three happiness paradoxes besides the Easterlin Paradox. Here “happiness” refers to a broad set of measures of subjective well-being.

#### The Paradox of Declining Female Happiness

This paradox, proposed by Stevenson and Wolfers (2009), states that in recent decades, women’s happiness has been declining relative to that of men and that this decline is seen across all demographic groups. In the 1973–2006 U.S. General Social Survey data examined, women’s subjective well-being also declined absolutely, while in 1973–2002 European data, it increased, but less quickly than that of men.

The paradox arises because the decline in women’s well-being is surprising given that women’s objective circumstances have improved during this period. The male-female wage gap has been shrinking and women’s labor force participation has greatly increased, both of these improving women’s “bargaining position in the home by raising their opportunities outside of marriage” (Stevenson & Wolfers, 2009, p. 190). Women’s educational attainments now exceed those of men; technological change has eased domestic work. Thus, all else equal, we might expect to see a concurrent shift in happiness toward women and away from men (Stevenson & Wolfers, p. 191) as women’s opportunities have expanded, but apparently this has not happened.

#### The Hedonistic Paradox

This paradox holds that the direct pursuit of happiness is self-defeating, while if one forgets about happiness but instead pursues meaningful activities, happiness is attained as a by-product. John Stuart Mill stated the paradox clearly in his *Autobiography*: “Those only are happy (I thought) who have their minds fixed on some object other than their own happiness; on the happiness of others, on the improvement of mankind, even on some art or pursuit, followed not as a means, but as itself an ideal end. Aiming thus at something else, they find happiness by the way” (quoted by Martin, 2008, p. 172).

Konow and Earley (2008, pp. 5–6) review the empirical evidence suggesting that altruistic behavior causes greater happiness and find it persuasive. They also note that “recent theoretical and empirical research by economists suggests that people who act in the narrowly selfish way typically assumed in economics might actually fail to maximize not only subjective, but even material, returns” (Konow & Earley, p. 6). The point of the hedonistic paradox is not to make the claim that happiness is unimportant, but to caution against excessive self-preoccupation and self-seeking (Martin, 2008, p. 174).

### The “Happiness in Hardship” Paradox

Many people face difficult circumstances in life. These can be features of the society in which they live such as dangers from violence and other forms of crime, as well as inequality and social injustice, growing time pressures, and economic crises. These can also involve purely personal circumstances such as dealing with physical handicaps, losses in old age, and poverty and material hardship. Yet happiness studies seem to find that people in such difficult circumstances are not much less happy than people who do not face such circumstances, contradicting the expectations of at least some observers (Veenhoven, 2005).

## Discussion

A paradox is an apparent contradiction between what appear to be the facts and observers’ expectations, which, in turn, are based on some preconceived ideas or current theories. The paradox can be resolved either by finding on further examination that empirical relationships actually do conform to expectations, or by revising the theoretical explanation for the relationships among the variables.

### The Paradox of Declining Female Happiness

In general, the study of trends in subjective well-being is a relatively young and growing area of research. Whether in fact women’s subjective well-being is actually declining relative to men remains an open question, so the central claim of

the paradox remains tentative. For example, Herbst (2011) examines a different US data set spanning 1985–2005 and finds that men and women’s life satisfaction has declined at a similar rate.

If women’s well-being is declining relative to that of men, what could explain this? Stevenson and Wolfers (2009) offer several hypotheses.

One set of hypotheses deals with measurement issues. If circumstances have changed, women may respond to happiness questions differently. Women’s comparison groups could have changed, for example, as more women have entered the labor force. This “may make women worse off, or it may simply represent a change in their reporting behavior” (Stevenson & Wolfers 2009, p. 192). Women’s judgments may also depend on their expectations, which need not be constant. Perhaps rising expectations outstripped actual improvements in women’s conditions. Instead, it is possible that happiness is an aggregate of satisfaction with the various domains of life (such as family, friends, work) and that the domains women participate in and the weights they attach to them could have changed over time.

A second set of hypotheses could try to explain the paradox by considering how some broad social trends might have affected men and women differently. For example, increases in divorce rates have left more women raising children by themselves. Such explanations are confined to particular demographic groups and do not explain the widespread trend that is central to the paradox. However, broader social trends, such as the increase in income inequality and the decline in trust and social cohesion, could affect men and women differently and in ways that are common across demographic groups. These remain areas for future research.

### The Hedonistic Paradox

The paradox seems to rest on a firm empirical foundation. The “paradox” arises because of “a false assumption about the nature of happiness,” namely the assumption that happiness can be pursued directly rather than as a by-product of achieving what Chekola (2007) terms “higher order desires” or “a life plan.”

### The “Happiness in Hardship” Paradox

Veenhoven reviews explanations of the paradox and concludes (2005, p. 262): “The illusion of a paradox is based on over-estimation of hardship and in false theories of happiness” which assume that happiness is associated with an absence of troubles and hardship. Instead, he argues that “happiness needs no paradise”; “we can cope with some hardship and even flourish when confronted with challenge” (p. 260).

### Cross-References

- ▶ [Multiple Discrepancies Theory](#)
- ▶ [Women’s Well-Being](#)

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several of which are distinguished and named by Martin (2008, 2011). With different emphases, the paradoxes claim that it is self-defeating to pursue happiness directly, deliberately, and devotedly. Instead, we should value and pursue activities and relationships for their sake. With any luck, doing so will yield the enjoyments, sense of meaning, and overall satisfaction necessary for happiness.

### Description

Specification of the paradoxes of happiness turns on how “paradox” and “happiness” are defined. “Paradox” might mean (1) a logical contradiction, (2) a seeming contradiction that contains a hidden truth, or, most commonly in the present context, (3) a surprising or counterintuitive empirical incongruity or irony. “Happiness” might refer to episodic positive emotions such as joy or serenity, or it might refer to positive temperaments. In the present context, however, it refers to happy lives and persons, where these ideas are inter-defined: A happy person has a happy life. Most psychologists define happiness as subjective well-being, rather than in terms of “objective” indicators like wealth, health, or living standards and also rather than in value-laden terms such as virtuous living (Aristotle, 2002). Yet, subjective well-being can be understood in different ways (Argyle, 2001).

For example, persons might be defined as happy in the degree (1) they are satisfied overall with their lives (life satisfaction definitions) (Kant, 1996), (2) they experience pleasure and the absence of pain (hedonistic definitions) (Layard, 2005), and (3) they satisfy their strongest desires and preferences (preference-satisfaction definitions). Alternatively, multi-criteria definitions have several dimensions, for example, by defining persons as happy insofar as (4) they are satisfied overall with their lives and have a preponderance of positive emotions such as joy, serenity, and self-esteem (Diener & Biswas-Diener, 2008), (5) they have an overall positive emotional state of psychic

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## Paradoxes of Happiness

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### Definition

To get happiness, forget about it. This paradox of happiness is actually a cluster of paradoxes,

affirmation, as manifested in positive emotions along the axes of endorsing, engaging in, and attunement to the world (Haybron, 2008), or (6) they love their lives, valuing them in ways manifested by ample pleasures and a robust sense of meaning (Martin, 2011).

The most famous paradox of happiness is the “paradox of hedonism,” which relies on a hedonistic definition of happiness. Mill (1989) famously stated it, without naming it as such, in reporting discoveries he made upon recovering from a severe depression in early adulthood: Happiness can only be acquired by not making it the primary aim. Exclusively valuing and pursuing one’s own happiness is an egoistic enterprise that undermines caring about activities and other people for their sake, thereby diminishing the enjoyments made possible by this caring. It also leads to a disappointing sense that the pleasures we get are never fully satisfying. Sidgwick (1907) formally named “the paradox of hedonism” as the claim that the exclusive or primary pursuit of happiness (defined hedonistically) is self-defeating. He also modified Mill’s extreme view by recommending periodic monitoring of whether we are happy while avoiding excessive preoccupation with our happiness.

The “paradox of constituents” makes a conceptual point: To pursue happiness exclusively, apart from the other constituents of life that yield enjoyments, is not only self-defeating but incoherent (Telfer, 1980). Happiness, as life satisfaction, requires having a life, and a life is comprised of such things as activities, relationships, achievements, possessions, and other things valued for themselves.

Other paradoxes of happiness shift attention to beliefs about the particular things commonly believed to promote happiness, for example, more money, higher status, and greater beauty. These paradoxes amount to documenting widespread illusions about the main ingredients or sources of happiness (Gilbert, 2006). For example, the “paradox of money” is that satisfying the desire for ever-increasing income and wealth does not yield happiness, contrary to

common belief. The increase in happiness mostly occurs in emerging from poverty, not from moving into ever-greater riches. A related “paradox of progress” pertains to macroeconomics: Average incomes in Western democracies have doubled and tripled in recent decades, and yet average levels of happiness remain the same (Easterlin, 2004). This result is sufficiently surprising to be called a paradox because economists, reflecting commonsense beliefs, traditionally linked happiness to increasing wealth. Psychologists explain the result in terms of adaptation, the powerful tendency to habituate to new levels wealth (and to other circumstances), as well as the general tendency of satisfying one set of desires to result in a new set of unsatisfied desires – the hedonic treadmill (Nettle, 2005).

Another group of paradoxes center on freedom in relation to happiness. The “paradox of choice” is that increasing choices may not increase happiness, contrary to common beliefs, for maximizing options can cause confusion and anxiety (Schwartz, 2005). Happiness is best pursued using the strategy of “satisficers” rather than “maximizers.” Again, contrary to the belief that freedom always increases happiness, the “paradox of submission” claims that effectively pursuing happiness sometimes requires forgoing complete control, for example, in matters such as love, loyalty, and submitting to standards of rationality and excellence (Frankfurt, 1988). Thinking about freedom from another direction, Marar (2003) states a “paradox of self-conflict”: We have desires that are mutually contradictory, such as desires to belong and to break free, which render complete happiness impossible.

Marar is not the only thinker to invoke a happiness paradox to express skepticism about prospects for happiness. Kant (1996) formulated a “paradox of guidance”: The more we cultivate and exercise reason to obtain happiness, the further happiness recedes. In his view, reason is suited to guide us in meeting moral duties, but it is not well suited as a tool to pursue happiness. Elaborating on doubts raised by Kant, Marar, and other skeptics regarding the prospects for happiness, White (2006) concludes that

the concept of happiness (as harmoniously satisfying one's desires) is too internally confused to be of much use.

Finally, "paradoxes of attitude" claim that the more we seek happiness by satisfying our desires for things beyond us, the less happy we are. Instead, we should seek to change our attitudes. The "paradox of affirmation" says happiness lies in cherishing and being grateful for what we have now, rather than constantly seeking more. This idea resonates with the maxim that happiness consists not in getting what we want but in wanting what we get. A "paradox of hope" shifts and reverses the emphasis toward the future: Happiness comes more from attitudes toward the future, such as hope, faith, and optimism, rather than from anything we currently have.

Philosophers frequently discuss paradoxes of happiness. The paradoxes can be invoked in challenging the widespread assumption that a person's happiness is their ultimate, overarching, or even exclusive desire and value, for the paradoxes urge that the successful pursuit of happiness requires caring about things in addition to our happiness, valuing them as having inherent worth and even as making claims on us. Moreover, attention to the paradoxes might prompt greater clarity about how happiness is defined, so as to avoid conflating subjective well-being with Aristotelian definitions of happiness as virtuous living, a conflation ubiquitous in popular-audience books by positive psychologists (Seligman, 2002; Lyubomirsky, 2007). At the same time, the paradoxes encourage a view of good lives as having multiple dimensions that are distinct but interwoven: happiness, yes, but also moral decency and goodness, not to mention myriad variations in terms of additional values such as those of art, science, sports, and spirituality.

The empirical relevance of a specific paradox of happiness varies according to the specific claim implied by the paradox. Most paradoxes of happiness make empirical claims, albeit using hyperbole to highlight ironies and incongruities. As such, they invite and complement the myriad empirical studies of

illusions about happiness. Of fundamental interest, all the paradoxes, especially the paradox of hedonism, are based on the belief that preoccupation with one's happiness is self-defeating because it tends to diminish happiness; happiness is better pursued by valuing and attending to other activities and relationships beyond one's happiness. Is this true?

In investigating this question, empirical studies should avoid assuming psychological egoism: the view that humans are only capable of caring about benefits for themselves (in particular their happiness) (Feinberg, 1999). Moreover, when empirical studies explore how happiness and the virtues are related, they should avoid assuming ethical egoism: the view that each person ought to value only their own self-interest (of which happiness is a part). When happiness is understood as subjective well-being, most ethicists contend that it is only one dimension of fully good lives.

The paradox of constituents might seem least relevant to scientific study, given that it makes a conceptual rather than an empirical claim. Nevertheless, it might prompt greater attention to the definitions of happiness used in empirical studies. By reminding us that happy lives have constituents such as activities and relationships, the paradox of constituents goes against definitions of happiness exclusively in terms of mental states such as pleasure and overall satisfaction. Even if mental states should be made salient, reference to lives should be included, and lives include "objective" matters such as activities and relationships, beyond "subjective" mental states like pleasures and overall satisfaction. Nozick's (1989) thought experiment serves to augment the key point. A person attached to an "experience machine" might have a sequence of pleasures but lack a life; they might be nothing but a blob floating in a tank with electrodes attached to a computer.

Finally, whereas paradoxes of happiness are generally stated as generalizations, empirical studies at most identify statistical tendencies. In this way, empirical studies refine and sometimes overthrow exaggerated claims expressed in the paradoxes.

## Cross-References

- ▶ [Adaptation](#)
- ▶ [Happiness](#)
- ▶ [Hedonic Treadmill](#)
- ▶ [Positive Psychology](#)
- ▶ [Subjective Well-Being](#)

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## Parallel Tests

- ▶ [Reliability, Statistical](#)

## Parametric Analysis

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## Synonyms

[Data analysis](#); [General linear model](#); [Univariate analysis](#)

## Definition

Parametric analysis is a branch of inferential statistics wherein one obtains a sample from a population in order to estimate population parameters (e.g., mean) and investigate relationships between the estimated parameters. Because this estimation process involves a sample, a sampling distribution, and a population, certain parametric assumptions are required to ensure all components are compatible with each other. Parametric analysis refers to a specific approach to data analysis where the research bases the validity of the statistical model on the tenability of its assumptions. The Student's *t* test and analysis of variance are examples of parametric statistical tests.

## Description

The validity of the parametric approach is dependent upon three main assumptions that must be made of the data that if not met will lead to an inflation of Type I error rates and a reduction in power. Erroneous results on statistical tests will subsequently lead to inappropriate inferences and decisions that are made based on the data.

The three assumptions of parametric analyses are (1) independence within groups, (2) the underlying population is normally distributed, and (3) equality of variances.

Independence (1) is achieved when the observations for any individual's score are not dependent on the observations for any other individual's score (i.e., conditional independent events). This assumption is related to the sampling procedure used to build probability statements about some random event. Gaito (1959) reminds us that "[t]he errors must be independent, i.e., the selection of any one case must not affect the chances of any other case for inclusion in the sample" (p. 115). This is because a dependency among errors distorts the nature of the modeled relationship among the variables in the analysis, biasing the results of the statistical test thus leading to inappropriate interpretations and invalid inferences.

The assumption of normality (2) is central for the validity of parametric statistics. The normal (Gaussian) distribution approach is justified through the central limit theorem which basically states, in nonmathematical terms, that as the size of a sample of scores increases, the sampling distribution about the mean approaches the normal distribution (Reber & Reber, 2001). When distributions become non-normal (e.g., highly skewed, multimodal, or heavily tailed), the ability to formulate a viable probability distribution is reduced. This is because under normal theory statistics, the probability distributions are assumed to be symmetric and more or less bell-shaped, and when distributions are non-normal, especially in the ways listed above, the probability distribution is distorted leading to erroneous statistical results.

The assumption of equality of variances (3) is based on the premise that the population variances on the variable being analyzed for each group are equal. It is important to have the variances between groups equal because when analyzing for differences in location, parametric analyses use a pooled-variance estimate where each group contributes to that estimate. Thus, when there are differences between the variances of the groups being analyzed, the variance

estimate may be distorted. There are, at least, two situations in which one cannot assume equality of variances: (a) when the groups of participants (i.e., subjects or experimental units) are formed by domain differences such as age groups, gender, or educational level and/or (b) when the participants (knowingly or unknowingly to the researcher) differ on some important, possibly unmeasured variable (Zumbo & Coulombe, 1997). This suggests that one cannot necessarily assume that the participants are homogeneous or exchangeable, and so there is no basis to assume equality of variances when testing the null hypothesis of no difference between means or medians; it should be noted that nonparametric tests are also susceptible to issues of unequal variances when testing for equal medians or mean ranks (Nordstokke & Zumbo, 2010; Zimmerman & Zumbo, 1993a; 1993b).

#### ► Robustness of Parametric Analysis

There has been much debate in the literature over the years as to whether the assumption of a Gaussian distribution is a true requirement of parametric methods. The discussion revolves around the issue of the robustness of parametric methods, which can be generally defined as the tendency of a statistic or statistical procedure to be relatively unaffected by the presence of a small number of unusual or incorrect data values (Upton & Cook, 2004).

It has been demonstrated that parametric tests are generally robust to departures from normality (e.g., Glass, Peckham, & Sanders, 1972). In fact, much of the departure from nonparametric methods can be attributed to the inordinate attention paid to Glass et al. in relation to the demonstrated robustness of the fixed effects analysis of variance (ANOVA) and covariance (ANCOVA) (Blair, 1981). Bradley (1978) points out in response to the early robustness literature that "[t]he actual behavior of the probability of a Type I error under the assumption violation is quite complex, depending upon a wide variety of interacting factors. Yet allegations of robustness tend to ignore its highly particularistic nature and neglect to mention important qualifying

conditions” (p. 144). The issue of robustness is much too important to dismiss as being of theoretic interest, but not of any practical use, and caution should be exercised when making general statements about the robustness of parametric techniques.

These general robustness claims have been challenged because many of the early simulation studies were completed on a limited number of distributions. For example, Bradley describes a situation where a discrete variable ( $U$ ), possibly unknown to the researcher, can influence the distribution of the dependent variable, making it multimodal, leading to the possibility of many types of non-normal distributions, where the level of contamination is proportional to the number of discrete categories in  $U$  (1977). This position was supported by Micceri (1989) who studied the distributional properties of 440 large-sample achievement and psychometric measures and found them all to be non-normal at the  $\alpha=0.01$  significance level and pointed out that many of the distributions had not been examined in the literature. Based on these claims, Sawilowsky and Blair (1992) investigated properties of 8 real distribution shapes that were identified by Micceri as representative of those found in educational and psychological research. They found that the Student’s  $t$  test was reasonably robust to Type I errors when (a) sample sizes were equal, (b) sample sizes are fairly large (25–30), and (c) tests are two-tailed rather than one-tailed. This finding supports the notion that parametric techniques are generally robust to non-normality; however, the robustness of the Student’s  $t$  test is dependent on the above conditions (a, b, and c). It is essential to understand that when violations of an assumption of a statistical test occur, they are often co-occurring with other violations.

### Scales of Measurement Used for Parametric Analysis

Another debate related to parametric analysis has to do with the ► [scaling](#) of the measured variable. Stevens (1946) and others (i.e., Bergmann, Carnap, Feigl, & Hempel) conceptualized that a given set of empirical relations could be

represented by sets of numerical relations that, in turn, determine which statistics are appropriate for use on that particular scale. This sparked a debate that has raged on in the literature since. There are the supporters of Steven’s position who embrace the premise that the scale of measurement determines what statistical test is legitimate. This position was strongly supported by Siegel (1956, 1957) where he explicitly stated that nonparametric statistics are reserved for nominal and ordinal data types, and parametric statistics should be used with interval and ratio data types. Included in both publications is a table that lists permissible statistics based on scale type. Another early supporter of this approach was Senders (1958), whose textbook simultaneously considered the topics of measurement and statistics. These texts were influential, but were not fully accepted by some.

The requirement that the variable must be measured on an interval or ratio scale to use parametric techniques is based on the presupposition that the information provided about the distance between scores of an interval scale is necessary to accurately represent the underlying quality of interest in a meaningful way. This assumption, as mentioned earlier, is a contentious point for many researchers and statisticians because there are some who believe that it is not a necessary requirement. The four classes of scales introduced by Stevens, as reviewed by (Baker, Hardyck, & Petrinovich, 1966), were nominal, ordinal, interval, and ratio. Nominal scales are classificatory or categorical and can be treated by counting operations and frequency statistics. Ordinal scales are appropriate when it can be demonstrated that the objects in question are ranked or ordered on some quality that is represented in the numerical structure while maintaining the properties of a nominal scale. The numbers of an ordinal scale are without actual units; hence, they cannot be added, subtracted, multiplied, or divided but can be treated with order preserving statistics such as the median or rank-order correlation. Interval scales have equal intervals between any two points on the scale while maintaining the properties of nominal and interval scales.

Since interval scales can be added or subtracted, statistics such as the mean, standard deviation, and product moment correlations may be used. Ratio scales include a true zero point to the equal intervals and can be multiplied or divided. Steven proposed that limiting the transformations based on the scale of measurement maintains the empirical structure within the numerical structure, which resulted in the idea of permissible transformations.

The concept of permissible transformations was proposed to maintain invariance under different classes of transformations, which was intended to preserve meaningfulness and interpretability of the scale. As noted by Velleman and Wilkinson (1993), for an ordinal scale, any monotone transformation that preserves order is permissible; this means that one may use logs or square roots of the values (if they are not negative) or perform linear transformations, adding a constant and multiplying by another (positive) constant. For an interval scale, which involves differences between scale points, the set of permissible transformations must preserve this scale relationship so linear transformations where one adds or multiplies the same constant to each value are acceptable, whereas transformations such as logs are not permissible. For ratio scales, it is permissible to multiply by a constant but not take logs or add a constant because ratio scale data have a defined zero which may not be changed. Nominal scales represent unique identifiers and thus the permissible transformations for this scale type must preserve the relationship between individuals and their identifiers. It should be noted for the benefit of the reader that the discussion has shifted slightly from being more statistical in nature to more of a measurement-oriented focus. This shift is related to the measurement-statistics controversy. It is maintained by some who believe that statistical methods should be restricted by scale and that the information carried by the data can only be appropriately analyzed if and only if the statistical technique selected is suitable for use with the scale that the quality of interest is mapped upon.

The use of parametric statistics on ordinal data was considered by Steven and others as out

of bounds because ordinal data does not carry enough information (i.e., equal intervals between scale points) and is therefore unsuitable because the interpretation would hold no meaning. Zumbo and Zimmerman (1993) conducted a series of computer simulations where they performed a two-sample Student's *t* test on data whose underlying structure was ordinal. Results demonstrated that parametric techniques are acceptable for use with ordinal data when the underlying population distribution is approximately normal. This would suggest that the selection of the statistical test that is used need not be determined solely based upon the scale of measurement.

### Discussion

Parametric analysis provides an approach to data analysis that makes assumptions about the shape of the population distributions in order to make inferences from the results of the test, namely, that the population is distributed as Gaussian. Central to the valid application of parametric analysis is the requirement that its assumptions must be met. The robustness of the parametric approach is dependent on the degree to which the assumptions are being violated during an analysis. When applying parametric analysis, it is essential that the analyst checks the tenability of the assumptions via the sample data prior to interpreting the results.

### Cross-References

- ▶ [Data Analysis](#)
- ▶ [Multivariate Statistical Analysis](#)
- ▶ [Univariate Analysis](#)
- ▶ [Univariate Tests](#)

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## Parent Psychopathology

### ▶ Parental Depression and Child Well-Being

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## Parent Satisfaction with Youth Scale (PSYS)

### ▶ Parental Satisfaction and Child Maltreatment

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## Parental Acceptance and Work

### ▶ Paid Work and Parent–Child Relationship Quality

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## Parental Depression and Child Well-Being

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## Synonyms

Child mental health; Family functioning and well-being; Parent psychopathology

## Definition

Depression is a mental disorder characterized by persistent sadness, loss of interest in activities, and feelings of worthlessness or guilt, among other symptoms. Depression can be episodic or chronic and can range in severity from mild to severe. Child psychological well-being is one domain of ▶ [quality of life](#) that encompasses emotional and behavioral health.

## Description

A substantial body of research has linked parental depression with emotional and behavioral issues among children and adolescents, both in community and clinical populations (National Research Council and Institute of Medicine [IOM], 2009). Further, parental depression has also been linked to long-term mental health outcomes in offspring such as depression, ► [anxiety](#), and substance abuse (Lieb, Isensee, Höfler, Pfister, & Wittchen, 2002). Mechanisms linking parent depression to child well-being include biological, environmental, and contextual. Given the pervasive nature of parent depression and the concomitant toll on children, the potential for a repeating cycle of intergenerational transmission is sizable.

## Parent Depression

Epidemiological studies have documented a 16.6 % lifetime prevalence of major depression and a 6.7 % 12-month prevalence for adult depression (Kessler, Berglund, Demler et al., 2003), with about 80 % of depressed adults experiencing recurrence. Parents tend to have similar rates as the general adult population, but women, younger people, unmarried, unemployed, or economically disadvantaged individuals and those facing social stressors, possibly in combination with 5-HTTP polymorphism, appear to be at increased risk (Kessler et al., 2003; Kendler, Kuhn, Vittum, Prescott, & Riley, 2005). Further, depression in parents is frequently comorbid with anxiety, substance use, and some personality disorders.

## Child Well-Being

Maternal depression is associated with concurrent increased rates of emotional and behavioral problems in children and adolescents, though the particular outcomes may vary by age at exposure. Beginning in utero, prenatal exposure to maternal depression has been linked to dysregulation of ► [stress](#) response systems and brain development in fetuses and infants, poor attachment in infancy, and difficult temperament

(Cicchetti & Toth, 1998). Maternal depression during infancy and early childhood is further associated with increased levels of internalizing and externalizing problems and other adverse adjustment outcomes (Gelfand & Teti, 1990). Among school-aged children and adolescents, parental depression is associated with more internalizing and externalizing symptoms and higher rates of depression, anxiety, and behavior disorders (Angold & Costello, 2001). Additionally, adolescents with a depressed parent may be more likely to develop substance use disorders (Cortes, Fleming, Mason, & Catalano, 2009).

While most research has focused on maternal depression, a recent review of the literature on the effects of paternal depression on child well-being found that paternal depression has many of the same effects on child outcomes (Ramchandani & Psychogiou, 2009). Specifically, they found that the short-term and long-term risks of behavioral outcomes were largely the same between mothers and fathers, but mothers' depression had a stronger effect on emotional outcomes.

Beyond these concurrent outcomes, studies have found long-term outcomes related to early maternal depression, depending on the nature, duration, and severity of the parent disorder. For example, Kessler and colleagues (1997) found consistently increased rates of psychopathology in adults who reported a history of maternal or paternal depression, including ► [mood](#), anxiety, and addiction disorders. Further, just as maternal depression can and often does recur, the effects on youth may be cascading, such that early exposure can lead to concurrent problems which then may lead to long-term problems, potentially exacerbated by repeat exposure to maternal depression.

## Mechanisms

A considerable body of research has examined mechanisms by which maternal depression gets translated into poorer child psychological well-being. Genetic, environmental, and contextual factors have all been found to play a role, but impaired parenting appears to have substantial

impact (for a review, see Goodman, 2007). Effective parenting facilitates healthy child development, though the most influential parenting behaviors vary by developmental stage of the child. In infancy, parental warmth and responsiveness are key interactional mechanisms that promote well-being and healthy development, while in adolescence, the monitoring of behavior may be more relevant for development. In general, research on impaired parenting has found that harsh parenting and disengaged parenting were the parenting behaviors most likely to transmit parent depression to children (Lovejoy et al., 2000).

For harsh parenting, depressed parents tend to be more negative towards their children in general. Depressed mothers of infants and young children are more likely to have ► [negative affect](#) and to be physically and verbally aggressive with their children. In school-aged children, studies have found depressed mothers to be more likely to engage in disagreements and to be inconsistent in discipline. In older youth, depressed mothers are more likely to be irritable, to criticize, and to be hostile or angry.

With disengaged parenting, mothers who are depressed are more likely to withdraw, are less likely to engage in positive interactions, and are less responsive to their child's emotional needs. Studies focused on young children have demonstrated that depressed mothers are less likely to engage with or attend to their child. Among parents of school-aged children and adolescents, research shows that maternal depression is related to lower levels of warmth, monitoring, and involvement, which are then associated with higher levels of youth internalizing and externalizing symptoms.

In addition to these mediating mechanisms, the effects of parental depression on children may be exacerbated by additional risk factors in the home or family environment such as poverty, relationship conflict or violence, and comorbid psychiatric disorders, but certain protective factors may help offset the effects, such as resiliency, ► [self-esteem](#), and ► [social support](#) (NRC & IOM, 2009).

### Treatment Efficacy

Depression is undertreated; that is, only about a quarter of adults who experience major depression receive adequate treatment and the percentage may be even lower among mothers (Kessler et al., 2003; NRC & IOM, 2009). Of those who seek treatment, often from primary care providers, psychotherapy, antidepressant medication, and some alternative treatments (i.e., herbal remedies, exercise) appear to be effective in treating adult depression. Cognitive therapy (or cognitive behavior therapy (CBT), more specifically) is one of the most common forms of psychotherapy for depression and is a therapeutic modality characterized by replacing negative thoughts and behaviors with positive ones. Commonly prescribed antidepressant medications include selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, serotonin antagonist and reuptake inhibitors, and tricyclics. Recent studies have found psychotherapy, particularly CBT, and antidepressant medication to be about equally effective in subjects with mild to moderate depression (DeRubeis et al., 2005). Studies on alternative treatments are difficult to compare, as many are conducted on small samples or convenience samples and often without a control group or long-term follow-up.

While many studies have focused on the efficacy of therapy and antidepressant medication in treating adult depression, few studies have focused specifically on the effects of treating parental depression on children. The studies that do exist show that treatment of parent depression improves symptoms of child emotional and behavior disorders but may not improve other types of outcomes, such as cognitive functioning (Gunlicks & Weissman, 2008). Interventions that treat depression in the parent, address child outcomes, and improve the parent-child relationship have promise to reduce the impact of parent depression on child psychological well-being.

### Discussion

While much is known about the impact of parental depression, particularly maternal depression, on children at different ages and across

time, there are several areas where more research could expand the current body of knowledge and potentially lead to more effective interventions. For example, results on racial and ethnic differences in the association between parent depression and child outcomes are mixed, and thus, studies that specifically focus on racial and ethnic differences in the experience of parental depression, the transmission process, and the effectiveness of interventions are warranted. Further, while researchers have begun to explore the link between childhood exposure and long-term outcomes, much work needs to be done on both social and biological mechanisms and longitudinal data would be particularly informative. Also, although the number of studies focusing on paternal depression appears to be increasing, studies that examine the impact of fathers' psychological well-being on child outcomes, as well as studies that consider the joint impact of mothers' and father's mental health where applicable, will provide a more complete picture of children's environments, exposures, and interactions. Finally, given the hereditary, environmental, and interpersonal causes and correlates of depression, future work examining the interactions of these various factors may help explain why some children are more vulnerable to parent depression than others.

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## Parental Development Time

- ▶ [Parental Time and Child Well-Being](#)

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## Parental Quality of Life with Asthmatic Children

- ▶ [Parents with Asthmatic Children, Quality of Life](#)

## Parental Satisfaction and Child Maltreatment

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### Synonyms

Child abuse; Child Abuse Potential Inventory (CAPDI); Child maltreatment and parents' adoption satisfaction; Child neglect; Parent Satisfaction with Youth Scale (PSYS)

### Definition

Parental satisfaction refers to the extent to which parents are satisfied with their children in relation to parent–child interactions (e.g., communication, activities, praise, punishment) and child behavior (e.g., compliance, responsibilities, actions). It has also been used to describe satisfaction in the parenting role (for a review see, Carpenter & Donohue, 2006). Parental satisfaction is theorized to influence the parent–child relationship including the presence of ► [child maltreatment](#). Child maltreatment includes child neglect, child physical abuse, ► [child sexual abuse](#), and emotional neglect. It is often referred to as any recent act, or failure to act, on the part of a parent or caretaker, which results in death, serious physical injury, emotional harmsexual abuse, exploitation, or an act or failure to act which presents an imminent risk of serious harm (Child Maltreatment, 2007). Neglect generally entails failure of the guardian to meet the physical (e.g., food, shelter, supervision), medical (i.e., necessary medical or mental health treatment), emotional (e.g., continuous yelling, belittling, critical remarks to children, severe lack of attention), or educational (e.g., denying ► [education](#), failing to assist in schoolwork) needs of children (National Clearinghouse on Child Abuse and Neglect Information, 2004).

### Description

There are various measures of parental satisfaction which examine either satisfaction with children or satisfaction with being a parent. DeCato, Donohue, Azrin, Teichner, and Cruma (2002) conducted one of the first reviews of parental satisfaction measures. Their examination included various satisfaction measures specific to adolescent populations. Within their review, they report psychometric data for five measures focusing on either satisfaction in the parenting role or satisfaction in the parent–child relationship. Carpenter and Donohue (2006) also conducted a review of parental satisfaction measures, which were specific to child maltreatment populations, discussing approximately 14 various measures. They note that parental satisfaction measures have been around since the 1970s and are applicable to maltreatment populations, easy to administer, and capable of measuring treatment outcomes. However, they state that current parental satisfaction measures have not been heavily utilized in controlled treatment outcomes studies and do not focus on specific behavioral domains (Carpenter & Donohue, 2006). While parental satisfaction measures have utility in assessing satisfaction in mothers of maltreated children, further development would benefit clinical use.

When examining parental satisfaction, it is important to consider how parents perceive both interactions with their children and their perceptions of behaviors exhibited by their children. For instance, the extent to which children react to rewards, attention, and punishment appears to influence satisfaction of parents with their children, and the strength in the parent–child relationship has been found to contribute to parent satisfaction in mothers (see Mouton & Tuma, 1988). Parent–child relationship factors may include children's responsiveness to directives, reaction to praise or punishment, quality of communication, and involvement in the family (Donohue, DeCato, Azrin, & Teichner, 2001). In general, if children behave in ways accordant to their parents expectations, parents will likely rate higher in parental satisfaction. For example,

parents who perceive they have good or adequate communication with their children are more likely to rate higher in satisfaction, as compared to parents who perceive poor communication with their children (Sillars, Koerner, & Fitzpatrick, 2005). Alternatively, parents are likely to be dissatisfied with their children when their behaviors (e.g., noncompliance, sarcasm, rude behavior) are negatively perceived.

Children's behavior undoubtedly affects parents' interactions and satisfaction (e.g., Bradford, Vaughn, & Barber, 2008; Downing-Matibag, 2009; Mammen, Kolko, & Pilkonis, 2003; Nalavany, Glidden, & Ryan, 2009). Noncompliance with parental rules tends to cause parent-child conflicts, while parents' perception of their children's behavior influences the degree (Smetana, 1989). Schoenleber (1989) found that parents reporting a high level of parent-child conflict also reported lower levels of parental satisfaction. Parents who view their children as less responsible are also more likely to be dissatisfied with them. Issues of responsibility (i.e., personal habits, disagreements about contact with peers, and family obligations) are also negatively associated with parental satisfaction (Hill & Holmbeck, 1987). Mouton and Tuma (1988) found that mothers of children with behavioral problems exhibited less satisfaction in their parenting role, as compared to matched control mothers, while Ammerman, Loeber, Kolko, and Blackson (1994) found a positive relationship between the level of behavior problems and parental dissatisfaction. Hence, child behavior has demonstrated a significant association with parental satisfaction.

Although little is known about the specific aspects of parental dissatisfaction that are associated with child maltreatment potential (Carpenter & Donohue, 2006), parental satisfaction is a better predictor of harsh discipline compared with parental education, beliefs about discipline, extent of depression, and parents being disciplined harshly in their own childhood (Simons, Beaman, Conger, & Chao, 1993). Mammen and colleagues (2003) examined parental satisfaction in a sample of clinically referred, physically abusive caregivers using the Child

Rearing Inventory. Results showed parental satisfaction was significantly correlated with aggressive parental behaviors. Moreover, maternal dissatisfaction with children has been shown to be a significant risk factor for child maltreatment, even when controlling for risk factors in multiple domains (Brown, Cohen, Johnson, & Salzinger, 1998). Indeed parents with high abuse scale scores on the Child Abuse Potential Inventory (CAPI) have been found to report lower satisfaction with their children compared to parents with low abuse scale scores (Kolko, Kazdin, Thomas, & Day, 1993; Rodriguez, 2008).

Parental substance abuse is another identified risk factor with a strong relationship to child maltreatment and is a growing problem within Child Protective Services (Magura & Laudet, 1996). For example, Jones (2005) found 68 % of children who were maltreated had mothers who abused alcohol or drugs, and other investigators have identified ► **substance abuse** as a primary risk factor for child maltreatment. Moreover, drug and alcohol abuse has been found to be primary factor linked to the risk of intentional child maltreatment (Donohue, Romero, & Hill, 2006). Additionally, parents who abuse substances often spend significant amounts of time using substances or being under the influence of substances, rather than caring for their children. These behaviors are more likely to result in child neglect due to improper supervision and/or failing to provide necessities and attention to their children (Corcoran, 2000). Of additional importance, researchers working with populations suspected of or known to engage in illegal behavior (e.g., substance abuse and child maltreatment) should be aware that participants may be at risk to respond to assessment and/or research measures in a socially desirable manner.

Measuring parental satisfaction is of great importance to research and treatment. High levels of parental satisfaction may act as a buffer against child abuse and neglect (Brown et al., 1998; Kolko et al., 1993; Mammen et al., 2003; Trickett & Susman, 1988), particularly when the parent-child relationship is strong and other risk factors, such as substance abuse, are mitigated

(Wolock, Sherman, Feldman, & Metzger, 2001). Conversely, low parental satisfaction is a suspected risk factor for child maltreatment, as maltreating parents evidence greater levels of parental dissatisfaction compared to caregivers of children who are not maltreated (Trickett & Susman, 1988). Understanding this relationship assists practitioners and service workers with understanding risk factors and the importance of improving parental satisfaction in specific domains (e.g., compliance with rules, communication, school performance).

Bradshaw, Donohue, Cross, Urgelles, and Allen (2011) examined the relationship between parental satisfaction and child maltreatment, focusing on child neglect and mothers found to abuse illegal substances. Parental satisfaction was assessed with a modified version of the Parent Satisfaction with Youth Scale (PSYS; Donohue et al., 2001) consisting of 12 items which assess parents' degree of satisfaction with their children in 11 domains (communication, friends and activities, curfew, household rules, school performance, rewards, discipline, chores, use of alcohol, use of drugs, illegal behavior), with an additional item to assess overall satisfaction with the child. The PSYS utilizes a scale of 0–100% ▶ **happiness**. The PSYS was modified to be specific to domains specific to substance-abusing mothers (see Appendix A). Their study examined the following hypotheses:

- H1: Low parental satisfaction will predict child maltreatment risk in mothers who are referred to treatment for child neglect and drug abuse.
- H2: The Child Abuse Potential Inventory (CAPI) Lie Scale scores (a measure of validity) will be positively and significantly associated with parental satisfaction.
- H3: Mothers who did not invalidate their CAPI Lie Scales (i.e., Lie Scale scores < 8) would demonstrate a significant negative relationship between parental satisfaction and maltreatment potential. Thus, mothers reporting high satisfaction would be at less risk to maltreat their children.

Regarding H1, the lowest parental satisfaction scores were related to discipline, whereas higher

scores were related to activities or skills that did not typically require discipline. Five domains of parental satisfaction were significantly and negatively correlated with child maltreatment potential, including overall happiness (i.e., communication, relationship, reaction to praise and rewards, school, and educational activities). Regarding social desirability, there were statistically significant positive associations between most of the satisfaction scores and CAPI Lie Scale scores, supporting H2. To examine H3, participants who scored high on the social desirability scale (i.e., CAPI Lie scores >8) were removed from analyses, and parental satisfaction and child abuse potential were reexamined. When accounting for socially desirable responding, overall satisfaction exhibited a significant negative relationship with the CAPI Abuse Scale. Additionally, there was a significant main effect for CAPI Abuse,  $F(1, 78) = 21.49, p < .001, \text{partial } \eta^2 = .22$ , such that child maltreatment potential was significantly higher for valid responders ( $M = 199, SD = 103$ ) relative to socially desirable responders ( $M = 106, SD = 80$ ). There was also a significant main effect for parental overall satisfaction ratings,  $F(1, 78) = 6.37, p = .014, \text{partial } \eta^2 = .08$ . Specifically, overall satisfaction with children was significantly higher for socially desirable responders ( $M = 99, SD = 3.8$ ) relative to valid responders ( $M = 91, SD = 19.3$ ), suggesting that socially desirable responders attempted to respond to measures in a more socially acceptable manner.

## Discussion

Almost half of the parental satisfaction domains assessed in the Bradshaw and colleagues (2011) study were significantly and negatively associated with child maltreatment potential; however, when social desirability was taken into account, with the exception of overall satisfaction, these relationships were no longer significant. These results suggest social desirability influences relationships between self-reported domains of parental satisfaction and child maltreatment potential, but not in the relationship between

overall parental satisfaction and child maltreatment potential. When measures of social desirability appear to be valid, parental satisfaction may be utilized to obtain information relevant to the prevention of child maltreatment. For instance, asking parents to indicate how their parental satisfaction in particular domains can be improved can lead to discussions about specific behaviors and activities that may be enhanced. Enhancement of these areas potentially acts as a buffer in the prevention of child maltreatment. In general, future research on the measurement of parental satisfaction and child maltreatment should include large samples with a broad range of ages. Studies should focus more on maltreated populations, comparing maltreated children with a matched control group of non-maltreated children. Future research should also examine the psychometric properties of the PSYS, especially with regard to at-risk populations. Finally, research should also examine factors that influence responders to be more or less susceptible to social desirability and incorporate additional measures of response validity into individual satisfaction measures or larger assessment batteries. The modified PSYS is freely available (see Appendix A) upon request from the authors of the Bradshaw and colleagues study (i.e., Bradshaw, Donohue, Cross, Urgelles, & Allen, 2011) to assist in continued research.

## Cross-References

- ▶ [Addiction, An Overview](#)
- ▶ [Adolescent Problem Behavior](#)
- ▶ [Adolescent Substance Abuse](#)
- ▶ [At-risk Children](#)
- ▶ [Child and Family Well-Being](#)
- ▶ [Child Well-Being](#)
- ▶ [Children from Birth to Age Five, Quality of Life in](#)
- ▶ [Family Conflicts](#)
- ▶ [Family Connectedness](#)
- ▶ [Family Quality of Life](#)
- ▶ [Mother-Child Interactions](#)
- ▶ [Negative Affect](#)

- ▶ [Parenting Style](#)
- ▶ [Positive Affect](#)
- ▶ [Response Bias\(es\)](#)
- ▶ [Social Welfare](#)

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## Parental Time and Child Well-Being

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### Synonyms

Basic child care and well-being; Child care; Child care time spent by parents; Educational child care; Housework and child care; Parental development time; Parents' time; Paternal support; Physical care of children; Quality parental time; Recreational child care; Supervisory care of children; Time spent with children by parents; Travel child care

### Definition

Parental time is the time spent by mothers and fathers with their children on routine caregiving (e.g., physical care), enhancing of developmental activities (e.g., reading to children), supervisory care activities (e.g., children asleep, parent “on call”), and housework and household management on behalf of the children (e.g., preparing meals). It has been proven that parental time allocation has an impact on children's well-being. In a broad interpretation, parental time can also include the time “with children” and synchronic time, i.e., when the children are present but there is no specific child care activity going on. Synchronic time can affect current and future child well-being by means of the role model performed by parents.

### Description

#### Child Well-Being, Family, and Parental Time

Child and youth well-being is associated with family, self, friends, and school. ► **Family structure**, family resources (in money and in time), family behavior and relationships, and family

mental and physical health all affect child well-being. There is a large body of research on the well-being and ► [quality of life](#) of children. The measurement of child and youth well-being is based on particular child indicators and on specific child and youth well-being indexes (e.g., ► [Child and Youth Well-Being Index – CWI](#)). These indexes include multiple domains: family material well-being, health, safety behavior, educational attainment, social relationships and community connectedness, and emotional and spiritual well-being (Bradshaw, Hoelscher, & Richardson, 2007; Fernandes, Mendes, & Teixeira, 2012; Land et al., 2011; Land, Lamb, Meadows, & Taylor, 2007).

Parental time influences all the above-mentioned domains. For example, parents' nonmarket activities like housework and child care contribute to the family material well-being; parental time allocated to the preparation of healthy meals, children's physical activity and sports practices, or visiting doctors contributes to the current and future health of the children; parents' addict behaviors (e.g., drug consumption) that are observed or perceived by children increase the probability of similar current or future behavior by the child; time spent by parents supervising and helping children's school activities or promoting study habits by performing positive role models contributes to higher levels of educational performance; children's social relationships and community connectedness are influenced by the quality of intra-familial relationships and the observed socialization of parents; and, finally, child emotional and spiritual well-being depends on the emotional support provided by parents and parental satisfaction with life or parental mental status. For example, a parent's depression, which may result from a spell of ► [poverty](#), affects child well-being negatively (Harvey & Mukhopadhyay, 2007).

### Parental Time Content

Because caregiving is more a responsibility than an activity (Folbre & Yoon, 2008; Kimmel, 2008) and because research purposes and data availability are diverse, there are multiple contents

attributed to parental time and classification schemes vary. These classification schemes are based on the time allocated by mothers and fathers to a large scope of activities.

Folbre and Yoon (2008, p. 39, Table 2.1) define three categories in the caregiving continuum and discuss the possibilities of measuring each parental activity based on American Time Use Survey (ATUS), an annual ► [Time Budget](#): (1) *direct care*, which includes physical care such as feeding, bathing, and dressing and developmental/educational care such as talking with, instructing, reading aloud, or playing with children; (2) *indirect care*, which incorporates household and household management on behalf of children; and (3) *supervisory care*, which includes children asleep and parents "on call" asleep or awake and children awake and parents awake and "on call."

Guryan, Hurst, and Kearney (2008, p. 26) state four categories of time spent on child care: (1) *basic child care*, associated with children's basic needs; (2) *educational child care*, linked directly (e.g., helping with homework) or indirectly (reading to children) to the educational and school activities of children; (3) *recreational childcare*, such as playing with them or taking them to active sports activities like swimming or passive activities like watching a basketball game; and (4) *travel child care*, the travel time associated with the previous three categories. The authors exclude meal preparation from child care; they include it in nonmarket production.

Parental development time is defined by Stafford and Yeung (2005, p. 301) as the parental involvement in children's intellectual, physical, and social development. They distinguish four groups of activities: (1) *caregiving activities*, including physical child care and eating meals together in or outside the home; (2) *play and companionship activities*, comprising active and passive leisure activities; (3) *achievement-related activities*, mainly composed of studying and time associated with school; and (4) *social activities*, which include socializing, household and outside conversations, and religious activities.

For child outcomes and well-being, how time is spent on children is as important as how much

time is spent (Leibowitz, 1977). *Quality parental time* includes the time parents allocate to education, playing and “having fun” with children (Bianchi, 2000).

In addition to time spent on activities directly related to the child, there are other parental activities which may influence the well-being of children indirectly. For example, the time engaged by parents on their own on constructive activities (e.g., studying) or damaging activities (e.g., taking drugs) may contribute to creating a role model for the child and consequently impacting on current and future child well-being (Cardoso, Fontinha, & Monfardini, 2010).

### Measuring Parental Time and Time-Use Surveys

Good sources for information on parental time are time-use surveys such as the American Time Use Survey (ATUS) by the Bureau of Labor Statistics (Horrigan & Herz, 2005); Canadian Social Survey (CSS) (Statistics Canada); Cycles 12, 19, and 24 by Statistics Canada; and several European Time Use Surveys carried out in many countries by national statistical institutes using Eurostat’s guidelines (Eurostat, 2009). In some years the ATUS has applied specific module questionnaires: Eating & Health (2006–2008), Well-Being (2010), and Leave (2011). A detailed summary of the time-use studies around the world can be found on the Centre for Time Use Research Web page (<http://www.timeuse.org>). The time-use surveys differ on many aspects: the number of activities included, the information collected, the slots of time considered, the number of diary days collected, the methodology of collecting data, the survey frequency, the number of surveyed individuals by household, the sampling process, etc. The Multi-national Time Use Survey (MTUS) has harmonized the time-use categories and made available micro data bases of time-use surveys from 25 countries for different years (Fisher et al., 2012; Gershuny et al., 2012).

With regard to parental time, the time-use surveys may include (1) child care activities reported by parents as primary activities; (2) child care activities reported by parents as

secondary activities (i.e., activities that are performed in parallel with others, e.g., Web searching and looking after a 6-month-old child at the same time); (3) “with children” time reported by parents, a measure of child interactive time (Bianchi, Robinson & Milkie, 2006); (4) parental time reported by children (e.g., Australia, Italy, and Portugal have children’s diaries); (5) feelings about time (e.g., stress self-evaluation and quality of life perception); and/or (6) satisfaction associated with each activity performed (Bureau of Labor Statistics, 2010; Krueger et al., 2009; Robinson & Godbey, 1999).

Some time-use surveys (or time budgets) collect information through several instruments: a time diary, an individual questionnaire, and a household questionnaire. In some survey editions, modules are included. Examples are the ATUS Well-Being Module (2010); Bureau of Labor Statistics (2010) and the ATUS Eating & Health (2008); (Bureau of Labor Statistics, 2012), which together with sociodemographic variables for households and individuals (e.g., household composition, size, and income; age and gender; employment status and job) also collect information which can be associated with parental time and child well-being.

Demographic variables in time-use surveys relevant for the study of parental time in thirteen countries are illustrated in Guryan, Hurst, and Kearney (2008: A8–A11). When time-use surveys collect information from more than one member in the same household, the possibilities for studying parental time increase because it becomes possible to study the sharing of an activity, for example, child care, between the mother and the father, and the common and shared (synchronized or not) activities of children and their parents.

Other data sources for the United States provide more specific information about child care, child time allocation, and time in family: the National Survey of Parents (NSP) in 2000; the Family Interaction, Social Capital, and Friends in Time-Use Study (FISCT) in 1998/1999, whose results are reported in Bianchi et al., (2006); and the different waves (1998/1999, 2002/2003, and 2007) of Child Development Supplement 2002

Panel Study of Income Dynamics (PSID) (CDS-PSID). In Europe, there is some information about individual and household time allocation collected by general surveys or ad hoc modules. Two ad hoc modules of the Labor Force Survey (LFS) in 2005 and 2010 collect information about work-life balance (Eurostat, 2012). In 2010 the ad hoc intra-household sharing of resources of European Union Statistics on Income and Living Conditions (EU-SILC) collects information about sharing activities in the household. However, these sources of information for the United States and Europe always provide less information than the time-use survey data carried out on a multiannual base (with the exception of the annual ATUS).

## Cross-References

- ▶ [Child and Adolescent Life Satisfaction](#)
- ▶ [Child and Family Well-Being](#)
- ▶ [Child and Youth Well-Being Index \(CWI\)](#)
- ▶ [Child Indicators Research](#)
- ▶ [Children from Birth to Age Five, Quality of Life in](#)
- ▶ [Parental Depression and Child Well-Being](#)
- ▶ [Parental Satisfaction and Child Maltreatment](#)
- ▶ [Parent-Child Relationship\(s\)](#)
- ▶ [Parenting Style](#)
- ▶ [Time Budget\(s\)](#)
- ▶ [Time Pressure](#)

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## Parent-Child Aspirational Values

- ▶ [Values of Adolescents and Their Parents](#)

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## Parent-Child Conflict

- ▶ [Paid Work and Parent-Child Relationship Quality](#)

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## Parent-Child Interaction

- ▶ [Parent-Child Relationship\(s\)](#)

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## Parent-Child Interactions

- ▶ [Mother-Child Interactions](#)

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## Parent-Child Interinfluence

- ▶ [Parent-Child Relationship\(s\)](#)

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## Parent-Child Interinfluences

- ▶ [Mother-Child Interactions](#)

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## Parent-Child Relationship Quality

- ▶ [Happy Spouses and Happy Parents](#)

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## Parent-Child Relationship(s)

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## Synonyms

Children's influence on parents' well-being; Intergenerational transmission of subjective well-being; Parent-child interaction; Parent-child interinfluence; Parents' influence on children's well-being

## Definition

Parent-child relationships are the set of interactions and interinfluences existing between each parent and member of their offspring, always understood as bidirectional and sensitive to the gender of each agent in the relationship.

They include parent-child communication, as well as other less explicit or obvious forms of interaction and interinfluence linked to socialization, the fact of sharing the same living environment, the same family network, and other psychological and psychosocial factors.

## Description

Interpersonal relationships have a major influence on subjective well-being (SWB) and quality

of life in all cultures, as shown by numerous research results obtained throughout the world, although not always under this name. Cummins (1996), reviewing the domains used in scientific literature to evaluate life satisfaction, identified more than 20 terms used for interpersonal relationships, including “family,” “family life,” “family relations,” “children,” and “parenthood.”

Positive parent-child relationships are expected to show a major positive influence on both parents and children in most cases, while negative relationships are expected to have a negative impact on all actors’ well-being.

On the other hand, most parents in the world expect to have a major influence on their own children’s behavior, opinions, values, and well-being.

Two important additional reasons to expect similarities in the well-being of a parent and his or her child are their sharing of (a) genes and (b) environment.

Considering all of these premises, it seems counterintuitive that research evidence exists to show that subjective well-being may not significantly correlate between parents and 12- to 17-year-old adolescent children when measured with paired samples – and that when correlations do appear to be significant, they are frequently very low. When confidence intervals are taken into account, doubts regarding these low correlations become evident.

As not many results have been published on the topic, they may depend on which instrument is used. However, some of the publications that publish these research results suggest that well-being instruments showing various high correlations with one another may be extremely sensitive to the different variables in each diverse sociocultural context, hence the diversity of results. For example, in Casas et al. (2008), with a sample of  $N = 266$  paired parents and their own child, a single item on overall life satisfaction does not show a correlation between paired parent-child couples, while the PWI (Cummins, Eckersley, van Pallant, Vugt, & Misajon, 2003) shows a low positive significant correlation.

While there appears to be a correlation between a parent and child’s satisfaction with

some life domains, with others there does not. In Casas et al. (2008), satisfaction with health and with security for future are correlated, while satisfaction with standard of living, life achievements, relationships with other people, personal security, and groups of people they belong to do not significantly correlate.

In a more recent publication (Casas et al., 2012), using a larger sample of  $N = 1,250$  families with paired answers from one parent and one 12- to 16-year-old child, a wider range of subjective well-being scales and items was used to check the parent-child relationship’s sensitivity to choice of measurement instrument. In this entry, the equivalence of the scales across generations was tested by means of confirmatory factor analysis (CFA) models prior to correlating parents’ and children’s SWB and testing mean differences in SWB between parents and children. Three multi-item scales were used: the PWI (Cummins et al., 2003; International Well-being Group, 2006), the Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen, & Smith, 1985), and the Brief Multidimensional Students’ Life Satisfaction Scale (BMSLSS) (Seligson, Huebner, & Valois, 2003).

Results show that none of the three multi-item scales fits a CFA model when restricting intercepts, suggesting that the behavior of the items differs between parents and children when related to the respective overall score for each scale. These results lead to the conclusion that it is not possible to compare either factor means in CFA or means for the summated scales between parents and their adolescent children. This at least partially results from the fact that for some items, child means are substantially higher than parent means; for some items, both means are about equal; and for yet other items, parent means are higher than child means.

However, models for the PWI and BMSLSS did fit with restricted loadings, suggesting that it is possible to compare correlations between parents and their children. These correlations, although significant, are very low.

A range of single-item well-being scales has also been used by Casas et al. (2012) to compare parents’ and children’s SWB: one on

overall life satisfaction (OLS), another on overall happiness (HOL), Fordyce's single-item scale (Fordyce, 1988), two items from Russell's scale on core affects (CAS) – one on happiness and one on satisfaction (Russell, 2003) – and the optional item 6 of the BMSLSS. Results are consistent with the fact that parents' well-being is only very weakly related to that of their child.

At the item level, item 2 on the SWLS and satisfaction with health, with standard of living, with groups I belong to, and with security for future on the PWI are items showing significant and high mean differences between parents and children (around 1 point higher for children over an 11-point scale). Satisfaction with family and satisfaction with standard of living show the highest correlations between parents and children, probably because these domains constitute a common intergenerational environment.

According to Casas et al. (2012), parents' well-being seems to have a bigger influence on the female child's well-being than on the male's, at least in the Spanish context where data was collected. The gender of the parent does not seem to have any influence on these results. Therefore, the hypothesis that the "sources" of SWB may somehow differ among adolescent boys and girls in the context of each specific culture cannot be rejected.

Satisfaction with friends, relationships with other people, and groups I belong to shows no significant correlation between parents and children, regardless of the child's gender. This probably means that both boys and girls have significant satisfactory and meaningful relationships outside of those with family members, particularly with their peers, and while family members form part of a psychosocial environment that is shared with parents, peers and friends do not.

## Discussion

Although much scientific literature exists on parent-child relationships, it has not yet been common to (1) research this relationship in terms of the subjective well-being it provides

each agent according to both the parent and child's self-reported evaluation and, at the same time, (2) check whether parent and child well-being are correlated. Preliminary research on the topic seems to show unexpected results, particularly in relation to the second aim.

The first group of unexpected results refers to satisfaction with different life domains. Only very few life domains show correlated satisfaction between parents and their child.

The second group refers to overall life satisfaction or well-being. Only some scales show a correlation between parents' and their child's overall life satisfaction or well-being, and these appear to be very low. However, in Casas et al. (2012), CFA testing with three multiple-item SWB scales led to the conclusion that it is not possible to compare either factor means in CFA or means for the summated scales between parents and their adolescent child.

Results in Casas et al. (2012) seem to support the conclusions by Casas et al. (2008) that correlations between parents' and their children's overall well-being are not high enough to provide evidence of a simple genetic effect. The fact that correlations are no lower for domain items than for single overall items seems to indicate a detectable influence in shared environment rather than genetics.

At least in some cultures, parents' well-being seems to have a bigger influence on the female child's well-being than on the male's.

Available results reinforce the idea that adolescent cultures may be constructed independently of and even be unrelated to adult cultures (Casas, 2008), particularly when communication between generations is not appropriate or sufficiently intensive. Such reflections may also be applicable to subjective well-being, which may have a correlation between parents and children, but may also be largely or even completely unrelated, even if objective well-being is likely to be strongly related.

Much more research is obviously needed and in more countries to better understand the phenomena of intergenerational transmission of subjective well-being.

**Cross-References**

► [Child Well-Being](#)

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**Parent–Child Relationship, Quality of**

► [Happy Spouses and Happy Parents](#)

**Parent-Completed Versions (CHQ-PF50)**

► [Child Health Questionnaire \(CHQ\)](#)

**Parenthood, Childlessness, and Well-Being**

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**Definition**

This entry explores the effects of parental status (i.e., whether an individual parents or not) on physical and psychological well-being.

**Description**

**Introduction**

This entry applies a life course framework to the topic of parenthood, childlessness, and well-being. The impacts of parental status on well-being are not static over the life course but rather are dynamic and shift in response to ► [life events](#) and transitions. For example, the ways in which the transition to parenthood shapes parents’ well-being are very different from the ways in which adult children shape parental well-being. In addition to life course variations, the effects of parenthood and childlessness on well-being differ based on sociodemographic characteristics (e.g., marital status, age, gender, race/ethnicity, socioeconomic status), personal and cultural meanings surrounding parenthood and childlessness, and for parents – parental status characteristics (i.e., stepparent, biological parent, or grandparent status) and parent–child relationship quality.

Well-being is a multidimensional concept, encompassing a wide variety of mental and

physical health indicators. Most research on parenthood, childlessness, and well-being, however, has focused on *psychological* well-being, although more recently some studies have also focused on physical health as an indicator of well-being. Research that focuses on parental status and psychological well-being typically utilizes measures of happiness and life satisfaction or, conversely, stress and distress (i.e., depressive symptoms) (for a more in-depth review of recent studies on this topic, see Umberon, Pudrovská, and Reczek (2010) and Umberson, Thomeer, and Williams (2013)).

### Transition to Parenthood and Parenting Minor Children

Overall, research suggests that the transition to parenthood and parenting young children is particularly stressful and that parents of young children have higher levels of distress than the childless. Parenthood imposes new financial and caregiving responsibilities, and parents of minor children often face more time constraints, daily demands, and work-family conflicts than childless adults. Parenting stressors are not uniformly experienced, however. Parents with fewer economic resources and lower levels of ► [social support](#) (i.e., unmarried parents, parents with low-quality marriages, mothers, lower-income parents, and very young parents) have on average lower levels of psychological well-being than other parents. Thus, research suggests that the context in which the transition to parenthood and parenting minor children occurs has important implications for parents' well-being.

#### Sociodemographic Factors

*Marital Status.* Research shows that marital status moderates both the negative psychological effects of the transition to parenthood as well as those of parenting young children. For example, one longitudinal study found that the transition to parenthood is associated with an increase in depressive symptoms only for unmarried parents and that, in fact, married mothers had lower levels of depression than childless women (Nomaguchi & Milkie, 2003). Another study

found that cohabitating mothers experienced a greater decline in well-being during the transition to parenthood, compared to married and single mothers, while cohabitating fathers were less distressed than single fathers (Woo & Raley, 2005).

Beyond the transition to parenthood, single, separated, and divorced parents have higher levels of psychological distress than married parents. While both single and divorced mothers and fathers face higher levels of distress, compared to married parents, the source of this distress likely differs by gender. For unmarried mothers, who most typically retain custody of children, distress most often stems from high levels of financial and caregiving stress and work-family conflicts. Research also demonstrates that single mothers have lower levels of physical well-being; they report lower self-rated health, more mobility limitations, ► [disability](#), and chronic conditions than do married parents or the married childless (Hughes & Waite, 2002). For single, separated, and divorced fathers, parenting stress is more likely to stem from stressors related to child support, visitation, and interactions with their child's mother. While there has been some research on cohabitating parents, more research is needed on gay, lesbian, and heterosexual cohabitating parents to understand how they fare in comparison to other parents.

While married parents have higher levels of well-being than unmarried parents, marital quality moderates this association. For example, longitudinal evidence suggests that mothers who perceive their husbands as more supportive are less likely to experience an increase in depressive symptoms during the transition to parenthood. Unfortunately, however, extensive evidence suggests that marital quality declines during the transition to parenthood.

*Age at First Birth.* Other research has examined how age at first birth impacts parents' well-being. The results of this research are mixed with some studies finding that an early transition to parenthood (generally defined as before the age of 20) has no impact on

psychological well-being and that at least for low-income individuals, early parenting is logical within a context of truncated resources and opportunities in that it imposes a sense of meaning and purpose upon young parents. On the other hand, one study found that parents who have their first child before the age of 23 have higher rates of depression than the childless but that parents who have their first child after the age of 23 are less depressed than the childless (Mirowsky & Ross, 2002). Other studies also report that early transitions to parenthood are associated with increased mortality risk, worse self-rated health, and more activity limitations. Although these studies control for socioeconomic status, it is important to note that early childbearing is associated with lower SES, which in turn is associated with lower levels of mental and physical well-being. Early childbearing is further associated with truncated levels of education, which also contribute to lower levels of well-being.

*Gender.* A great deal of previous research suggests that parenting young children is more stressful and distressing for mothers than fathers, due to the fact that women typically have more responsibility for childcare and thus tend to experience more work-family conflict. Working mothers, in particular, are burdened by a “second shift” which includes not only more household and childcare duties but also typically includes responsibilities for more routine and mundane activities (Hochschild, 2012). Despite this, recent longitudinal research suggests that mothers who work full time during and after the transition to motherhood actually have higher levels of mental and physical health than stay-at-home mothers or mothers who transition in and out of the labor force (Frech & Damaske, 2012). Research has also revealed that mothers’ distress can be mitigated by several factors in addition to steady employment including access to reliable and quality childcare, financial resources, and a supportive spouse or other supportive social ties.

### Stepparents

Stepfamilies are extremely common with about 1/3 of all US children spending some time in

a stepfamily (Ganong & Coleman, 2004). While most research on the topic of stepfamilies and well-being has focused on the effects of living in a stepfamily on stepchildren, recently a few studies have begun to focus on stepparents’ well-being. Some of this research suggests that stepparenting is particularly stressful due to role and boundary ambiguity as well as a lack of institutionalization of stepfamilies (Stewart, 2005). The effects of stepparenting on well-being may differ by gender. The research findings, however, are mixed: some research finds that stepparenting is particularly stressful for women, while other research suggests the opposite – that only stepfathers (but not stepmothers) experience lower levels of well-being compared to men in other family forms. Other research suggests that neither stepmothers nor stepfathers are more distressed than their childless peers. The lack of consensus across studies suggests that more research on this topic is needed and points to the likelihood that the context in which stepparenting occurs matters for stepparents’ well-being.

### Grandparents Who Parent

In recent years the number of both custodial grandparents and grandparents who co-parent with their adult children has increased dramatically; according to the US Census Bureau, roughly six million children in the USA now reside with their grandparents. Grandparents who parent are more likely to be African American or Latino than White, and the majority are female (Goodman & Silverstein, 2006). As with research on stepparents’ well-being, research on the effects of parenting grandchildren is mixed with some research suggesting that grandparents who parent have worse mental and physical health than their non-parenting peers and other evidence suggesting that parenting grandchildren does not undermine grandparents’ well-being. These contradictory findings likely arise from the fact that the context in which grandparents parent matters. For example, off-time grandparents (i.e., young grandparents) report higher levels of stress when raising

grandchildren, compared to older grandparents (Hughes & Waite, 2002). Additionally, one study found that sole custodial grandparents have higher levels of depression and worse self-rated health and health behaviors (e.g., less healthy diets, lower levels of ► [exercise](#)), compared to co-parenting grandparents (Hughes, Waite, LaPierre, & Luo, 2007), while other evidence suggests that the opposite is true for African American grandmothers (but not Latino grandmothers) — Black custodial grandmothers have higher levels of well-being than Black co-parenting grandmothers (Goodman & Silverstein, 2006). The fact that custodial African American grandmothers have higher levels of well-being than those who co-parent may reflect an African American tradition of surrogate parenting. Co-parenting Latino grandmothers, in contrast, may have higher levels of well-being than custodial Latino grandmothers due to cultural ► [norms](#) that emphasize intergenerational reciprocity (Umberson, Pudrovska, & Reczek, 2010).

### Parents of Adult Children

The majority of parent–child relationships remain strong throughout the life course, and thus, children remain salient for parents' well-being even as they age into adulthood. Adult children shape parents' psychological well-being in unique ways, however. First, research suggests that overall parents of adult children have lower levels of stress and distress than parents of young children and that the transition to an empty nest is associated with greater psychological well-being and more marital happiness, particularly for mothers. As children age into adulthood and establish independence, parents typically face fewer time constraints, daily demands, and work–family conflicts. Additionally, adult children are more likely to be a source of social support for their parents than are young children.

### Relationship Quality

For parents of adult children, parent–child relationship quality is particularly key to understanding how adult children shape their parents'

well-being: while emotionally supportive relationships with adult children positively impact parents' mental health, research suggests that strained relationships can have a negative impact on parents' well-being. Additionally, parents of adult children who worry excessively about their children or are unhappy with how their children have turned out tend to have high levels of distress. Research also suggests that some parents of adult children are more impacted by parental strain than others. One study found that among parents whose child experienced a negative event, Black parents were more distressed than White parents and that among parents who were treated poorly by their adult children, Black parents were more depressed than White parents, and mothers were more angry than fathers (Milkie, Bierman, & Schieman, 2008). The authors of this study hypothesize that these race and gender differences stem from the fact that the parental role is more important for the well-being of some groups (e.g., African Americans, women) who have on average less power in other domains (e.g., work) and thus more strongly base their identities on family roles.

### Marital Status

Marital status also impacts the ways in which adult children shape parents' well-being. Specifically, parental strain and support from adult children may be more consequential for unmarried parents' well-being. For example, research suggests that supportive parent–child relationships are particularly important for the well-being of widowed parents. Longitudinal data also suggests that when parents of adults divorce, fathers experience a decline in close relationships with their children, while mothers experience an increase in contact and support from their children (Shapiro, 2003). Again, more research is needed to understand if and how these processes may differ for both same-sex and different-sex cohabiting couples.

### Co-residence

Recent census data reveals that over half of 18–24 year olds live with their parents,

and while the rate is lower for adults aged 25–34, the percentage of adults in this age group who live with their parents has also increased dramatically in recent years. Research suggests that co-residence with adult children may be detrimental to mothers' — but not fathers' — psychological well-being. This seems to be true, however, only if the adult child is post-college age (Pudrovska, 2009). The gendered nature of this distress may stem from the fact that the parental role may be more important for mothers' identity so that adult children who fail to achieve independence may be viewed by mothers as reflective of poor parenting. And while it is true that co-residence is sometimes a result of adult children moving in with their parents to provide care, co-residence is much more likely to result from children's needs, rather than parents' needs.

### Childlessness

Due to a dramatic increase in the number of childless adults over the past few decades, research that examines the effects of remaining childless has increased in recent years. Although this research generally finds that childless adults have higher levels of psychological well-being than parents of minor and adult children, research also suggests that the context in which childlessness is experienced matters in terms of mental health. For example, young adults who desire children but face fertility difficulties tend to have high levels of psychological distress. Additionally, research suggests that among the childless, those who view childlessness in negative ways have higher rates of depression and loneliness. Further, for unmarried men over the age of 70, childlessness is associated with higher rates of depression and loneliness although the association does not hold for childless women or married men (Zhang & Hayward, 2001). It is not known, however, if the mental health benefits of childlessness are cohort-specific, given recent increases in cultural acceptance and destigmatization of childlessness. Therefore, understanding the larger cultural context and meanings as well as personal meanings and choice

surrounding childlessness are important for understanding the ways in which non-parents and parents compare in terms of psychological well-being.

### Conclusion

In conclusion, the effects of parenthood and childlessness on well-being depend on a variety of contextual factors, including life course position, age, gender, race/ethnicity, marital status, among other factors. In general, contemporary research suggests that parenthood is associated with lower levels of psychological well-being and that childless adults receive a boon in mental health throughout the life course. Parenting minor children is particularly stressful, whereas parenting adult children is less so for most parents. Research, however, also suggests that the social and economic context in which parenting occurs matters for parents' mental health. Parents who have greater financial, institutional, and social resources tend to have higher levels of well-being than parents who lack such resources. For such parents, policies such as paid parental leave, subsidized childcare, on-site childcare, and flexible workplaces would go a long way toward reducing stress and improving parents' well-being.

### Cross-References

- ▶ [Childlessness](#)
- ▶ [Childlessness, Midlife, and Old Age](#)
- ▶ [Family Stress](#)
- ▶ [Family Support](#)
- ▶ [Family-to-Work Conflict](#)
- ▶ [Grandparenting](#)
- ▶ [Work-to-Family Conflict](#)

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## Parenting Stress

### ► Maternal Stress

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## Parenting Style

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### Definition

Parenting style is conceptualized as a constellation of attitudes or a pattern of parental authority towards the child which are conveyed to the child, creating the emotional context for the expression of parent behavior. Parenting style differs from parenting practice in that it characterizes parent–child interaction across settings and situations, whereas parenting practices are specific to particular situations and domains (Baumrind, 1971; Darling & Steinberg, 1993). Parenting style is thought to provide the emotional climate for interaction between parent and children (Williams et al., 2009) and has significant impact on the family quality of life.

### Description

There are different models of conceptualizations of parenting style. Baumrind (1971) employs a configurational approach which sees parenting style as consisting of a configuration of attitudes, values, and behaviors, resulting in a typological model with three types of parenting styles, which differ on their relative emphases and balance on demandingness and responsiveness (Baumrind). Demandingness is related to “the parent's willingness to act as a socializing agent” (Darling & Steinberg, 1993, p. 492), whereas responsiveness is associated with “the parent's recognition of the child's individuality” (Darling & Steinberg, p. 492). This results in three parenting styles, authoritative, authoritarian, and permissive.

Others such as Maccoby and Martin (1983) conceptualized parenting style along two orthogonal dimensions. The more widely cited conceptualization adopted by Maccoby and Martin proposed acceptance/responsiveness and demandingness/control as the two dimensions within a social learning or ethological perspective. Responsiveness refers to contingent reinforcement or “parent sensitivity and adaptation to the child’s signals, states and needs” (Maccoby & Martin, p. 39). Control is related to the granting of psychological autonomy and the firmness or laxness of control. The interaction of acceptance/responsiveness and demandingness/control results in four parenting styles, authoritarian, authoritative, permissive, and indifferent.

Authoritative parents are high in both demandingness and responsiveness. Children are expected to be responsive to parent demands, but parents are also responsive to children’s reasonable demands. Parents set standards for conducts but use reasoning with children and allow children to express their opinions (Baumrind, 1966; Maccoby & Martin, 1983).

Authoritarian parents are high in demandingness but low in responsiveness. Children are expected to be obedient, and rules are decided by parents. Parent authority is emphasized, and child autonomy is restricted (Baumrind, 1966; Maccoby & Martin, 1983).

Permissive parents are high in responsiveness but low in demandingness. They are tolerant and accepting towards the child and seldom use punishment or assert their authority. They make few demands for child behavior and allow their children to make their own decisions (Baumrind, 1966; Maccoby & Martin, 1983).

The indifferent parent is low in demandingness and responsiveness. They tend to behave in such a way so as to minimize the effort and time with the child. They respond to children only to try and terminate the interaction (Maccoby & Martin, 1983).

The antecedents to parenting styles include parent values and goals in relation to child socialization, emotional and material resources of

parents, as well as parent and child personalities (Darling & Steinberg, 1993).

In terms of child outcomes, studies on white populations have consistently shown that authoritative parenting is associated with positive child outcomes, in terms of academic performance, social behavior, and other outcomes such as competence, self-esteem, and mental health (Baumrind, 1971; Buri, Louiselle, Misukanis, & Mueller, 1988; Maccoby & Martin, 1983; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). On the other hand, permissive and authoritarian parenting have been found to be positively associated with internalizing and externalizing problems (e.g., Querido, Warner, & Eyberg, 2002; Williams et al., 2009).

However, research finding on the effect of parenting styles on non-Western populations is less consistent (Lim & Lim, 2004). Among Chinese or Asian families, authoritative parenting was generally associated with positive outcomes in academic performance and social behavior (e.g., Ang, 2006; Cheah, Leung, Tahseen, & Schultz, 2009); authoritarian parenting was associated with better academic performance (Chao, 1994; Leung, Lau, & Lam, 1998), though authoritarian parenting was associated with child behavior problems (Chan, 2010). Parenting style is associated with adolescent outcomes such as self-esteem and general psychological health (Shek, 1999). This suggests that there may be cultural differences in parenting styles, particularly in the meaning of authoritarian parenting (Lim & Lim, 2004). Chao (1994) points out that for Asians, restrictiveness may not be interpreted as hostility or domination as in the case of European Americans. Instead, it could be interpreted as parental care, concern, or involvement. For Asians, control may be interpreted as a means for fostering family harmony. Chao points out that among Chinese, the concepts of “chiaoshun” (filial piety) and “guan” (discipline) are interpreted as care and concern for the child. Asian American parents endorse a parenting style characterized by “training” where hardwork, self-discipline, and obedience are emphasized. The relationship quality focus is on parental respect, rather than closeness and intimacy (Chao, 2001).

As authoritative parenting is associated with positive child outcomes across cultures, researchers have identified a number of child management strategies that are used in parent training programs. They include (Maccoby & Martin, 1983):

Clear understanding of acceptable and unacceptable behaviors

Monitoring of child behavior

Consistent contingencies for acceptable and unacceptable behaviors

Positive consequences for acceptable behaviors

Many parent training programs based on a social learning model have adopted these elements, and they have been found to be effective in reducing child behavior problems and parental stress. Examples include Incredible Years (e.g., Drugli, Larsson, Fossum, & Mørch, 2010), Positive Parenting Program (Leung, Sanders, Leung, Mak, & Lau, 2003; Nowak & Heinrichs, 2008; Sanders, 1999), and Parent-child Interaction Program (Bagner & Eyberg, 2007; Leung, Tsang, Heung, & Yiu, 2009). Many of these programs have been found to be effective with different cultural groups.

Future research on parenting style should try to develop short and sharp parenting style scales with robust psychometric properties to facilitate evidence-based evaluation on preventive and remedial work on parenting. It should also seek advancement in being more:

Age sensitive: Parent-child dynamics change significantly over the child's developmental stages, as well as the family's developmental stages, especially in families with more than one child. It is essential that parents adjust their styles according to the child's developmental tasks in different stages (Ang, 2006; Querido et al., 2002) to provide the optimal support to the child. Studies comparing parenting style variations in different key developmental stages and the transitions across stages will be important (Thompson, Hollis, & Richards, 2003).

Gender sensitive: Since the 1980s, there has been growing attention on the similarities and differences on fathering and mothering on sons and daughters (Lamb, 1987; Tsang, 1994). It is important that continuous efforts be made to clarify such gender interactions.

Culture sensitive: In addition to geographical and ethnic cultural variations (Shek, 1995), globalization and technological advancements have brought new meanings to culture and new challenges to parental control over children. For example, parents who are less proficient with information technology compared to their children often face real difficulties in asserting effective control on their children. It will be important that future parenting style measurements and studies can address such new contexts of parent-child dynamics.

## Cross-References

- ▶ [Child Development](#)
- ▶ [Family Quality of Life](#)

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## Parents with Asthmatic Children, Quality of Life

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### Synonyms

Caregivers' health-related quality of life with asthmatic children; Caregivers' quality of life with asthmatic children; Parents' health-related quality of life with asthmatic children; Parental quality of life with asthmatic children

### Definition

Asthma is the most prevalent chronic health condition in childhood. The ► [quality of life \(QoL\)](#)

of asthmatic children and their parents/caregivers has been increasingly acknowledged as an important outcome in pediatric asthma ► [health care](#). Although children's QoL has been the main focus of research, scholars and clinicians in the field of pediatric chronic conditions have also started to take an interest in how parents perceive their own QoL. In this relatively new area of inquiry, research has conceptualized and assessed parents' QoL in diverse ways. Consequently, scientific literature on parents' QoL is heterogeneous, and a clear or consensual definition for this construct is still elusive.

Two main approaches have been developed to study the QoL of parents with children who have chronic conditions, including asthma. A generic approach has examined parents' QoL according to the universal definition provided by the World Health Organization, which is that QoL is a multidimensional construct covering the physical health, level of independence, psychological state, social relationships, and interactions with the environment, as subjectively perceived by the individual embedded in a cultural context (The WHOQOL Group, 1998). A specific approach, which is applied in the majority of studies, has looked at the perceived impact of a child's disease and treatments on parents' lives. Within this approach, two lines of research can be distinguished. The first considers that all parents who have a child with a chronic condition, regardless of the specific diagnosis, face common circumstances, ► [stress](#) factors, and reorganization needs. Within this line, Goldbeck coined the term "parental quality of life" as "a uniquely personal perception, denoting the way individual parents feel about the health status of their child and/or nonmedical aspects of their lives" (2006, p. 1122). The second line focuses on the impact of having a child with a specific diagnosis such as asthma by examining how the characteristics related to a particular condition can impair parents' QoL. Across studies, authors have referred to this construct using the terms "parents' QoL" and "parents' health-related QoL," and these terms have sometimes been used interchangeably. A theory-driven conceptual clarification of these constructs and a consistent use of

these terms would be advantageous for advancing this field of study. In addition to parents' QoL, a number of studies have referred to caregivers' QoL, which includes other family members who assume the primary role of providing informal health care to a child in the home context.

## Description

### Parents' QoL in the Context of Pediatric Health Conditions

The scientific study of the QoL of parents with asthmatic children emerged less than two decades ago and has received increasing attention in recent years due to the confluence of several factors. One of the most influential factors is the paradigm shift in the criteria used to evaluate medical outcomes. In addition to symptom control and other clinical indicators, typical evaluation endpoints, there has been an increase in the inclusion of patient-rated outcomes, such as generic QoL and specific health-related QoL, which are multidimensional constructs that include several areas of well-being and function, as reported by patients and observers (Bullinger, Schmidt, Petersen, & Ravens-Sieberer, 2006). In pediatric health conditions, including asthma, parents have long been considered privileged observers and important sources for reporting their children's QoL. Recently, there has been recognition of the importance of addressing the QoL of the parents/caregivers themselves, which is supported by the idea that the whole family is affected when a child has a chronic health condition. Goldbeck (2006) found that parents of children with a chronic health condition, compared with parents of healthy children, reported a persistent impairment in most dimensions of perceived parental QoL. A study by Hatzmann, Heymans, Ferrer-i-Carbonell, van Praag, and Grootenhuis (2008) reported that, when compared to parents of healthy children, parents of chronically ill children had lower health-related QoL, with 45 % of parents at risk for health-related QoL impairments, including difficulties in sleep, vitality, social functioning, daily activities, and emotions.

One way to understand the negative impact of children's chronic conditions on parents' lives is through the concept of the burden of caregiving, which is defined as a caregiver's perceived responsibilities and limitations that are inflicted upon the self and the family (Canning, Harris, & Kelleher, 1996). For parents of chronically ill children, the tasks of parenting and caregiving go hand in hand as these parents are also the main informal health caregivers. Providing daily care to children is part of every parent's role, yet the high level of care required by a child with a chronic condition can become burdensome and interfere negatively with both the physical and psychological health of a caregiver, which contributes to a decreased QoL. In addition to the consequences related to the individual lives of parents, the burden of caregiving can have direct and indirect impacts on children's health and well-being. Parents are primarily responsible for managing their children's diseases. If parents experience high levels of distress and reduced QoL, they may face more difficulties when carrying out their informal caregiver roles, such as establishing links with health care providers, making decisions about treatments, and following medical prescriptions.

### **Specific Issues for Parents of Children with Asthma**

Asthma is a disease characterized by the alternation of asymptomatic periods and exacerbation episodes marked by shortness of breath, coughing, wheezing, or chest tightness or by a combination of these symptoms. One distinctive characteristic of this condition is its unpredictable nature, which requires constant attention and vigilance from caregivers. Parents of asthmatic children face uncertainty because attacks interfere with the ability to breathe and can occur without warning (Dalheim-Englund, Rydström, Rasmussen, Möller, & Sandman, 2004). Another concern is related to the long-term effects of this chronic condition, with parents worrying about their child's ability to live a normal life. Research exploring the burden experience described by parents of children with

asthma identified the following major areas of distress: interference with activities (e.g., family- and work-related activities and other daily activities), emotional impact (e.g., worries and fears about the long-term effects of a child's medicine and feelings of helplessness), concerns over finances, social relationships, and medical and school support (Schulz, Dye, Jolicoeur, Cafferty, & Watson, 1994). The primary caregiver of a child with asthma needs to juggle a complex set of demands, including taking their child to medical appointments, implementing treatment protocols, buying and administering medications, being attentive to medications' side effects, monitoring symptoms on a daily basis, and dealing with the child's asthma attacks, which can involve assessing the severity of the attack and deciding whether to use emergency medication or to make an emergency visit to the hospital. Consequently, it is desirable that parents establish clear communication with health care providers and educators to guarantee that their child's specific needs are met while the child is in school or day care. Another responsibility that parents face is to protect their child from environmental triggers that elicit asthma attacks, which involves paying special attention to vacuuming and dusting the house and avoiding contact with pets and other allergen stimuli. Moreover, parents must conciliate these demands regarding the child's condition with their daily work and family life demands. With regard to work demands, literature has suggested that parents of asthmatic children are more likely to miss days at work than parents of healthy children (Dean, Calimlim, Kindermann, Khandker, & Tinkelman, 2009) and to compromise their work capacity due to sleepless nights. With regard to family life demands, Crespo, Carona, Silva, Canavarro, and Dattilio (2011) argued that the experience of caregiver burden in at least one parent is easily spread to the whole family environment, as the stress and negative emotional reactions associated with this burden are likely to affect family dynamics.

Comparative research examining the QoL of parents of children with asthma, parents of healthy children, and parents of children with

other chronic conditions has yet to provide clear results. For example, Gau et al. (2010) in Taiwan found that mothers of children with asthma reported lower QoL in the physical domain than a group of women from the general population and that no differences were found in the psychological, social relations, and environmental domains. Another study in the Netherlands (Hatzmann et al., 2008) showed that parents of children with asthma, together with parents of children with sickle cell disease and metabolic diseases, reported lower QoL in a sample that was comprised of ten different conditions and a healthy comparison group. Differences in QoL among these parental groups may be difficult to explain due to the distinctive characteristics of the conditions and the heterogeneity of the samples in terms of disease severity and control. The majority of research in pediatric asthma has taken another route, which is to understand parents' QoL within the specific context of asthma, with the aim of identifying influencing factors and consequences for both parents and children.

### Measures and Measurement Topics

Researchers assessing parents' QoL have endorsed different approaches and, consequently, have used different measures to examine this construct in quantitative empirical studies (see Definition section). Studies adopting a generic approach to parents' QoL have used assessment instruments that are validated for the general population and do not account for the fact that the respondent has a particular condition, such as being the parent of a child with a chronic condition. One example is the use of the ► [World Health Organization Quality of Life \(WHOQOL\)](#) assessment questionnaire (The WHOQOL Group, 1998) which, in its long version, covers the following six domains: physical, psychological, level of independence, social relationships, environment, and ► [spirituality](#). This questionnaire has been used in studies aimed at explaining factors linked to QoL (e.g., Crespo et al., 2011) and comparing the QoL of parents with asthmatic children with the general population's QoL (e.g., Gau et al., 2010).

The majority of studies, however, have adopted a disease-specific approach, that is, measuring the impairment associated with being the parent of a child with a chronic condition. For instance, the Ulm Quality of Life Inventory for Parents (Goldbeck, 2006) assesses how having a child with a chronic condition affects different aspects of parents' lives. With regard to asthma-specific measures, the most widely used instrument is the Pediatric Asthma Caregiver's Quality of Life Questionnaire (PACQLQ) developed by Juniper and colleagues in 1996 (Juniper et al., 1996). This 13-item questionnaire assesses how a child's asthma has affected the caregiver's QoL on a scale from 1 to 7, in which one represents severe impairment. In addition to an overall score, this questionnaire provides scores for two dimensions: emotion and activity limitations. One example of the emotion dimension, which consists of nine items, is the following: "During the past week, how worried or concerned were you about your child's performance during normal daily activities?". The activity limitations dimension includes four items, with one example being the following: "During the past week, how often did your child's asthma interfere with your job or work around the house?". Authors of this questionnaire reported its ability to detect changes over time in the QoL of parents of children with asthma and its ► [reliability](#) to detect different degrees of QoL impairment among caregivers. Therefore, it is considered a good evaluative instrument for clinical trials and a discriminative instrument for use in cross-sectional surveys.

There are advantages and drawbacks when using either a generic or disease-specific approach to measure parents' QoL. On the one hand, disease-specific instruments focus on areas of functioning that are relevant for asthma; therefore, they can be more sensitive to small but relevant changes, namely, in health status, symptom control, and functional impairments associated with the disease (Juniper et al., 1996; Vila et al., 2003). Generic QoL instruments, on the other hand, may be more sensitive regarding the psychological state of the parents, which can be influenced by the interaction of different types of

factors. Deciding which instruments to use is dependent upon a study's theoretical framework and objectives. Adopting measures assessing generic QoL or parents' impairments that are associated with chronic conditions in general may be useful within a noncategorical approach, which privileges common shared experiences across parents of children with different chronic health conditions. Endorsing a disease-specific strategy may answer specific asthma-related questions within a categorical approach, which examines the idiosyncratic impairments associated with a specific disease. These approaches are not mutually exclusive and can complement each other to provide a deeper understanding of asthma in the wider context of chronic conditions.

### Factors Influencing QoL of Parents of Children with Asthma

One factor that can affect parent's QoL is asthma's severity and control. Currently, links between asthma severity and parents' QoL have not been clearly identified, with some studies finding that higher severity is associated with lower QoL and others finding no significant association (e.g., Everhart, Fiese, & Smyth, 2008). This inconsistency in results may be due to the different methods used to measure both asthma severity (e.g., parent's perception, clinician's assessment, diary ratings of symptoms, and examination of pulmonary function) and parents' QoL as well as to the heterogeneity of the samples in terms of participants' variability across the spectrum of asthma severity. With regard to asthma's specific QoL impairments, the majority of studies using the PACQLQ measure have found a link between lower parental QoL and asthma severity according to asthma symptoms diaries (e.g., Stelmach et al., 2011), parents' reports of symptoms (e.g., Everhart et al., 2008; Walker et al., 2008), and symptom changes (e.g., Juniper et al., 1996). When clinical parameters, such as pulmonary function, are considered, the results are less clear, with some studies reporting weak correlations and others reporting no association with parents' QoL. More research is needed to clarify these results, although it has been

suggested that variability in disease symptoms, rather than static indicators such as pulmonary function, is more likely to influence parents' QoL in the context of a condition characterized by unpredictability (Erickson et al., 2002).

Furthermore, studies report that parents show more impaired QoL when their children's asthma is uncontrolled (e.g., Dean et al., 2009; Stelmach et al., 2011). One mechanism through which uncontrolled asthma may affect parents' QoL is via its negative influence on the parental work domain, with research showing that parents with children with uncontrolled asthma missed more days at work than parents with children with controlled asthma (Dean et al., 2009). Additionally, parents' QoL scores were negatively linked to the number of missed days at work (e.g., Walker et al., 2008). Given that parents are responsible for their children's informal health care and symptom monitoring, when children's asthma severity is high and/or uncontrolled, parents will need to take action to reduce the symptoms and avoid environmental triggers. In these situations, the degree of care required may confine parents' regular activities and may heighten their emotional worries about their children's present condition and future lives, which are indicators of a decreased QoL.

Low ► **socioeconomic status (SES)** is considered a risk factor for children and parents with regard to poor outcomes in pediatric asthma. Specifically, studies have found links between the factors of ► **low income** (Erickson et al., 2002) and low SES (e.g., Everhart et al., 2008) and decreased QoL for parents. Among other factors, a lack of financial resources to meet health care demands and increased worries about being in jeopardy of losing jobs due to frequent absences can explain less affluent parents' QoL impairment. Additionally, compared to other caregivers, single-parent caregivers reported having lower QoL (e.g., Everhart et al.). These caregivers may have an increased burden due to taking on the responsibility and chores of managing their child's asthma on their own, and they may be at risk for lower perceived ► **social support** (Everhart et al.).

Theoretical models of ► [adaptation](#) in pediatric chronic health conditions, which are supported by empirical findings and clinical evidence, suggest that a warm, positive, cohesive family system is a protective factor for both parents and children. Research has found that a more positive family environment was associated with parents' reporting higher QoL scores (Annett, Turner, Brody, Sedillo, & Dalen, 2010; Crespo et al., 2011). In addition, other studies demonstrated that the impact of the child's condition in the whole family functioning negatively affected parents' QoL (e.g., Everhart et al., 2008; Juniper et al., 1996). Schulz et al. (1994) proposed that parents' QoL may be best understood by how they manage their children's asthma over time. A study specifically examining the way that families managed asthma routines (e.g., house cleaning, medication times, etc.) found that, when caregivers perceived these routines as burdensome, they reported having lower QoL. This finding suggests that the negative effect associated with the daily management of a health condition is an important factor explaining parents' QoL (Fiese, Wamboldt, & Anbar, 2005). Moreover, Crespo and colleagues' (2009) findings (2011) contributed to this idea by showing a negative link between parents' perceived burden and their QoL, which was mediated by family environment such that, when parents experienced more caregiving burdens, they perceived their family environment as less positive, which, in turn, was linked to an impaired QoL.

In addition to the way that parents perceive the impact of pediatric asthma on family functioning and their own experiences of the burdens associated with this condition, another important factor may be how they evaluate their children's well-being and QoL. A number of studies have found that the higher parents rated their children's psychological functioning, the better QoL they reported for themselves (Annett et al., 2010; Vila et al., 2003). Parents of children with asthma worry about the well-being and health of their children; thus, it is likely that perceiving their children as being well adjusted eases possible fears about the impact of the condition on their children's lives.

Finally, although not yet conclusive, there is growing evidence that parents' QoL and children's QoL are positively related (e.g., Crespo et al., 2011; Stelmach et al., 2011). It is possible that the transactional nature of the parent-child relationship, in that both family members influence each other over time, is enhanced in dyads in which the child has a chronic health condition. The underlying rationale for this hypothesis is that asthmatic children depend more on their parents than healthy children, especially at a young age, for example, by relying on them in matters related to health care. Moreover, parents of asthmatic children face additional worries about the impact of the disease on their children's lives compared to parents of healthy children. Thus, although there are no longitudinal studies that disentangle the patterns of influence, it is likely that the causal links between parents' QoL and children's QoL are bidirectional.

### Conclusion

There is an increasing consensus that pediatric asthma is best understood and treated within a family-based approach. Parents' QoL is currently considered a relevant outcome due to the impairment that caring for a child with asthma can cause in parents' own lives and in parents' ongoing ability to provide care for the child. Despite growing interest in this topic, several gaps in knowledge have yet to be addressed. There is preliminary evidence that parents' QoL might be different for fathers and mothers, yet the majority of studies examining pediatric asthma aggregate both parents' data, with samples primarily composed of mothers. Future studies comparing the levels of reported QoL for mothers and fathers and whether there are different factors influencing the QoL for each parent would be advantageous. Another area of interest is understanding parents' specific needs and the challenges that they face throughout their asthmatic child's development. It is unknown whether parents' QoL differs and whether their QoL is accounted for by the same factors during their child's infancy, childhood, and adolescence. Finally, future directions should include a closer

examination of how risk and protective factors for parents' QoL operate. The majority of studies to date have investigated the unique effect of risk factors on QoL; however, parents of children with asthma are often exposed to more than one risk factor. An examination of their combined effects, with a specific focus on how risk factors interact with each other, is warranted for a more accurate picture of the matrix of influences regarding parents' QoL (Everhart et al., 2008). Research addressing these issues has important implications for health care in pediatric asthma; for example, identifying parents at risk for lower QoL would allow for closer monitoring of these parents and their children starting at the beginning of asthma treatment. In addition to risk factors, which have received most of the attention, there is the need to identify protective factors regarding parents' QoL. This call is supported by a growing recognition that successful asthma management is best achieved by building on parents' and families' resources and strengths. Empirically based family interventions in pediatric asthma have been considered promising avenues for promoting adaptation to the disease, reducing parents' burden, and improving both parents' and children's QoL.

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## Parents' Health-Related Quality of Life with Asthmatic Children

► [Parents with Asthmatic Children, Quality of Life](#)

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## Parents' Influence on Children's Well-Being

► [Parent-Child Relationship\(s\)](#)

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## Parents' Time

► [Parental Time and Child Well-Being](#)

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## Parity of Populations Groups

► [Disadvantaged Populations](#)

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## Parkinson's Disease Questionnaire (PDQ-39)

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## Synonyms

[PDQ-39](#); [PDQ-39SI](#); [PDQ-8](#); [PDQ-8SI](#)

## Definition

The 39-item Parkinson's Disease Questionnaire is a disease-specific patient-reported outcome measure. The questionnaire contains eight domains (mobility, activities of daily living, emotional well-being, stigma, social support, cognitions, communication, and bodily discomfort). An overall single index score can also be calculated. A shorter form eight-item version of the instrument is available (PDQ-8) which provides the summary index score on the parent measure but with considerable economy in terms of patient burden. The PDQ-39 and related instruments are available in over 70 languages.

## Description

The Parkinson's Disease Questionnaire is the most widely used ► [Patient-Reported Outcome Measure](#) in PD (Jenkinson, Fitzpatrick, Peto, Harris, & Saunders, 2008). The questionnaire was developed on the basis of interviews with patients and covers areas considered by them to be of importance. The questionnaire contains eight domains (mobility, activities of daily living, emotional well-being, stigma, social support, cognitions, communication, and bodily discomfort) (Jenkinson, Peto, Fitzpatrick, Greenhall, & Hyman, 1995; Peto, Jenkinson, Fitzpatrick, & Greenhall, 1995). An overall single index score can also be calculated (Peto, Jenkinson, & Fitzpatrick, 2001). A shorter form eight-item version of the instrument is also available (the PDQ-8) which provides the single index score of the parent measure but with considerable economy in terms of patient burden (Fitzpatrick, Norquist, & Jenkinson, 2004).

## Development

Exploratory in-depth interviews were carried out with patients with Parkinson's disease in order to generate a large number of candidate questionnaire items. Items were scrutinized for ambiguity or repetition, and a 65-item questionnaire was developed and piloted to test basic acceptability and comprehension.

### Item Reduction and Scale Generation

An initial postal survey was conducted using the 65-item questionnaire in order to produce a more usable questionnaire with a smaller number of items and to identify scales in the instrument to address different dimensions of Parkinson's disease (Peto et al., 1995). The data from this postal survey was factor analyzed. Eight domains were identified containing a total of 39 items.

### Testing ,Validity, Reliability, and Sensitivity to Change

Further surveys were conducted using the 39-item questionnaire in order to test the reliability and validity of the new instrument. Internal reliability of the eight domains was assessed using the ▶ Cronbach's alpha statistic (Cronbach, 1951) and found to be high. The ▶ construct validity of the measure was also assessed in which results of the PDQ-39 were compared to results gained from both clinical assessments and the ▶ SF-36 and found to be good (Jenkinson et al., 1995, 2008; Peto et al., 1995). The measure has been found to be responsive to minimally important differences as reported by patients in a longitudinal study (Fitzpatrick et al., 2004; Peto et al., 2001). The quality of data gained from the instrument has been found to be high, both in the UK and elsewhere (Jenkinson et al., 2008, Jenkinson & Fitzpatrick, 2007; Jenkinson, Fitzpatrick, Norquist, Findley, & Hughes, 2003).

### Development of a Single Index Summary Score and the PDQ-8

Higher order factor analytical techniques have been used to develop a single index score, which can be calculated by summing the eight domains and expressing the result on a metric of 0–100 (PDQ-39SI) (Jenkinson, Fitzpatrick, Peto, Greenhall, & Hyman, 1997a). This summary index can also be calculated from a subset of eight items from the questionnaire (one from each of the eight dimensions of the instrument) (PDQ-8SI) (Jenkinson, Fitzpatrick, Peto, Greenhall, & Hyman, 1997b).

### Language Versions

The measure has been translated into over 70 languages and is widely used across the world and in cross national trials (Jenkinson et al., 2008).

### Availability

The PDQ measures are available from Isis Outcomes, Isis Innovation Ltd, Ewert House, Summertown, Oxford, OX2 7SG, U.K. Information on licensing and use can be found at <http://www.isis-innovation.com/outcomes/index.html>.

### Cross-References

- ▶ Construct Validity
- ▶ Cronbach's Alpha
- ▶ Factor Analysis
- ▶ Minimal Important Difference
- ▶ PROMs, Patient-Reported Outcome Measures
- ▶ Reliability
- ▶ SF-36

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## Parkinson's Disease, Neuroticism, and Extroversion

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### Synonyms

[Neurodegenerative disease](#)

### Definition

Parkinson's disease is the neurodegenerative disorder which affects movement, posture, and speech. It is characterized by losing of muscle control, trembling of the limbs and head, stiffness, slowness, and impaired balance.

Neuroticism is personality trait characterized by experiencing negative effect, such as ► [anxiety](#) or panic, in minor ► [stress](#) situations. High level of neuroticism is associated with emotional instability, anxiety, and depression, which are based on activation of sympathetic nervous system.

► [Extroversion](#) is personality trait which represents people oriented on external stimulus,

who are talkative, social, open, enthusiastic, and easily socially adjustable.

### Description

Parkinson's disease (PD), after stroke, is the second most common neurological disorder affecting disability (Karlsen, Tandberg, Arsland, & Larsen, 2000; Macleod, 2004). It is an age-related neurodegenerative disease, characterized by relatively selective nigrostriatal dopaminergic degeneration. The first symptoms of PD appear when the remaining production of dopamine has fallen below 20 % of its original production or when 50 % of the cells of the substantia nigra have been destroyed (Roth et al., 1999). The disease occurs more frequently in men than in women in every decade of life, which is explained by the neuroprotective effects of estrogens in women (Rajput, Offord, Beard, & Kurland, 1984; van den Eeden, Tanner, Bernstein et al., 2003; Shulman, 2007).

The prevalence and incidence of PD in European countries has been estimated at approximately 108 to 257/100,000 and 11 to 19/100,000 per year, but it varies from country to country. The all-age prevalence in Asian countries varies from 51.3 to 176.9/100,000 persons and the incidence from 6.7 to 8.7 per 100,000 persons per year (Muangpaisan, Hori, & Brayne, 2009). Prevalence and incidence rates are lowest in African countries – the crude prevalence varies from 7 to 31.4/100,000 persons, and the crude incidence rate of PD was 4.5/100,000 persons per year (Okubadejo, Bower, Rocca, & Maraganore, 2006).

There are four main clinical symptoms of the disease which influence motor functions: tremor, rigidity, bradykinesia, and posture instability (Roth et al., 1999). Nonmotor symptoms of the disease may include ► [mood](#) disorders (e.g., depression), sleep disorders, damaged cognition (e.g., dementia), and disorders of autonomic functions (e.g., hypotension, constipation, sexual dysfunction, seborrhea, sweating). Hallucinations and delirium can also

appear, but they may be related to treatment by dopaminergic drugs (Cole, Woodard, Juncos, & Kogos, 1996; Papapetropoulos & Mash, 2005; Pezzoli & Zini, 2010).

PD is not a fatal diagnosis by itself, but in people seriously disabled, suffering from the disease for several years, it will influence their general physical and mental conditions as well as their social functioning, which could decrease the patient's ► **quality of life** (QoL) (Karlsen et al., 2000; Mylne, Griffiths, Rooney, & Doyle, 2009).

Disease severity was significantly the most important factor for a lower QoL (Hobson, Holden, & Meara, 1999; Karlsen et al., 2000; Gómez-Esteban et al., 2007). Some personality traits are assumed to be factors contributing to the perception of health status and leading to a worse perception of QoL by people with several chronic diseases (Kempen, Jelicic, & Ormel, 1997; Jelicic, Kempen, & Passchier, 1998; Ranchor, Sanderman, & Steptoe, 2002). People who score high on the neuroticism scale manifest more worries, uncertainties, and anxiety; they are moody and lack ► **self-confidence**. Because they are overly emotional and react too strongly to all sorts of stimuli, they are more vulnerable to psychological dysfunction (Eysenck & Eysenck, 1994; Ruggeri, Pacati, & Goldberg, 2003). Some authors have reported that neuroticism appears to be associated with the tendency to recall physical symptoms as being worse than they really are, indirectly contributing to a lower perceived QoL (Larsen, 1992).

The aim of the research in Slovakia was to explore the contribution of personality traits (neuroticism and extroversion) to QoL in patients with PD (controlled for disease severity, disease duration, and age). In patients with PD (142 patients, 51.4 % men, 48.6 % women), neuroticism was, after disease severity, the second most important variable associated with QoL, mostly in domains which are associated with psychological processes (measured by Parkinson's Disease Questionnaire, PDQ-39) – ► **emotional well-being**, ► **social support**, **stigma**, and **communication** – but it also

explained some of the variance in ► **activities of daily living** and **bodily discomfort**. Extroversion appeared to be a significant factor only for the dimension **communication** (Dubayova et al., 2009).

As several studies have pointed out, due to societal influences, males and females develop different ways of coping and experiencing the world, which could be due to socially learned behavior belonging to the certain gender role (Goodwin & Gotlib, 2004; Shevlin, Bailey, & Adamson, 2002). In separate models for male and female PD patients, neuroticism remained important only in the subscale of **emotional well-being** in both genders. Neuroticism played a role in the subscales of **stigma** and **social support** in women, but it did not appear to be important in men due to low validity of the model of **social support** for men. In women a high score for extroversion was a factor of lower QoL in **emotional well-being**, whereas in men a higher score in extroversion was associated with a better score in this dimension (Dubayova et al., 2009).

An association was also found between personality traits and ► **health-related quality of life** in patients with PD, stratified by patient's delay. The authors used the 36-item Short Form Health Survey (► **SF-36**) for measuring the physical and mental components of QoL. Patients with PD who came earlier to see a health care professional had a significantly lower physical quality of life than delayers, but they did not differ in their mental quality of life. In both groups (delayers and non-delayers), neuroticism was negatively related to the mental health component, but it was not related to the physical health component of QoL. It can be hypothesized that neuroticism is a reaction to getting a chronic and quality of life decreasing disease such as Parkinson's disease (Dubayova, 2010).

A high level of neuroticism predicts the use of ineffective passive coping strategies, and such patients reported worse perception of their health problems (van den Heuvel, Smits, & Deeg, 1996; Merlijn et al., 2003; Goodwin & Gotlib, 2004).

It seems that due to societal influences, males and females develop different ways of coping and experiencing the world (Goodwin & Gotlib, 2004). This phenomenon was also found by researchers who observed that a different score in neuroticism reflects socially learned behavior rather than biological differences. Gender role rather than gender itself had greater explanatory power with regard to neuroticism (Shevlin et al., 2002).

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## Parks and Quality of Life

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### Synonyms

Conservation area; Heritage area; Natural area; Preserves; Protected area; Reserves

### Definition

An area of land set aside to protect and provide for the use and enjoyment of natural, cultural, historic, or recreational resources.

### Description

Parks provide a place to escape life's stresses, to rejuvenate, and to connect with nature and history. Parks in one form or another exist in every country in the world, which indicates their critical role in society. In the USA, well over a billion people visit local, state, and national parks annually. A substantial body of research has shown that parks and other natural areas aid substantially in child development, public health, economic growth, and quality of life. For example, the national parks in the USA generate an estimated \$13.3 billion annually in local private-sector economic activity and support 267,000 private-sector jobs (National Park Conservation Association, 2006). Parks also function to protect and ensure the long-term sustainability of plants, wildlife, fish, historic or cultural sites, geology, and natural processes (e.g., bird migration routes or the filtration of water). For example, thriving



**Parks and Quality of Life, Fig. 1** Young park visitor at Vermont's Lake St. Catherine State Park (Courtesy Vermont State Parks)

populations of protected gray wolves, grizzly bears, and plains bison in some parks have led to the recovery of these species and their removal from a list associated with the Endangered Species Act.

Parks vary considerably in size, management, use, and focus. Local parks are often relatively small (less than 100 acres), managed by city or county governments or nonprofit groups, and are intended to provide a nearby area for the public to play sports, swim, walk, hike, picnic, bike, socialize, attend an event, or use a playground. These parks tend to be more developed with facilities and services and focused less on maintaining an undisturbed natural environment. Urban parks can serve as a source of pride for communities, contributing to the health and well-being of citizens. State or provincial parks are larger, managed by regional governmental entities, and provide greater opportunities for nature or historically based recreation activities, though sports and playgrounds remain popular recreation activities at these places too. Typical recreation activities at state parks include hiking, camping, fishing, boating, bird or wildlife watching, and learning about nature or history. According to the National Association of State Park Directors, more than 700 million visits occur to 6,624 state parks in the USA annually (Fig. 1).

National parks are often large (though the largest park in the continental USA is the

**Parks and Quality of Life,**  
**Fig. 2** Old Faithful Geyser  
and visitors at Yellowstone  
National Park (Courtesy of  
U.S. National Park Service)



Adirondack State Park and Forest Preserve at 6 million acres) and are intended to preserve, sustain, and provide for the enjoyment of natural, cultural, and historic resources of importance to a country. For example, the first US national park, Yellowstone National Park, was created in 1872 to protect the area's unique landscape of hot springs and geysers, and in 1890, Yosemite National Park was created to protect the iconic and picturesque Yosemite Valley and the enormous redwood trees. Similarly, Banff National Park was established as Canada's first national park to protect hot springs for use by tourists. National parks are typically used for nature-based activities, such as sightseeing, hiking, wildlife viewing, camping, and nature photography, or for learning about nature or history. National parks are partially distinguished from national forests or wildlife refuges in that they (generally) encourage recreational use of resources but not their consumption through the harvesting of plant life or wildlife. The US National Park Service (NPS), created in 1916, manages and operates 394 park units that make up the US National Park System. Fifty-four of these are designated as a national park, with the others mostly designated as monuments, parkways, lakeshores, recreation areas, preserves, battlefields, or historic sites. According to the NPS, over 280 million

visits occur to the units of the US National Park System annually (Fig. 2).

### **Contemporary Issues and Influences in Parks**

A primary issue associated with parks is an inherent conflict between the role of these places to provide for use and enjoyment by the public while at the same time protecting the resources that make these places special. This dual mandate requires a balance be made among the number and types of users allowed and the impacts that use creates. The point at which this balance is made is the carrying capacity of a park. Carrying capacity is inherently a subjective decision, but it can be informed by strong empirical science. For example, social scientists have in a number of parks determined public opinion regarding the acceptable level of crowds, traffic, noise, or environmental impacts caused by visitors (Manning, 2007). Likewise, visitor-created impacts to resources such as wildlife or plants can be evaluated by experts. These opinions (both public and expert) can help inform standards for managing parks within a carrying capacity; if standards are violated, then the carrying capacity of a park has been reached and actions should be taken by park managers. These actions could include redistributing visitors to lesser used areas of the park, reducing visitor impacts, or limiting the number of visitors. The concept of carrying

**Parks and Quality of Life,**  
**Fig. 3** Access to Mt.  
 McKinley at Denali  
 National Park is balanced  
 with the need to protect  
 wildlife and wilderness  
 solitude



capacity and practices to assess and manage it help to ensure the sustainability of parks and their resources for future generation (Fig. 3).

Another issue is the growing number and severity of threats from forces outside of park boundaries. Historically, park management was focused on factors within a park's boundaries. This has been changed by growing concerns over how parks are impacted by climate change, air pollution, introductions of invasive species, illegal immigration (when parks are on the border of a country), drug production and smuggling, and commercialization and development. For example, climate change threatens glaciers that are a centerpiece of several US national parks (e.g., Kenai Fjords National Park, Glacier Bay National Park, Glacier National Park), and it may cause the loss of Joshua trees from the Joshua Tree National Park. Many park managers (particularly at the regional and national level) are beginning to more fully recognize, plan for, and respond to these trans-boundary issues through partnerships and collaboration with governmental officials, nonprofit organizations, scientists, and other stakeholders.

Adequate funding is a pervasive and long-standing issue for parks. This has been exacerbated by the most recent global economic

recession. Many local, state, and national parks have seen a cut to funding available for their operation and maintenance. In other cases, some parks, such as state parks in New York and California, have reduced their services or been closed as a cost savings strategy. Making such problems worse is a long history of underfunded parks that had before the recession created a backlog of needed maintenance, facility upgrades, and staff. For example, the US National Park System has a maintenance backlog of approximately \$8 billion, which is more than twice the annual budget of the national parks (NPCA, 2006). Currently, park leaders and managers are attempting to address these funding issues by reducing costs, by partnering with private industries and nongovernmental organizations, and by turning toward a more revenue-focused business model. Many parks use volunteers and friends groups (advocacy groups affiliated with a park that raise funds through donations) to further ease constraints related to funding.

Political and societal changes have a large influence on parks, as they always have. For example, recent and controversial changes to laws and policies have allowed firearms to be carried in US national parks. This has raised issues associated with visitor and wildlife safety and concerns about the comfort of other visitors. Also, politics are

often a factor in the designation of new parks, particularly since parks are a substantial contributor to an area's quality of life and local economies. Social-related changes and issues in parks include a greater inclusion of indigenous people in parks and their management, influences of new and emerging technology on parks, heightened awareness and actions to ensure that parks are accessible and appealing to minority groups, and a need to maintain the relevance and support for parks among youth who are spending less time outdoors. Parks are continuously adapting to political and social changes. For example, the societal turn toward information technology is causing some park managers to provide wireless internet services in campgrounds, online means of exploring a park, and interactive computer-based interpretive information. Also, new or newly popular forms of recreation, such as off-highway vehicle use or geocaching (an outdoor treasure hunt using a GPS device), challenge managers to assess the appropriateness of these recreational activities in parks, to plan for them where allowed, and to manage both visitor experiences and related resource impacts.

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## Parochialism

- ▶ [Ethnocentrism](#)

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## Partial Coefficient

- ▶ [Beta Weights](#)

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## Partial Coefficients

- ▶ [Regression Coefficients](#)

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## Partial Correlations

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### Definition

A partial correlation, in its simplest form, is the correlation between two residualized variables. A residualized variable is one whose overlap with another variable has been removed. The term "partial" in statistics implies this residualization. A residualized variable will correlate zero with the variable from which it was partialled (Tabachnick & Fidell, 2001).

### Description

A partial correlation represents the correlation between two variables that have been residualized from a common third variable. In a partial correlation, the relationship between two variables can be evaluated after the overlap with any number of other variables is removed and the extent of residualization is noted by the "order" of the correlation. For example, a *first-order* partial correlation is one where a single external construct was removed, a second-order indicates that two extrinsic variables have been removed from the association, and so on. This is an essential element of ▶ [multiple regression](#) where the relationship between two variables can be evaluated without the influence of another variable(s). In this manner, multiple predictors can be nonredundantly linked to a single outcome. Partial correlations are also important

for evaluating mediation effects, where the mechanisms can be identified that explain why one variable is related to another (Aron & Aron, 2003; Tabachnick & Fidell, 2001).

### Cross-References

- ▶ [Beta Weights](#)
- ▶ [Regression Coefficients](#)

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### Partial Credit Model

- ▶ [Rasch Polytomous Models](#)

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### Partial Order Scalogram Analysis by Base Coordinates, POSAC

- ▶ [Multiple Scaling](#)

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### Partial Order Scalogram Analysis, POSA

- ▶ [Multiple Scaling](#)

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### Partial Sight and Older People's Qol

- ▶ [Visually Impaired Older People, Quality of Life](#)

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## Partially Ordered Set

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### Synonyms

[Poset](#)

### Definition

A partially ordered set (or a *poset*) is a set endowed with a partial order relation, which is a binary relation satisfying the axioms of reflexivity, antisymmetry, and transitivity. In social science, partially ordered sets arise quite naturally when multidimensional systems of qualitative ordinal variables are dealt with, particularly to address ranking, prioritization, and evaluation problems. Methodologies based on partial order theory and partially ordered sets can be used for well-being, quality of life, or multidimensional [poverty measurement](#), as an alternative to the construction of composite indicators. They can be used in the analysis of individual and social preferences, as in social choice theory, or in multi-criteria analysis, for decision-making purposes. They are also useful in [social network analysis](#), as a mathematical tool to analyze network structures and their dynamics. More generally, the theory of partially ordered sets represents a valuable tool to address a variety of ordinal multidimensional problems and can be virtually applied in any field of social research.

### Description

As pure and formal mathematical concepts, orders and partially ordered sets appeared in the late nineteenth century. Partial order theory was

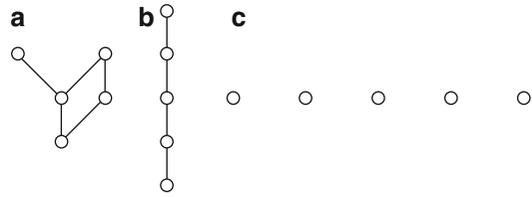
successively greatly developed by G. Birkhoff, with a particular focus on lattices, and by other mathematicians like R. P. Dilworth and W. T. Trotter, to mention a few. The theory of posets, as a subfield of discrete mathematics, had a great development in the 1970s of nineteenth century. In the last 20 years, the improvement of computational capabilities led to the possibility of treating poset problems in an effective way, contributing to both the development of the theory and its spreading into applied sciences. At present, partial order theory is applied to social sciences, to social choice theory, to economics, to decision theory, to environmental sciences, and to many other disciplines. The use of posets in connection with quality of life, well-being, or multidimensional poverty studies has been recently pushed forward mainly by Fattore, Brüggemann, Maggino, Annoni, and Owsinski. The number of applications of poset theory to the social sciences is growing and is motivated by the increasing availability of datasets comprising ordinal data that require new and effective methodologies to be exploited.

### Formal Definition of a Partially Ordered Set and Basic Concepts from Partial Order Theory

A partially ordered set (or a poset) is a set  $P$ , equipped with a partial order relation, that is, with a binary relation which satisfies the properties of reflexivity, antisymmetry, and transitivity (Davey & Priestley, 2002; Neggers & Kim, 1988; Schroeder, 2003), that is:

1.  $x \leq x$  for all  $x$  in  $P$  (reflexivity).
2. If  $x \leq y$  and  $y \leq x$ , then  $x = y$ , for all  $x$  and  $y$  in  $P$  (antisymmetry).
3. If  $x \leq y$  and  $y \leq z$ , then  $x \leq z$ , for  $x$ ,  $y$ , and  $z$  in  $P$  (transitivity).

In full generality, the set  $P$  can be of any cardinality, but in practice, applications to the social sciences rely on finite partially ordered sets, that is, on partial orders defined on a finite set  $P$ . If  $x$  and  $y$  are elements of  $P$  and  $x \leq y$  or  $y \leq x$ , then  $x$  and  $y$  are said to be *comparable*, otherwise they are said to be *incomparable* (written  $x \parallel y$ ). A partial order  $P$  where any two elements are comparable, that is, where there are no incomparabilities, is called a *chain*, or a *linear order*, or a *total*



**Partially Ordered Set, Fig. 1** Examples of Hasse diagrams of a poset (a), a linear order (b), and an antichain (c)

*order*. The set of real numbers is an example of a total order. Any complete ranking (with no ties) of statistical units in terms of an ordering criterion is also an example of a total order. On the contrary, if any two elements of  $P$  are incomparable, then  $P$  is called an *antichain*. An element  $y$  of a poset  $P$  is said to *cover* an element  $x$  of  $P$  if and only if  $x \leq y$ , and there is no other element  $z$  in  $P$  such that  $x \leq z \leq y$ . The covering relation is fundamental in finite poset theory and its applications, since it allows for reconstructing the whole partial order relation and for depicting finite posets in an easy and effective way, by means of Hasse diagrams. A Hasse diagram (Davey & Priestley, 2002) is a particular kind of directed acyclic graph, drawn according to the following two rules: (a) if  $x \leq y$ , then node  $y$  is placed above node  $x$ ; (b) if  $y$  covers  $x$ , then an edge is inserted linking node  $y$  to node  $x$ . By transitivity,  $x \leq y$  in  $P$ , if and only if in the Hasse diagram there is a descending path linking the corresponding nodes; otherwise,  $x$  and  $y$  are incomparable. Examples of Hasse diagrams are reported in Fig. 1.

In applications of poset theory to social sciences and, in particular to well-being, quality of life, and multidimensional poverty studies, the concepts of upsets and downsets are particularly relevant. An *upset*  $U$  of a partially ordered set  $P$  is a subset of  $P$  such that if  $x$  is in  $U$  and  $x \leq z$ , then  $z$  itself is in  $U$ . In a finite poset  $P$ , it can be shown that given an upset  $U$ , there is always an antichain  $\underline{u}$  contained in  $P$  such that  $z$  belongs to  $U$  if and only if  $u \leq z$  for at least one element  $u$  of  $\underline{u}$ . The upset is said to be generated by  $\underline{u}$ . Similarly, a *downset* of  $P$  is a subset  $D$  of  $P$  such that if  $x$  belongs to  $D$  and  $z \leq x$ , then  $z$  belongs to  $D$ . As previously, it can be shown that in a finite poset, any downset is generated by an antichain  $\underline{d}$ , so

that  $z$  belongs to  $D$  if and only if  $z \leq d$  for at least one element of  $\underline{d}$ . Antichains generating upsets or downsets are relevant in social science, for example, in studies pertaining to material deprivation, since they share the same role of monetary thresholds in classical poverty studies. Another basic concept of poset theory that proves essential in applications to social science is that of extension of a partial order. A poset  $Q$  is an *extension* of a poset  $P$  if and only if  $x \leq_P y$  in  $P$  implies  $x \leq_Q y$  in  $Q$ , where  $\leq_P$  and  $\leq_Q$  are the partial orders defined on  $P$  and  $Q$ , respectively. A *linear extension* of a poset  $P$  is an extension of  $P$  that is also a linear order. A fundamental theorem of partial order theory states that the set of linear extensions of a finite poset  $P$  uniquely identifies  $P$  (Neggers & Kim, 1988). This theorem is particularly relevant, since it is the key to compute well-being, quality of life, or multidimensional poverty indicators in a multivariate ordinal setting.

An interesting subclass of partially ordered sets which also occurs in social science is that of *lattices* (Davey & Priestley, 2002). Let  $P$  be a poset and let  $x$  and  $y$  be elements of  $P$ . If  $x \leq z$  and  $y \leq z$  ( $z$  in  $P$ ), then  $z$  is called an *upper bound* of  $x$  and  $y$ . If  $t$  is an upper bound of  $x$  and  $y$  such that  $t \leq z$  for any upper bound  $z$  of  $x$  and  $y$ , then  $t$  is called the *least upper bound* (l.u.b.) of  $x$  and  $y$ , also written  $\sup(x,y)$ . Similarly, an element  $h$  of  $P$  such that  $h \leq x$  and  $h \leq y$  is called a *lower bound* of  $x$  and  $y$ . A lower bound of  $x$  and  $y$  which is greater than any other lower bound of  $x$  and  $y$  is called the *greatest lower bound* (g.l.b.) of  $x$  and  $y$ , also written  $\inf(x,y)$ . It can be easily proved that l.u.b. and g.l.b. of  $x$  and  $y$ , if existing, are unique. A poset such that any pair of elements has l.u.b. and g.l.b. is called a *lattice*. Lattices have many pleasant mathematical properties that make them very useful in representing and analyzing data structures often encountered in social science studies.

### Applications of Poset Theory to Social Science

Poset theory is a fundamental tool to describe and analyze multidimensional systems of ordinal data in a clear, effective, and consistent way and represents a valuable alternative to the use of

classical multivariate statistical tools that are primarily designed to deal with numerical variables. The practical relevance of partial order theory in social science stems from the existence of incomparabilities among statistical units, whenever multidimensional systems of ordinal data are considered, as in multidimensional studies on well-being, quality of life, poverty, or material deprivation. The existence of incomparabilities reflects the complexity, the ambiguities, and the nuances of social phenomena and must be dealt with in a consistent way (Sen, 1995), through appropriate methodologies, which are indeed provided by poset theory.

Applications of poset theory to social science cover a wide range of topics, from simply describing and representing partially ordered data by Hasse diagram or scalogram tools to more complex analysis, involving even more sophisticated techniques. With reference to quality of life and similar topics, at least two issues motivate the use of poset theory: (a) the problem of building complete rankings among statistical units assessed against a set of different ordinal criteria and (b) the related problem of evaluation in a multidimensional ordinal setting.

### The Ranking Problem

Even in presence of incomparabilities, complete rankings are often required for decision and policy making and also for communication purposes. In classical approaches, rankings are often obtained through the definition of composite indicators, aggregating the scores of the statistical units on the different dimensions of interest into a final score. This approach suffers of many drawbacks, since it is aggregative and compensative, and often requires transforming ordinal data into numerical figures, not respecting the true nature of the data. Partial order theory addresses the ranking problem from a different point of view. In partial order terms, the problem of deriving a complete ranking out of a poset is basically the problem of selecting a specific linear extension out of the set of all linear orders compatible with the original partial order. Different criteria exist to address this task. For example, one may draw upon the concept of linear

discrepancy of a partial order and may search for the linear extension minimizing the difference in rank of incomparable elements, as in the proposal of Tanenbaum, Trenk, and Fishburn (2001). This approach can be used, for example, when a set of alternatives are partially ordered by an individual and a final ranking is searched where indifferent (i.e., incomparable) alternatives are not ranked too differently. Patil and Taillie (2004) propose instead to define a complete ranking based on the stochastic ordering of rank-frequency distributions of the element of the poset, over all of its linear extensions. Linear extensions are in fact total orders, and the structure of the partial order reflects in the rank distributions of its elements, when their positions in the linear extensions are considered. The rank distributions ordered by stochastic ordering define a poset that is (isomorphic to) an extension of the original partial order. Repeating the procedure, a chain of extensions of the starting poset is generated that may lead to a linear extension and so to a final ranking. A part from the different technicalities involved, what is essential in these and other proposals (e.g., Brüggemann & Carlsen, 2011) is that the final ranking is built exploiting the whole relational structure of the poset, with no reference to scores and aggregation.

#### The Evaluation Problem

The capability to extract information out of the partial order structure is essential in the way the issue of evaluation of well-being, quality of life, or poverty can be addressed through poset-based methodologies. In this fields, partial order theory represents an alternative to classical tools for the construction of ► [economic and social indicators](#), one of the main issues in social science (Maggino & Zumbo, 2011), and it has been successfully used to address the problem of material deprivation evaluation (Fattore, 2008; Fattore, Brüggemann, & Owsinski, 2011). Differently from other methodologies, based on counting approaches (e.g., Alkire & Foster, 2011) or composite indicators, the poset-based evaluation procedure focuses primarily on the set of *profiles* of the statistical units, that is, on the sequences of scores of the statistical units on the deprivation

dimensions considered in the study. This set is naturally turned into a poset, namely, a lattice, considering the product order induced by the linear orders defined on the deprivation dimensions; the evaluation procedure directly exploits the structure of such a partial order to assign a final score to each profile and thus to any statistical unit sharing it. The evaluation is performed choosing first some profiles as reference points. These points play the same role that thresholds have in classical studies on poverty, identifying profiles that can be unambiguously considered as deprived. They should reflect the socioeconomic and cultural context of the population of interest and can be selected involving experts' judgement. In classical monetary studies on poverty, statistical units are classified as poor or not according to whether they are above or below the selected threshold. In a partial order setting, some profiles can indeed be classified as being above or below the set of reference profiles, but others cannot, due to the existence of incomparabilities. However, in the linear extensions of the profile poset, any profile can be unambiguously classified as deprived or not, according to its rank with respect to the reference points. The evaluation procedure thus assigns a final deprivation degree based on how frequently a profile is classified as deprived in the set of linear extensions. In its essence, the procedure quantifies the ambiguity in the classification of a profile as deprived or not, given the reference points. This quantification is performed without scaling ordinal data into numerical figures and without any aggregation procedure, fully respecting the ordinal nature of the data. The procedure can be seen as a way to perform a fuzzy assessment of material deprivation, overcoming a rigid distinction between deprived and non-deprived people, without relying on classical counting approaches (Fattore, Maggino, & Greselin, 2011).

#### Other Applications and Current Research

Other kinds of applications of partial order theory to social science deserve to be briefly mentioned. Poset theory, in conjunction with relational calculus and fuzzy multi-criteria analysis, has been used to investigate the structure of

multidimensional poverty in different countries, that is, to study and represent the network of implications among different kind of deprivations (Annoni, Fattore, & Brüggemann, 2011). Another, and completely different, use of partial order theory pertains to ► [social network analysis](#), particularly in the analysis of the structure and dynamics of networks (Pattison, 1993). Here, partial order and lattice tools enter into the algebraic description of networks, in the analysis of role algebras and in the decomposition of network algebras. Particularly, lattice theory can be used to identify the building blocks of role algebras and to factorize them in simpler components. This use of poset theory is very technical and sophisticated from a mathematical point of view. Still it shows the power of partial order theory and its spreading in many different areas of social science. The listed examples are clearly not exhaustive, and other applications of poset theory to social science can indeed be found in literature (e.g., Annoni & Brüggemann, 2009; Levy, 1985), proving the relevance of the topic whenever comparisons among statistical units in complex settings are of concern.

Current research pertaining to the application of poset theory to quality of life analysis and similar topics is basically focusing on two goals: developing the theoretical and axiomatic foundations of poset-based evaluation procedures and improving computational algorithms, so as to make poset tools widely applicable. This last issue is of fundamental relevance in practical terms, since the combinatorial nature of poset-based methodologies prevents them from being applied to too large datasets. However, the increasing in the computational power and the continuous research of new and more efficient algorithms are improving the applicability of poset methods to real data, paving the way to the spreading of poset methodologies across the community of social scientists.

## Cross-References

- [Composite Indicator\(s\)](#)
- [Economic and Social Indicators](#)

- [Partial Order Scalogram Analysis, POSA](#)
- [Poverty Measurement](#)
- [Social Network Analysis](#)

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## Partially Sighted Older People's QoL

► [Visually Impaired Older People, Quality of Life](#)

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### Participant Observation

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#### Definition

Participant observation is a method of social inquiry which, "... aims to generate practical and theoretical truths about human life grounded in the realities of daily existence" (Jorgensen, 1989, p. 14). Requiring active engagement in the day-to-day lives of research subjects for extended periods of time, it is strongly associated with ethnographic research, particularly in fields such as ► [anthropology](#).

#### Description

Though participant observation has a long history of use among anthropologists, it has become broadly accepted as a method of inquiry within the social sciences more recently. In his 1989 book dedicated to participant observation, sociologist Danny Jorgensen argued that "It is not entirely clear [...] as to precisely what is involved with the humanistic methodology of participant observation" (Jorgensen, 1989, p. 8). Since then, however, participant observation has become much more integrated into the literature on qualitative methodology. For instance, Denzin and Lincoln's edited volume *Strategies of Qualitative Inquiry* (2007) includes a chapter on participant observation and ethnography, and many comprehensive methodology textbooks often pair participant

observation with extended discussions on how to conduct field research, as exemplified in Michael Patton's *Qualitative Research and Evaluation Methods* (2001).

Participant observation is widely held as an important way of investigating complex human interaction – one which relies on field notes and informal or unstructured interview techniques as a means of data collection (DeWalt & DeWalt, 2002). However, methodologically, its use in social research is subject to debate. Positivist approaches, which emphasize the scientific method, tend to promote the use of participant observation in the preliminary phases of research. They recommend participant observation as a useful method for constructing hypotheses though do not generally endorse its use in hypothesis testing for the purpose of explanatory theorizing (Jorgensen, 1989, p. 7). Those employing humanistic and/or more interpretivist approaches argue that participant observation is particularly well suited to generating a more complete understanding of human meaning and interaction (Atkinson & Hammersley, 1998). Arguing that people are active subjects in the research process, they tend to favor participant observation as a more comprehensive methodology for undertaking field work.

There are a variety of issues involved in constructing a research design that incorporates participant observation. Researchers undertaking participant observation need to determine if they will work collaboratively to support the positions and/or perspectives of the subjects being studied. Often, as exemplified in ► [community-based participatory research](#), researchers make the choice to engage in advocacy on the part of the individuals and/or communities they are studying. In the process of engaging in participatory observation, researchers have to develop and maintain relationships and rapport with subjects in the research setting. This requires difficult decisions with regard to the appropriate distance researchers should maintain with people they are observing. On the one hand, a researcher takes on the role of the observer, who documents phenomenon being studied from a distance. A key concern with the observer role

is that researchers put too much distance between themselves and their research subjects, thus making it difficult to both gain access to subjects and/or particular research context and, in cases where data has been gathered, to ascertain its meaning. On the other hand, there is real concern about “going native,” which entails researchers immersing themselves in the research context so much so that they lose their capacity to evaluate subjects in a way that enables objective analysis. In practice, researchers engaging in participant observation must grapple with a variety of ethical issues, including human research ethics, in establishing and maintaining relationships and rapport with research subjects. Additionally, they must rely on broader theoretical and methodological frameworks to make decisions regarding how they balance their observer and participant roles (see DeWalt & DeWalt, 2002; Jorgensen, 1989).

## Cross-References

- ▶ [Anthropology](#)
- ▶ [Community-Based Participatory Research](#)
- ▶ [Data Collection Methods](#)
- ▶ [Qualitative Methods](#)
- ▶ [Research Relationship\(s\)](#)
- ▶ [Unstructured Interviews](#)

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## Participation at Work

- ▶ [Work Limitations](#)

## Participation in Community Organizing

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### Definition

*Community organizing* is a term that encompasses a variety of processes in which ordinary people (e.g., volunteers, neighborhood residents, and members of local, social, or religious institutions) sustain a long-term collaborative effort to build power and capacity to address social issues of common concern. The terms “project,” “initiative,” and “federation” are sometimes used to refer to specific local community organizing groups, while “campaign” is more often used to refer to the actions of a particular organizing initiative on a specific issue. Campaigns typically culminate in one or more large public “action” or mobilization events, in which a public case is made for changes in policies, systems, or institutional practices. These actions, or instances of mobilization, punctuate the more frequent backstage activities that take place in most organizing initiatives, which include participatory action research, relationship development, planning, skill building, and training processes. These activities usually involve fewer people at once than action meetings and are less publicly visible. The goal of all of these activities is to build local grassroots power to address local issues and improve ▶ [quality of life](#).

### Description

This entry is focused primarily on community organizing in the United States, where the term

is most often used. However, processes do exist in other societies that are akin to community organizing. The term community organizing is sometimes used to describe ► [collective action](#) processes in the United Kingdom, Australia, Canada, and Latin American countries. Similar processes elsewhere may go by different names. Mass movements and social movements are distinct from community organizing; yet the two are intertwined in many instances. For example, events such as those leading to the Arab Spring of 2011 in North Africa contained elements of community organizing and depended on the previous work of community organizers (see, e.g., Al Jazeera, 2011), but organizing campaigns do not often culminate in mass movements. Likewise, the Occupy Wall Street movement in the United States has been embraced and bolstered by some local community organizing initiatives but is distinct from them and will likely be outlasted by them.

Even within North America, much disagreement exists over precisely what constitutes community organizing. For example, electoral campaigns have developed increasingly sophisticated local “ground game” efforts (i.e., volunteer canvassing and voter turnout operations) and often describe these activities as community organizing. Similarly, issue-based advocacy organizations engage volunteers in advocacy efforts, seeking local leaders for “grasstops” advocacy (i.e., attempts to get prominent local residents to advocate publicly for an issue). Moreover, governmental agencies, foundations, and multinational development organizations are making increasing use of participatory approaches in local projects (Eliasoph, 2009) and sometimes use the term community organizing as well as some of the tools developed as part of organizing approaches.

While there are a diversity of approaches to local organizing and activism, our definition of community organizing here is limited to sustained local efforts whose focal issues and strategies are largely determined by local leadership. These local “grassroots” efforts are, in many cases, affiliated with national or international networks. The local initiatives may also be

engaged in coalitions to advocate for policies at the national or international levels, and these coalitions may include foundations and government agencies. But the primary decision-making structure and leadership of the organization is local, and the goals of the organization are long term. *Participation in community organizing* is therefore the voluntary act of involvement with local grassroots groups that are engaged in sustained systems change efforts. This participation can take many forms in different localities at different times.

### History

In the USA, the contemporary field of community organizing traces its roots to various democratic movements led by poor and working-class citizens, including the settlement house movement and urban labor organizing of the early twentieth century. More recent influences include the Civil Rights Movement, the migrant farm labor organizing of Cesar Chavez (Levy, 2007), and the forms of broad-based urban organizing pioneered by Saul Alinsky (1971), the founder of the Industrial Areas Foundation (IAF). The IAF and other networks (e.g., National People’s Action, PICO, DART, Center for Third World Organizing, Gamaliel Foundation) that support numerous local organizing initiatives have gained greater scale and prominence in US organizing in the last 30 years. Many of these networks focus primarily on organizing particular populations or institutions (e.g., people of color, faith-based institutions, urban neighborhoods).

Situating community organizing in faith-based institutions has proven to be a particularly successful strategy over the last several decades. Several of the larger organizing support networks transitioned during the 1980s to models that were either mostly or entirely rooted in faith-based institutions, and these networks have grown substantially in years since. Wood and Warren (2002) estimated that approximately 1 % of residents of the USA were involved in faith-based community organizing, making faith-based community organizing one of the most widespread specific forms of voluntary participation in

society. The collapse of the largest organizing support network focused on neighborhood-based organizing, the Association of Community Organizations for Reform Now (ACORN) (see Atlas, 2010) heightened the degree to which the faith-based models and networks have come to be the most pervasive form of local community organizing. The field of community organizing is always changing, however, and it is likely that a new or reconstituted support network for neighborhood-based organizing will be built. Moreover, it has become more common in recent years for faith-based organizing groups to work across other institutions, departing somewhat from the traditional faith-based model.

Two additional current trends in contemporary organizing that we see as particularly auspicious are (1) initiatives that are increasingly involving young people in organizing, known as youth organizing, and (2) that organizing is becoming more widely accepted as an approach to ► [public health](#) and health promotion and an avenue for addressing ► [health disparities](#).

### Youth Organizing

Young people have often been at the forefront of movements for ► [social change](#). Despite this fact, society and institutions – including social change organizations – have tended to underestimate the potential of young people. This is changing in the field of community organizing, as youth and intergenerational organizing initiatives are becoming increasingly common. A recent scan of the field in the USA identified 160 active youth organizing and intergenerational organizing initiatives (Torres-Fleming, Valdes, & Pillai, 2010). These initiatives focus on racial, environmental, economic and juvenile justice, immigration, education, health, and gender/young women's issues. Many of them work on campaigns that cut across several of these issues. As recognition of the value of youth organizing for promoting positive youth development has become more widespread, youth organizing initiatives have been increasingly integrated into other more holistic efforts to support youth development.

Youth organizing has been studied from different disciplinary perspectives and is often found to have impacts at multiple levels of analysis (Christens & Kirshner, 2011). Individual youth develop civic identity and knowledge (Kirshner, 2007), psychological ► [empowerment](#) (Speer, 2008), and leadership development (Conner & Strobel, 2007). Furthermore, participants in youth organizing have been found to be more academically engaged than their peers (Mediratta, Shah, & McAlister, 2008). As an extracurricular context that enhances development and academic engagement, organizing appears to be a particularly effective context for positive development among low-income youth and youth of color (Kirshner & Ginwright, 2012), who often have fewer opportunities for civic engagement than more advantaged groups of young people (Flanagan & Levine, 2010).

At a systems level, youth organizing can drive change in local policies and institutions that affect the lives of young people. For example, Conner, Zaino, and Scarola (2012) describe the numerous effects that youth organizing has had on schools and public education in Philadelphia over the course of 15 years, including a new school and smaller schools in the district. Likewise, Christens and Dolan (2011) describe how a youth organizing initiative in Southern California has achieved numerous changes in school and city policies, including an annual paid summer internship program for 300 local youth, and other changes in local policies that provide more resources for youth programming and education.

### Organizing as an Approach to Public Health

Like community organizing, many approaches to public health are rooted in concern for ► [social justice](#) and aim to improve the places where we live, learn, work, and play. In addition, they share the tenet to begin the work where the people are – physically, mentally, and socially (Minker & Wallerstein, 2012, p. 37). Lay public health worker models, community public health nursing, and coalition building all represent ways in which the field of public health has employed community organizing principles (Parker, Eng,

Schulz, & Israel, 1999). Early public health community engagement work increased in legitimacy after the World Health Organization's Ottawa Charter for Health Promotion (World Health Organization [WHO], 1986) formally defined *health promotion* as "the process of enabling people to increase control over, and to improve, their health." The Ottawa Charter further states, "To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and realize aspirations, to satisfy needs, and to change or cope with the environment" (p. 1).

While community organizing continues to influence health promotion, the number of ways the field of public health has embraced community organizing continues to grow. Two notable examples are *community-based participatory research* (CBPR) and *health impact assessment* (HIA). These prominent developments within public health aim to increase community equity and capacity and to engage in research and policy- and decision-making, respectively. Specifically, these two models pay particular attention to those populations who are or will be impacted by the research or decisions.

Community-based participatory research has been influenced by community organizing since its evolution and has become a key framework to guide health and public health research (Westfall, Van Vorst, Main, & Herbert, 2006). There are a variety of names and definitions for CBPR, but the core values remain fairly consistent. Scholars of CBPR agree that it (1) is participatory, (2) requires joint leadership, (3) requires all parties to learn together, (4) involves infrastructure changes and capacity building, (5) is empowering, and (6) requires a balance of research and action (Minkler & Wallerstein, 2008, p. 9).

Health impact assessment is a systematic framework to prospectively consider the potential positive and negative health impacts of proposed plans, programs, or policies. HIAs also provide recommendations to mitigate potential negative effects and enhance potential positive outcomes. The core values of HIA are ► **democracy**, equity, ► **sustainable development**, ethical use of evidence, and

a comprehensive approach to health. An international movement to increase health perspectives in decision-making has fueled the use of HIA. In the United States, the first HIA was conducted in San Francisco, CA, on minimum wage policy and was the result of the interaction between decision-makers, governmental public health, and community organizers (Committee on Health Impact Assessment, 2011).

Community-based participatory research and HIA are examples of public health approaches that seek to support or initiate processes akin to grassroots organizing. In addition, there are examples of local public health departments taking an organizing approach to primary prevention and health promotion. Many health departments and health department coalitions have included community organizing as a strategy under the umbrella of community engagement and community capacity building, such as the Bay Area Regional Health Inequities Initiative out of California, the Minnesota Department of Health, and the Boston Public Health Commission's Division of Civic Engagement and Advocacy.

Additionally, local public health departments are formally implementing programs and/or adopting language to support community organizing. Two specific examples are the King County Department of Community and Human Services in Washington and Bernalillo County in New Mexico. The King County Department of Community and Human Services has implemented a Community Organizing Program to support communities who are addressing substance and abuse and violence issues. The program works to empower community residents to take the lead in solving the issues they experience. Likewise, in their 2009–2014 Community Health Improvement Plan, the Bernalillo County Community Health Council in New Mexico identified community organizing as a strategy to eliminate poverty and improve health.

### Links to Quality of Life

Participation in community organizing can promote quality of life in local communities through several avenues. The first and most widely recognized avenue is through changing institutions

and policies that affect the day-to-day lives of local residents. For example, many organizing initiatives concentrate their efforts on improving local public school systems (Mediratta, Shah, & McAlister, 2009). These initiatives typically involve students and parents but have in many cases also attracted the interest of foundations and other advocates for school reform as a way to increase civic engagement in education and improve some of the most challenged school districts. Other initiatives organize around issues of ► [crime](#) and safety, neighborhood quality, and access to affordable housing. For example, Speer and Christens (2012) detail an organizing campaign in Kansas City that has been instrumental in restructuring the city's housing and community development agencies to make them more responsive and accountable to local residents.

Local community organizing efforts have varied, however, in their ability to produce such outcomes. Many local groups struggle to maintain viability and visibility in their cities' political systems, much less to drive significant local reforms. Moreover, in the face of global trends toward neoliberal governance, in which risk is transferred from society to individuals, and economic inequality is heightened, there is ongoing debate about whether local community organizing is effective enough at accomplishing meaningful changes in systems that affect the well-being of poor and working-class people. By some accounts, many organizing efforts can be seen as ameliorative approaches, rather than transformative approaches to community change (Fisher & Shrage, 2000). On the other hand, the field of community organizing continues to evolve and find ways to adapt and extend the reach of their efforts. For example, local organizing groups have increasingly become involved in national debates over ► [health care](#) policy and housing policy, waging sustained national-level campaigns. Furthermore, the case can be made that local organizing and activism are an important response to globalization, which, through media and information availability, can scatter people's attention and concerns, distracting from important issues at the local level (Christens & Collura, 2012).

Another avenue through which community organizing can promote quality of life is through the creation of settings in local communities where people come together and build relationships in the context of civic learning and action. These relationships differ in many ways from relationships formed in other settings and tend to broaden ► [social networks](#) among participants (Christens, 2010). Organizing has also been identified as one of the most effective settings for building relationships across traditional lines of social distinction (i.e., symbolic boundaries) (Swarts, 2011). In community organizing initiatives, new links are built within and between local institutions, creating a civic fabric of social ► [trust](#) and accountability in a contemporary society that, as has often been noted, is increasingly individualistic and lacks such venues and networks (e.g., Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Putnam, 1995). Therefore, community organizing promotes quality of life by creating multiple local settings for relationship development and ► [civic engagement](#) (Christens & Speer, 2011).

A related avenue through which organizing can promote quality of life is through empowerment processes. Local community organizing initiatives have been identified as *empowering community settings* (Maton, 2008) – settings that are conducive to developing leadership, ► [social support](#), shared vision, and citizen power. As would be expected, participation in community organizing has also been found to increase participants' levels of psychological empowerment (Christens, Peterson, & Speer, 2011; Christens, Speer, & Peterson, 2011; Speer, Peterson, Zippay, & Christens, 2010) (i.e., their self-perceptions of effectiveness in the civic arena and their understanding of community change processes). Promoting psychological empowerment has several beneficial implications for quality of life. First, it indicates that power and capacity are being developed among groups of people, which are key for successful organizing campaigns. Second, psychological empowerment can function as a stress-buffering mechanism, increasing people's resilience and overall psychological well-being (Christens & Peterson, 2012).

## Discussion

Due to the benefits (e.g., psychological ► **empowerment**, social capital) that can accrue to individual participants in community organizing, *participation in community organizing* can be seen as a desirable outcome in itself. In aggregate, the actions of participants in community organizing can also alter local systems so that they are more conducive to promotion of health and well-being. At the level of nation-states, community organizing represents a form of deep democracy and civic engagement in public life. For all of these reasons, we believe that community organizing should be encouraged through policies and institutional actions that can facilitate the growth of new initiatives and sustain existing ones. For funders, this might mean increasing funding for grassroots organizing on topics of interest (e.g., global health, environmental issues, education) and insisting that these initiatives build toward the establishment of organizations that will outlast particular projects or issues. For government, this might mean looking for ways to partner with community organizing initiatives or support the institutions that house them, including schools, local nonprofit organizations, and community/neighborhood centers. Professions that seek to promote quality of life, like public health, should continue to explore community organizing as a model for practice. For local service providers and nonprofit organizations, we urge greater consideration of community organizing as a model for creating systems change. In many cases, it may be possible to join coalitions or begin new initiatives that allow clients, service recipients, members, or other stakeholders opportunities to build power and become agents of change processes in the systems that affect their lives.

## Cross-References

- [Action Research](#)
- [Active Citizenship](#)
- [Community Cohesion](#)

- [Community Values](#)
- [Personal Well-Being](#)
- [Political Activities](#)
- [Political Empowerment](#)
- [Sense of Community](#)

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## Participatory Action Research

- ▶ [Action Research](#)
- ▶ [Community-Based Participatory Research](#)

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## Participatory Mapping

- ▶ [Mapping Neighborhoods](#)

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## Participatory Policy Development in Ecuador and Peru

- ▶ [Social Movement Strength in Ecuador and Peru](#)

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## Participatory Research with Marginalized Communities

- ▶ [Marginalized Communities](#)

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## Particular Trust

- ▶ [Trust](#)

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## Partisan Politics

- ▶ [Democracy and Bureaucracy](#)

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## Partner Abuse

- ▶ [Partner Violence](#)

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## Partner Match Quality Effects

- ▶ [Job Loss and Family Dissolution](#)

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## Partner Sexual Assault

- ▶ [Dating Violence](#)

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## Partner Social Support

- ▶ [Partner Support](#)

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## Partner Support

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## Synonyms

[Marital support](#); [Partner social support](#); [Social support](#); [Spousal support](#)

## Definition

The term *partner support* refers to the process of responding with helping acts (behavioral as well as psychological) to a difficulty or problem of one's partner in a couple relationship.

## Description

Historically, from the interest for general social support (regardless of its source), researchers have acknowledged the relevance of the specific relationships on the effects produced by social support.

Couple relationship scholars, in particular, have drawn attention on the fact that intimate partners are especially important sources of support and there is evidence that others cannot easily compensate for partner's ineffective or negative support. Indeed, social epidemiology has often used marital status as a measure of social support availability.

## Cognitive and Behavioral Components

In an attempt to summarize the different aspects of partner support targeted by existing studies, we can first distinguish between cognitive and behavioral components of support. As for cognitive components, studies have focused on perceived availability of partner support (i.e., the belief that support from the partner has been available to one in the past and will be in

the future) or the perception of partner supportiveness (i.e., the perception of the partner as more or less responsive to one's needs).

As for the behavioral components (concrete supportive acts), a more subtle distinction can be made as a function of the perspective standpoint used to measure the enactment of support. Specifically, supportive acts within a couple may be measured (a) as they are observed by a third party (i.e., observer's ratings of support behaviors in an interactive tasks), (b) as they are reported by the provider (i.e., provider's self-reports of his/her own support behaviors), and (c) as they are received by the recipients (i.e., recipient's self-reports of the partner's support behaviors). Moreover, some studies focused exclusively on quantity (presence or frequency) of partner supportive acts, whereas other studies have drawn attention on the issue of support quality and effectiveness.

It is worth noting that, under the title of partner support, studies have examined the various aspects of the support process in most cases separately from one another. Moreover, little agreement exists on the terms used to capture these different aspects: For example, the term *enacted support* is sometimes used to refer to the actual provision of support (vs. the perceived availability of partner support), sometimes to the support behaviors that the provider reports (vs. partner support as it is reported by the recipient) and other times to observed support provision in interactive tasks (vs. self-reported provision).

### Benefits and Negative Effects of Partner Support

The beneficial role of partner support exchanges for individual and relational outcomes has been widely recognized (see Sullivan & Davila, 2010).

However, numerous studies have now shown that unskilled partner support can be ineffective or even harmful to the support recipients. Turning to the different aspects of partner support targeted in the literature, it appears that while the perceived availability of support is reliably associated to a variety of beneficial outcomes (Sarason, Sarason, & Pierce, 1994), the concrete support behaviors have often been found to be

negative associated to psychological and physical well-being (e.g., Bolger, Zuckerman, & Kessler, 2000; Cutrona, 1996).

### Dual Effects of Partner Support

Several explanations have been proposed for these contradictory findings, including some that questioned the findings themselves as misinterpreted or spurious (e.g., reverse causation between distress and support or common third variable leading to both distress and support) and others that invoked equity theory or self-esteem studies to explain the negative side effects of received support (see Gleason, Iida, Shrout, & Bolger, 2008). Recent research has tried to explain this apparent contradiction in terms of dual effects of receiving support (Gleason et al.): Support receipt differentially affects individual vs. relational outcomes, simultaneously increasing relationship closeness and negative mood in the recipient, findings that confirm both theories explaining the potential negative side effects of support on individual outcomes and theories on support provision as a means of maintaining partners' intimacy in spite of any increase in the individual's distress. Moreover, significant between-individual variability in the effects of support receipt has been found, suggesting the importance of individual differences in the effects of receiving support.

### Adequacy of Partner Support

Other explanations of the fact that support provision could be unsuccessful or even harmful derive from the theoretical and empirical investigation of support effectiveness and adequacy.

The *optimal matching model of social support* has often been used as theoretical framework for this line of inquiry. It predicts that support is most beneficial when it matches the specific needs or goals of the stressed individual (Cutrona & Russell, 1990). In particular, certain types of support may be more adequate than others for coping with certain types of stressors and for the specific preferences of the support seeker. In fact, the notion that partner support is a multidimensional phenomenon that comprises distinct types of support has been widely

accepted in the broader support literature. Integrating existing models, [Cutrona and Russell](#) proposed five theoretically based support types: emotional support (reassurance and affection), informational support (information and advice), esteem support (validation and confidence in the partner's abilities), instrumental or tangible support (direct or indirect practical assistance), and network support (encouraging the partner to make use of social resources such as family and friends).

A comprehensive model of partner support adequacy is the *social support effectiveness framework* ([Rini & Dunkel Schetter, 2010](#)). This framework defines effective support as emotional, informational, and instrumental support appraised by recipients as (a) providing a good match for their needs in terms of their amount and type, (b) not being difficult to obtain, (c) being skillfully delivered, and (d) not negatively influencing their self-concept.

Some scholars, moreover, argued that inadequate support is not a unitary construct but comprises two distinct forms – underprovision (i.e., not receiving enough of the support that is desired, in terms of amount and type) and overprovision (i.e., receiving too much support relative to what one desires) – which are uniquely associated with marital satisfaction, though overprovision appears a greater risk factor for marital decline than underprovision ([Brock & Lawrence, 2009](#)).

### The Process of Partner Support

The evidence that partner support can be inappropriate, unskillfully delivered, or excessive revealed that support provision itself is variable and drew researchers' attention to the importance of the *process* of partner support as a dynamic and multidetermined phenomenon.

Given the wide interest on the effects of partner support on individual and relational outcomes, studies on the process of partner support and on its antecedents are still relatively scarce (among the few exceptions, see [Sullivan, Pasch, Johnson, & Bradbury, 2010](#); [Verhofstadt, Buysse, Ickes, Davis, & Devoldre, 2008](#)), even if theoretical models of support exchanges in

close relationships have long been available (e.g., [Dunkel-Schetter & Skokan, 1990](#); [Pearlin & McCall, 1990](#)).

In particular, as for the sequences involved in partner support transactions, [Pearlin and McCall \(1990\)](#) described three stages: (1) perception of partner's problem or difficulty, (2) evaluation of the situation and of possible support responses (the extent of the support seeker's need, the kind of support that is available, and the likelihood of the support being successful), and (3) provision of actual support. The support behaviors enacted can then be perceived by the recipients or remain undetected (cfr. *invisible support*; [Bolger, Zuckerman, & Kessler, 2000](#)).

A useful framework for the study of the antecedents of partner support was provided by [Dunkel-Schetter and Skokan \(1990\)](#), who classified the determinants of support provision into four categories: (a) recipient factors (e.g., recipient's mood, stressors, mode of support seeking, self-efficacy), (b) provider factors (e.g., provider's mood, stressors, personality), (c) relationship factors (e.g., relationship satisfaction and attachment style of both provider and receiver, the history of previous support transactions), and (d) stressor factors (e.g., objective and appraised levels of stress).

Indeed, research has shown that people differ in the way they provide partner support as well as in the way they benefit from it (e.g., [Gleason et al., 2008](#)) and explored some of the variables that could explain these differences. Among the most studied variables, we can find attachment styles, gender, and culture (see [Sullivan & Davila, 2010](#)).

### Related Constructs

*Dyadic Coping*. Although conceptually distinct from partner support, in that dyadic coping (i.e., the interdependent process through which couples cope with the stress they encounter in their everyday lives; see [Revenson, Kayser, & Bodenmann, 2005](#)) requires both partners to be concerned with each other's well-being and cannot be seen as a one-way flow of support provision to a single identified stress victim, dyadic coping research is highly interconnected

with partner support research; indeed, recent developments of partner support theories have focused particular attention on the dynamic and dyadic nature of support.

**Capitalization.** Also capitalization (i.e., the process of communicating the occurrence of positive events to intimate others, who can respond with supportive acts that maximize the benefits of the event; see Gable, Gonzaga, & Strachman, 2006) has been recently considered as a form of support provided in front of a positive event.

### Measures

Several instruments have been designed to measure partner support. Numerous self-report questionnaires have been designed to capture different aspects of partner support (see for a review Brassard, Houde, & Lussier, 2011). Among self-report instruments, the *Support in Intimate Relationships Rating Scale (SIRRS; Dehle, Larsen, & Landers, 2001)* is one of the most widely used. It contains 48 items tapping different types of partner support and was originally employed by Dehle et al. in a daily diary study in which married partners had to complete the SIRRS on seven consecutive evenings, making two ratings (frequency and satisfaction) for each of the 48 support items. The SIRRS has since been modified in some studies to be adapted to a single administration and to different research purposes (e.g., Brock & Lawrence, 2009). An alternative strategy to measure self-reported partner support was used by Acitelli and Antonucci (1994): a diagram containing three concentric circles with the target person in the center to record identity, degree of closeness, and type of support provided or received by specific people in the individual's social network.

Recent research on daily support exchanged has used daily diaries to measure daily support provision and receipt from the perspective of both providers and recipients. These measures usually comprise single items referring to different aspects of partner support depending on the objective of the study (support seeking, support provision and receipt, satisfaction with received support relative to the day of the record, etc.).

Among observational measures, we can find the *Social Support Interaction Coding System (SSICS; Pasch, Harris, Sullivan, & Bradbury, 2004)* and the *Social Support Elicitation Behavior Code (SSEBC; Cutrona, Suhr, & MacFarlane, 1990)*.

### Cross-References

- ▶ Attachment
- ▶ Daily Diary Methodology
- ▶ Distress
- ▶ Equity Theory
- ▶ Self-Efficacy
- ▶ Self-Esteem
- ▶ Social Support
- ▶ Stress

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## Partner Violence

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## Synonyms

[Couples violence](#); [Domestic violence](#); [Intimate partner violence](#); [Partner abuse](#)

## Definition

Partner violence refers to physical, sexual, emotional or psychological, economic, and controlling abuse between partners in intimate marital, cohabiting, and [dating relationships](#). Emotional abuse is often a precursor to physical or sexual abuse (Kirkwood, 1993). Recent scholarship suggests that there may be multiple types of partner violence (Holzworth-Munroe & Meehan, 2004). One type of partner abuse – situational couple violence – is characterized by infrequent physical abuse perpetrated by one or both partners that does not occur in conjunction with emotional abuse, economic abuse, or controlling behaviors. A second type of partner abuse – intimate terrorism – is characterized by frequent, escalating physical and emotional abuse that is motivated by the desire of one partner to control the relationship and their partner (Johnson, 2008). Several scholars identify coercive control as the key dynamic in partner abuse that harms victims. Coercive control involves the use of isolation, deprivation, degradation, and humiliation to break down the victim’s personality and increase the control of the abusive partner. Coercive control may occur with or without physical abuse (Stark, 2007).

## Description

Research findings about the extent of partner violence vary widely across studies that use different samples and measurement strategies. Reviews of national studies conducted in the United States indicate that surveys focusing on crime [victimization](#) and safety issues obtain lower prevalence rates than studies focusing on relationship conflict. Studies that use samples of currently married or cohabiting partners find lower rates of partner violence than studies that include recently separated or divorced persons because partner violence is a strong predictor of relationship dissolution (DeMaris, 2000; Stark, 2007). The 1985 National Family Violence Survey, for example, frames partner violence as a form of relationship conflict. Results indicate

that around 11 % of both women and men in current heterosexual relationships report experiencing physical partner violence each year (Straus & Gelles, 1990). In contrast, the 1995 National Violence Against Women Survey, which focuses on safety concerns, finds that 1.3 % of women and .9 % of men are victimized by an intimate heterosexual partner on an annual basis (Tjaden & Thoennes, 2000). Studies of lifetime rates of victimization find that 25 % of women and 8 % of men experience physical or sexual assault perpetrated by a partner (Tjaden & Thoennes, 2000).

The issue of whether heterosexual women and men are similarly victimized by partner violence is highly contentious. Scholars using a family violence theoretical perspective contend that women and men are victimized at similar rates because partner abuse is caused by nongendered social phenomena including ► [stress](#), a lack of economic resources, and cultural tolerance of family violence (Archer, 2000; Dutton, 2006; Felson, 2002). Feminist scholars propose that the context of gender inequality leads to higher rates of men's violence against women, as men are more likely than women to be socialized into aggression, to view controlling one's partner as a legitimate right, and to have greater access to and control of economic resources within the relationship (Anderson, 2005; Hampton, Stark, 2007). Feminist scholars also propose that men's violence against women may be a means by which men can reassert masculine control and dominance when he is threatened by women's independence or resistance to control. A small number of studies suggest that partner violence rates are similar in heterosexual and gay, lesbian, and bisexual (GLB) relationships, but these studies are limited by small samples of GLB respondents (Messinger, 2010).

### Effects of Partner Violence on Quality of Life

Partner violence reduces ► [quality of life](#) for victims and perpetrators. The primary focus of research has been the consequences of victimization, but the perpetration of abuse is also associated with depression, low ► [self-esteem](#), substance abuse, and negative sanctions such as

arrest and criminal prosecution (Guzik, 2009). Partner violence can result in serious and long-lasting consequences for victims, including damages to physical health, emotional well-being, and financial health, and security. Partner violence is also associated with early childbearing and the dissolution of cohabiting and marital relationships.

*Mental Health.* Partner violence is associated with negative mental health outcomes including depression, posttraumatic stress disorder, substance abuse, suicidal thoughts or behavior, and lowered self-esteem. Although some researchers have suggested that victims' mental health concerns could pre-date partner violence, longitudinal studies indicate that negative mental health outcomes occur in response to victimization. Partner violence victimization is associated with fear, hypervigilance, and ► [anxiety](#) and these effects can be long-lasting (Barnett, Miller-Perrin, & Perrin, 2005).

Victims who experience multiple types of abuse, particularly physical, psychological, and sexual, suffer the highest levels of depressive and posttraumatic stress disorder symptoms (Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005). Additionally, victims of controlling behavior that does not co-occur with physical violence suffer negative mental health consequences at the same rates as those who experience both controlling behavior and physical violence (Anderson, 2008).

*Physical Consequences.* Physical consequences of victimization include injury (bruises, broken bones), chronic pain, migraine, sexually transmitted infections, chronic pelvic pain, stomach ulcers, and spastic colon. These physical health consequences are as likely to result from psychological abuse as from physical abuse (Coker, Smith, Bethea, King, & McKeown, 2000). Partner violence is often a precursor to intimate homicide. Over 30 % of murdered women and 3 % of murdered men in the United States are killed by an intimate partner (Homicide Trends in the U.S., 2007).

*Relationship Formation and Dissolution.* Partner violence has negative consequences for the stability of social relationships. Victims of

partner abuse often become socially isolated from friends and family as a result of their partner's efforts to monitor and minimize their social contact with others outside of the partnership (Stark, 2007). Partner violence is also an important risk factor for separation and divorce. People who experience physical violence from cohabiting partners are less likely than those in nonviolent relationships to enter into marriage, although the effect is stronger among women than men (DeMaris, 2000). Women's experience of physical and sexual abuse victimization in early adult relationships can lead to voluntary withdrawal from intimate partner relationships as protective strategy to prevent future victimization (Cherlin, Burton, Hurt, & Purvin, 2004). Thus, partner violence reduces the quality of life among victims both directly and indirectly, through reducing the likelihood that victims will enter into satisfying, nonviolent intimate relationships upon separation from their violent partners.

*Early Childbearing.* Partner violence is also associated with teenage pregnancy. The majority of unwanted pregnancies among adolescents occur among young women who have experienced dating violence. Reproduction coercion is a form of partner violence that includes pressuring an unwilling partner to become pregnant (pregnancy coercion) and interfering with the use of birth control (birth control sabotage). A study of young adult women using family planning clinics in California found that 79 % of women who reported birth control sabotage also experienced physical or sexual partner violence and 74 % of women who reported pregnancy coercion were victims of partner violence (Miller et al., 2010).

*Financial Consequences.* Abuse victimization is associated with lower earnings, employment instability, or welfare use among women (Brush, 2004). Victims of abuse may miss work because of physical injuries, resulting in lower levels of earnings. Additionally, victims experience fear and anxiety at work as a result of controlling abuse in which their partners monitor their behavior while at work by frequently calling, using electronic communication to force

their partners to "check in," or by visiting unexpectedly. Some abusers sabotage their partners' employment by interfering with victims' job interviews or by communicating negative or damaging information about victims to employers.

*Gender Differences.* Gender moderates the effect of partner violence on well-being. Studies suggest that, even when heterosexual women and men report physical violence victimization at equal rates, victimized women suffer higher levels of injury, stress, fear, depressive symptoms, injury, and financial consequences such as missed work than victimized men (Straus & Gelles, 1990). Relationships with mutual violence, in which both partners report victimization and perpetration, also result in significantly greater negative consequences for women than for men.

*Child Witnesses of Partner Violence.* Children who witness partner violence perpetrated by adult caretakers also experience a decline in their quality of life. Children who witness or are aware of partner violence in their household experience negative internalizing and externalizing outcomes at similar rates to children who suffer from child abuse (Kitzmann, Gaylord, Holt, & Kenny, 2003). Negative internalizing effects include higher levels of withdrawal, anxiety, depression, fear, and self-blame. Children who witness partner violence also exhibit aggression and other problem behaviors at a school and in social interactions, which reduces their ability to form positive social ties to peers.

## Discussion

Partner violence can take on many forms, including physical, sexual, psychological or emotional, and controlling abuse. The experience of any of these forms of violence reduces the quality of life for victims of abuse and for children who witness partner violence perpetrated by adult caretakers. Partner violence reduces the quality of life for victims because it is associated with physical illness and injury, negative mental health outcomes, financial difficulties, unwanted pregnancies, and the dissolution of social relationships.

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## Partner Violence Against Women, Acceptability of

► [Public Attitudes Toward Partner Violence Against Women](#)

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## Part-Time Work

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## Synonyms

[Flexible work](#); [Individual reductions in working hours](#); [Reduced work hours](#); [Underemployment](#)

## Definition

The expression “part-time work” does not refer to a precise definition. What one might call part-time work should not be confused with an exact number of working hours. It is defined by

a deviation from standard full-time work with reference to the number of hours worked for the type of employment according to industry or profession. However, the length of a full-time workweek varies not only according to activity but according to country as well.

### **Diversity of International Definitions of Part-Time**

In practice, national definitions vary considerably from one country to another (Van Bastelaer, Lemaître et Marianna, 1997). For example, Australia, the Netherlands, and Japan apply a 35-h threshold to differentiate part-time work from full-time. In Canada and the United Kingdom, this threshold is at 30 h. Other countries, like France, define part-time in reference to the duration of full-time salary workers, but there still exist differences. In Spain, part-time begins at 77 % of full-time, whereas in France and Germany, all salary workers whose working hours are inferior to those of a comparable full-time employee are considered part-time. This diversity can be found in the statistical definitions of major international organisms. According to a definition proposed by International Labour Office (ILO), part-time work is defined as regular employment in which time is substantially less than normal. For the European Union, part-time workers are employees whose normal weekly working hours are less than the normal hours of a comparable full-time worker. For Eurostat, the statistical office of the European community, part-time work is defined on the basis of workers' self-evaluation. For Organisation for Economic Co-operation and Development (OECD), part-time employment refers to workers who usually work less than 30 h per week in their main job. This diversity of definitions poses a problem for measuring the impact of part-time work in different countries and makes any international comparison a delicate one.

### **Description**

Since the end of the 1970s, part-time employment has developed considerably in OECD countries. This evolution has continued on, or at least has

not inverted, in the last 10 years, with a higher rate of growth in countries already showing a high average of part-time work at the end of the 1990s (OECD, 2010). So if, in 2010, part-time work represents on average 16.6 % of total employment in OECD countries, the proportion is much higher in the Netherlands (37 %), the United Kingdom (24.6 %), and Germany and New Zealand (22 %) than in France with 13.6 % or in the United States with 13.5 %. (Source: OECD. The presented figures are based on the OECD definition. To take an example, if Eurostat definition for European countries is used, part-time work represents 49 % in the Netherlands, 26 % in Germany, and 18 % in France, of the total employment for 2010.)

This evolution of part-time work is concomitant with the renewed participation of certain population groups which have traditionally been the least present on the job market, such as women with children, young people, and seniors.

The vast majority of studies on part-time work emphasize two important characteristics. The first general characteristic of part-time work is its strong feminization. This situation with respect to female part-time work is nevertheless contrasted from country to country, where strong disparities are observed. If 26.3 % of women versus 8.9 % of men in OECD countries in 2010 work part-time, 60 % of active women in the Netherlands are part-time, close to 40 % in the United Kingdom, 38 % in Australia and Germany, 34 % in Japan, whereas in France, the figure is 22.3 %, in North America 21 %, and in the United States 18.4 %. In Europe, there is a fairly clear geographical split between Northern countries, where female part-time work is highly developed, and Southern countries where it is less so. This statistical fact refers to the different historical situations from one country to another. As such, the increase in female activity contributed to more than half of the progression of part-time work in Western Europe and the United States during the 1980s and 1990s (Buddelmeyer, Mourre, & Ward, 2008). During the 1990s, facing a crisis, part-time work emerged as a remedy to unemployment and as the preferred tool of businesses to impart flexibility. In certain

countries like France, the entrance of women in the workforce was for the most part a part-time trend, so much so that the rate of equivalent full-time female activity no longer progressed (Maruani, 2011). If part-time work is largely feminine, we can then note a slight tendency over the past few years toward an increase in the number of men working part-time.

Another important characteristic of part-time work is an uneven distribution across age groups. We find it mostly at the two extremities, those under the age of 25 and those over the age of 59, men and women alike. Contrary to widespread belief, it is not middle-aged women (25–49 years old) who record the highest incidence of part-time work, but women from the youngest and oldest age groups. Part-time work thus does not seem to be exclusively a means of conciliation between family life and professional activity but often corresponds to a period of integration as well as a way of giving up one's professional life. We traditionally have the habit of saying that part-time work fulfills two principal functions: as a bridge between inactivity and employment and as a means of conciliation. Another observation shows the transition from part-time to full-time is relatively rare. This transitory state of part-time work has been the object of empirical studies in the United States, where Blank (1994) and Périvier (2007) show that women essentially work full-time or not at all. Generally speaking, women stay in part-time work only a short time. They also show that people often stay longer in part-time employment in Europe than in the United States, though with strong variations between European countries.

Some international studies (O'Reilly & Fagan, 1998; Warren, 2010) that question the quality of part-time jobs are interested in pay, working hours, job security, job satisfaction, professional development, training, working conditions, sexual equality, and the balance between professional and family life. Compared to full-time workers, part-time work is accompanied by penalties in terms of salary, job security, working conditions, and prospective professional advancement. Moreover, part-time workers face an increased risk of poverty after job loss

compared with their counterparts working full-time. To this is added more frequently atypical work schedules for underqualified part-time salary workers, which are hardly compatible with family constraints (Gadrey, Jany-Catrice, & Perrod-Lemattre, 2006). As such, in his analysis on the Decent Working Time, Messenger insists on the necessity to take into account both the number of working hours and the timing of these hours (Messenger, 2004).

To fight against these penalties, most OECD countries have adopted new laws since the 1990s which eliminate discrimination between full- and part-time workers and reduce sexual inequality in the workplace, in order to encourage quality part-time work.

As the above descriptions show, different practices and opposing logics are grouped under the same word. Part-time work is a multiform phenomenon, both contrasted and diversified. Behind these developments in part-time work, we find the classic opposition of constrained hours versus chosen hours. Even this opposition lacks a consensus. It seems difficult to know whether part-time work is voluntary or not. In the first case, this is a choice of part-time work from the employee. In tune with European rhetoric, part-time work is thus often treated as chosen hours and is presented as a necessary tool to help reconcile family and professional life. In the second case, this is more "substandard" employment.

## Cross-References

- ▶ [Employment Insecurity](#)
- ▶ [Female - Male Earnings Ratio Among Skilled Workers](#)
- ▶ [Flexicurity](#)
- ▶ [Gendered Work](#)
- ▶ [Job Insecurity and Well-Being in Europe](#)
- ▶ [Job Loss and Family Dissolution](#)
- ▶ [Job Satisfaction](#)
- ▶ [Job Security](#)
- ▶ [Occupational Sex Segregation](#)
- ▶ [Quality of Life](#)
- ▶ [Temporary Employment](#)
- ▶ [Training](#)

- ▶ Unemployment
- ▶ Well-Being at Work
- ▶ Women's Employment
- ▶ Work and Employment, Quality of
- ▶ Work Stress
- ▶ Work Time
- ▶ Work-Life Balance
- ▶ Working Conditions in Europe

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## Passionate Love

- ▶ Love

## Paternal Support

- ▶ Parental Time and Child Well-Being

## Pathological Gambling

- ▶ Addiction, An Overview

## Patient Activation: Utility in Elective Lumbar Spine Surgery

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## Synonyms

[Lumbar spine surgery and patient activation; PA](#)

## Definition

Patient activation (PA) has been defined as an individual's propensity to engage in adaptive health behaviors that may lead to improved

- ▶ [health outcomes](#). PA has been conceptualized as having an impact on six dimensions: (1) self-management of symptoms, (2) engagement in activities to maintain function, (3) involvement in healthcare decisions, (4) collaboration with healthcare providers, (5) informed choices of provider based on quality, and (6) navigation of the healthcare system (Hibbard, Stockard, Mahoney, & Tusler, 2004). In understanding health behavior and the medical profession's ability to modify it, it is important to focus on mutable factors, that is, psychological factors (e.g., ▶ [self-efficacy](#)) and personal competencies (e.g., coping beliefs and strategies). The concept of PA emerges as an integration of these psychological

factors and personal competencies (Hibbard et al., 2004), with a hierarchical structure: an individual moves from believing an active role is important to having confidence and knowledge to take action, to taking action, and finally to staying the course under stress. Individuals who are highly activated experience better health outcomes than individuals who are less activated (Skolasky, Mackenzie, Wegener, & Riley, 2011; Williams et al., 2005).

## Description

### Influence of Positive Psychology

Following the deficit model of psychology, previous research has focused on mental health as a comorbid disease. However, there has been a relative absence of discussion of positive psychological resources in the medical literature. The theoretical basis for ► [positive psychology](#) began with Bandura's examination of cognitive processes that mediate behavioral change (1977). Self-efficacy was defined as a state-dependent belief in one's abilities to take action given one's skills and situation. Bandura (1977) presented an integrative framework through which behavior change could be predicted. Perceived self-efficacy is a theory that can account for diverse phenomenon, such as stress reaction, ► [achievement](#) (Bandura, 1992), and coping beliefs and strategies (Zebracki & Drotar, 2004). An expansion of this theory was necessary to fully develop the theory behind the resources that could extend beyond circumscribed situations.

Self-efficacy can be considered one component of personal control. The other component is ► [locus of control](#) (Thompson, 2005). Locus of control refers to the extent to which a person believes his or her outcomes (in this case, health) are controlled by personal action (internal) versus outside forces (external). Early work in the recovery from hip fracture has shown variations in the expression of control that individual patients have regarding their injury (Roberto, 1992) that may be prognostic of better functional recovery. For example, in the area of recovery from spine

surgery, adolescents with an internal locus of control have shown a stronger benefit between the use of coping beliefs and strategies and better recovery (LaMontagne, Hepworth, Cohen, & Salisbury, 2004).

From the original concepts of personal control, theorists have sought to develop conceptual definitions of psychologic strengths that were more stable across situations. Conventional wisdom asserts that optimists are people who expect good things to happen to them. ► [Optimism](#) is a general sense of confidence based on expectancies of attaining a goal and the value placed on that goal (Carver & Scheier, 2005). This general sense is broader than earlier conceptualizations of self-efficacy. Scientific evidence shows that individuals who have high optimism are less likely to experience stress when faced with difficulties (Carver & Scheier, 2005), perhaps as a result of better coping beliefs and strategies compared with those with lower optimism. These coping beliefs and strategies can be transferred from one situation to another. Individuals who have confidence in achieving a valued goal are more likely to continue to make an effort to attain that goal, even in the face of adversity. Individuals with low optimism are more likely to abort efforts if difficulties appear insurmountable. Because individuals with higher levels of optimism are more likely to view adversity as surmountable, those individuals have been predicted to be better able to cope with stresses associated with medical maladies (Taylor et al., 1992).

The concept of PA serves as an integrative framework for this early research. These psychologic strengths of locus of control, self-efficacy, and optimism are interconnected (Hibbard et al., 2004). PA is a combination of the skills, knowledge, beliefs, and motivations that an individual can marshal to become an effective self-manager of health (Von Korff, Gruman, Schaefer, Curry, & Wagner, 1997). Thus, being activated indicates that an individual is engaged in one's own ► [health care](#). Individuals who are activated experience better health outcomes than do individuals who are not activated (Williams et al., 2005).

Ignoring the influence of ► [positive psychology](#) detracts from one's ability to understand

► **health behavior** and outcomes. In the clinical setting, attending to and harnessing these strengths and resiliencies may lead to improved clinical outcomes. Because high patient activation has been associated with increased adaptive health behaviors and good clinical outcomes, it is important to note that it may be possible to increase an individual's patient activation. Through intervention, it may be possible to enhance an individual's set of strengths (Hibbard et al., 2004).

### Application to Elective Lumbar Spine Surgery

Spine surgery is one of the most common inpatient procedures in the United States (Davis, 1994). Surgical rates have been rising dramatically during the past two decades (Davis, 1994; Deyo, Gray, Kreuter, Mirza, & Martin, 2005), especially among individuals who are more than 60 years old or who have degenerative conditions of the spine. From 1992 to 2003, Medicare spending for inpatient spine surgery rose to \$482 million, with lumbar fusion accounting for 47 % of those costs (Weinstein, Lurie, Olson, Bronner, & Fisher, 2006). In spite of advances in surgical techniques, outcomes after spine surgery are highly variable and, at times, poor (Cook et al., 2007). Traditionally studied individual characteristics (demographic, physiologic, social, and negative psychologic variables such as depression) do not account for significant portions of the variance in observed variability (Dvorak, Valach, Fuhrmann, & Heim, 1988). Recent research has highlighted the importance of individual participating in, and taking responsibility for, his or her health and recovery (Skolasky et al., 2011), and PA has been identified as a potentially important factor in this process (Hibbard et al., 2004).

Because of similar health behaviors, such as self-care and treatment adherence, PA may contribute to the understanding of observed variability in outcome after lumbar spine surgery. A clinically relevant instrument has been developed to measure PA among individuals with chronic diseases: the Patient Activation Measure (Hibbard, Mahoney, Stockard, & Tusler, 2005; Hibbard et al., 2004).

### Patient Activation: Utility in Elective Lumbar Spine Surgery, Table 1

Correlation between the Patient Activation Measure and individual psychologic assessment scales

Psychologic assessment scale	r	P value
Life orientation test-revised	0.754	<0.001
Trait hope scale		
Agency	0.681	<0.001
Pathway	0.535	<0.001
Total	0.731	<0.001
Self-efficacy for physical therapy	0.650	<0.001
Multidimensional health locus of control		
Internal	0.659	<0.001
Chance	-0.114	0.055
Powerful others	-0.350	<0.001
Doctors	-0.391	<0.001
Other people	0.137	0.021
Depression, PRIME-MD	-0.128	0.032
Charlson comorbidity index	0.007	0.904

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### Application of PA to Spine Surgery

A recent project investigated the influence of PA on participation and engagement in physical therapy after lumbar spine surgery (Skolasky, Mackenzie, Riley, & Wegener, 2009; Skolasky, MacKenzie, Wegener, & Riley, 2008; Skolasky et al., 2011). The goals of this project were to investigate the psychometric properties of a newly developed psychometric assessment instrument, the Patient Activation Measure, in a novel population (those undergoing elective spine surgery); to investigate the relationship of PA and other positive psychologic factors (Table 1); and to estimate the influence that PA plays in postoperative health behavior (adherence to physical therapy) (Table 2).

This study recruited and followed a cohort of participants undergoing elective spine surgery within a proposed time frame, and the cohort showed sufficient distribution in the measure of PA to stratify individuals into the four stages of PA (Skolasky et al., 2009). After establishment of the psychometric properties of the Patient

**Patient Activation: Utility in Elective Lumbar Spine Surgery, Table 2** Adherence to physical therapy (attendance and engagement): overall and stratified by patient activation)

Measure of adherence	Overall	Patient activation quartile				P value <sup>a</sup>
		1st	2nd	3rd	4th	
<b>Attendance<sup>b</sup></b>						
N	65	19	15	15	16	
Mean (SD)	75.6% (31.7%)	55.6% (33.9%)	63.2% (38.3%)	93.8% (10.9%)	94.1% (8.9%)	<0.001
Range	0%, 100%	0%, 100%	0%, 100%	60%, 100%	75%, 100%	
<b>Engagement<sup>c</sup></b>						
N	62	18	13	15	16	
Mean (SD)	22.1 (5.2)	18.8 (6.1)	18.9 (2.2)	23.2 (3.0)	27.4 (1.9)	<0.001
Range	11, 30	11.1, 27	15, 22	13, 25.4	24, 29.8	

<sup>a</sup>Comparison of characteristics among the quartiles was assessed using analysis of variance with a priori comparisons between quartiles using Tukey's multiple comparison procedure

<sup>b</sup>A priori comparisons between quartiles showed significant differences between all quartiles ( $p < 0.05$ ) with the exception of between the first and second quartile and between the third and fourth quartile

<sup>c</sup>Participants who did not attend any prescribed physical therapy sessions were not available for engagement rating using our Rehabilitation Engagement Rating Scale

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Activation Measure in this population, the first reported in a surgical population, the team conducted a factor analysis to show the relationship between PA and other positive psychological measures (Table 1).

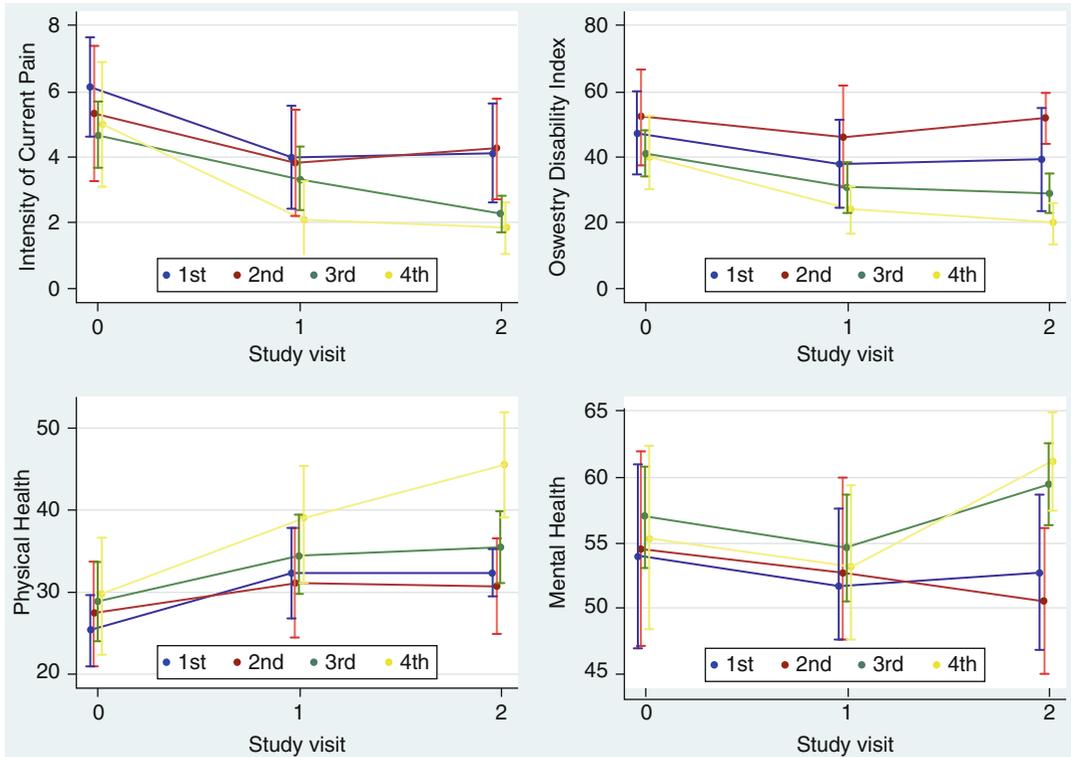
The relationship between PA and adherence to postoperative rehabilitation was also explored. Individuals with high baseline activation showed increased attendance in physical therapy (94 % vs. 47 %,  $p < 0.001$ ) and increased engagement in physical therapy (Hopkins Rehabilitation Engagement Rating Scale score, 27.4 versus 16.9,  $p < 0.001$ ) (Table 2) (Skolasky et al., 2008).

Although this early work focused on the role that PA plays in adherence and engagement to physical therapy (Skolasky et al., 2008), more recently published data suggest that PA has an influence on long-term outcomes of elective lumbar surgery (Skolasky et al., 2011). A significant difference was shown in the reduction of the intensity of current ► **pain** from preoperative to final postoperative levels for individuals in the fourth quartile (high) of PA compared with that of individuals in the first quartile (low) ( $p = 0.029$ ) (Fig. 1). Similarly, it was shown that individuals with high PA before surgery experienced significantly more resolution of ► **disability** by 24 months than did individuals with low PA

( $p = 0.035$ ). Although individuals with high activation also experienced a significantly greater increase in physical health than did those with low activation ( $p = 0.044$ ), there was no association between activation level and change in mental health ( $p = 0.801$ ). Overall, the findings show that individuals with high activation have a significantly better course of recovery as assessed by certain standard measures of patient-reported outcomes (pain, disability, and physical health).

### Interventions to Improve PA

Evidence documenting the effectiveness of interventions directly targeting PA and its correlates (psychologic factors and personal competencies) has been accumulated, with the aim of improving health behavior. These interventions have made use of empowerment strategies (Alegria et al., 2008), educational sessions (Morisky, Bowler, & Finlay, 1982), and self-management strategies (Williams et al., 2005). These interventions have shown that increases in PA can lead to improved adoption of positive health behaviors across a variety of clinical populations. A recently published study of a cross section of individuals with a variety of chronic diseases has shown that positive change in activation was related to



**Patient Activation: Utility in Elective Lumbar Spine Surgery, Fig. 1** Longitudinal changes in functional recovery, stratified by patient activation stage (Reprinted with permission from Skolasky, R. L., Mackenzie, E. J.,

Wegener, S. T., & Riley, L. H., III. (2011). Patient activation and functional recovery in persons undergoing spine surgery. *The Journal of Bone and Joint Surgery. American Volume*, 93(18), 1665–1671)

positive change in a variety of self-management behaviors (Hibbard, Mahoney, Stock, & Tusler, 2007). These findings were true even when the behavior in question was not being performed at baseline. When the behavior is already being performed at baseline, an increase in activation was related to maintaining a relatively high level of the behavior over time. Future research will address whether preoperative intervention can increase PA and lead to increased adoption of positive health behaviors and improved functional recovery.

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## Patient Autonomy

### ► Human Dignity

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## Patient Generated Index

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## Synonyms

PGI

## Definition

The Patient Generated Index (PGI) is an individualized patient-reported outcome (PRO) measure that asks respondents to nominate domains or aspects of life that are important to them, rate how they function in these areas, and give points to them according to how they would most like to see an improvement (Ruta, Garratt, Leng, Russell, & Macdonald, 1994).

## Description

The PGI was developed 20 years ago and has had application across a wide range of health problems and has been used to assess ► [response shift](#) (Martin, Camfield, Rodham, Kliempt, & Ruta, 2007). The advantages and disadvantages of

individualized measures have been described. The great majority of PROs are based on summated rating scales which comprise a number of items which are summed to give a scale score or number of scale scores if several aspects or dimensions of health are assessed (Garratt, Schmidt, Mackintosh, & Fitzpatrick, 2002). Items within such measures are fixed and the respondent responds by completing a rating scale. In contrast, individualized measures give the respondent the opportunity to include aspects of their life that they consider important or relevant and/or rate them in terms of importance as well as how they function or perform in them. The PGI is wholly individualized with the respondent undertaking all these three tasks as part of completion.

Quality of life has been defined as “the extent to which our hopes and ambitions are matched by experience” (Ruta et al., 1994). According to this definition, to improve quality of life, it is necessary to “narrow the gap between a patient’s expectations and what actually happens.” The PGI attempts to measure this gap by combining two techniques from unrelated fields. The first, developed as part of a condition-specific approach for chronic lung disease (Guyatt, Berman, Townsend, Pugsley, & Chambers, 1987), asks the respondent to choose the five most important areas of their lives affected by their medical condition and to rate how badly affected they are in each area. The second technique, the priority evaluator method (Hoinville, 1977), was developed to aid town planners to take account of the preferences of potential residents. In its original form, the respondent is presented with a set of residential characteristics (e.g., garden size, parking facilities, and shopping amenities) and is asked to indicate their preferences for the type of town they would like to live in, by distributing “points” between the different characteristics.

The PGI is completed in three stages by interviewer- or self-administered questionnaire. There are several versions of the PGI for different groups of respondents or health-care users which have had application in health-related research. Figure 1 shows a version that was

developed following the findings of a systematic review (Martin et al., 2007) and cognitive interviews with patients and piloting (Klokkerud et al., 2013).

In the first stage, the respondent nominates up to five of the most important areas of their life that are affected by a specific health problem, in this case, their rheumatic disease. The respondent can either nominate their own areas in the boxes in the left of Fig. 1 or can consult a checklist which accompanies the PGI developed following interviews with individuals with the health problem under consideration. In stage two, the respondent is asked to rate how badly affected they are in each area on a seven-point scale from the worst possible to the best possible that they can imagine for themselves. They also rank all other aspects of their life affected by their health problem which is a sixth box in the first stage. In the third and final stage, the respondent distributes ten points between the areas in which they would most value an improvement.

The PGI is scored by multiplying the ratings for each area by the proportion of points they get and summing and transforming to give a score from 0 to 100. The PGI score is intended to measure perceived quality of life defined as the extent to which a respondent’s situation matches their expectations in the areas of life in which they would most like to see improvement.

Several versions of the PGI have been developed which differ according to the final box or in some cases two boxes in the first stage of completion, scoring, and points in stages two and three, and if and whether respondents are given their previous areas at follow-up (Martin et al., 2007). The final box of the original version of the PGI includes “all other aspects of your life.” One version has used two additional boxes which include “areas affected by other health problems” and “all other non-health areas of your life” (Ruta, Garratt, & Russell, 1999; Witham, Fulton, Wilson, Leslie, & McMurdo, 2008). More recent versions that focus on a specific health problem have used “all other aspects of your life affected by your health problem” which may have greater relevance in clinical practice and health-care evaluation and is arguably a less difficult cognitive task.

<p><b>PART I: List Areas</b></p> <p>In this part we would like you to think of the 5 most important areas of your life affected by your rheumatic disease and write these in the boxes below.</p> <p>If you cannot think of 5 areas then just fill as many boxes as you want. Some examples are shown below.</p> <p>Sleep, social life, hobbies, tiredness, walking, identity, pain, slow to do things, completing tasks, sexual relations, travelling, stiffness, feelings, self-image, getting going in the morning, housework.</p> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <p style="font-size: small; margin-top: 5px;">All other areas of your life affected by your rheumatic disease</p>	<p><b>PART II: Score Areas</b></p> <p>Please score each area you listed in Part I. The score should show how badly you were affected by your rheumatic disease in the areas listed today. Give each area a score by circling the number.</p> <p>In the same way, we would like you to rate "All other aspects of your life affected by your rheumatic disease" not listed above. By this we mean all other aspects of life affected by your rheumatic disease and not included in the list you gave.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%; text-align: center; font-size: small;">As bad as could possibly be</th> <th style="width: 15%;"></th> <th style="width: 15%; text-align: center; font-size: small;">Please circle one number on each line</th> <th style="width: 15%;"></th> <th style="width: 15%; text-align: center; font-size: small;">As good as could possibly be</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> <td style="text-align: center;">4</td> <td style="text-align: center;">5</td> <td style="text-align: center;">6</td> </tr> </tbody> </table>	As bad as could possibly be		Please circle one number on each line		As good as could possibly be	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	0	1	2	3	4	5	6	<p><b>PART III: Spend Points</b></p> <p>Now imagine that any or all of the areas of your life mentioned in PART I could be improved. You have 10 imaginary points to spend to improve any or all of these areas.</p> <p>Give more points to areas you would most like to improve and less to areas that are not so important. You don't have to spend points in every area, but don't spend more than 10 points in total.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> </tr> <tr> <td style="text-align: center;">↑</td> </tr> <tr> <td style="border: 1px solid black; height: 20px;"></td> </tr> </table> <p style="text-align: center; font-size: small; margin-top: 5px;">Total number of points that you spend must add up to 10</p>								↑	↑	↑	↑	↑	↑	↑							
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**Patient Generated Index, Fig. 1** The patient generated index (Klokkenrud et al., 2013)

Moreover, a systematic review found that the simplification of stages two and three is more acceptable to patients while meeting criteria that are deemed important for a PRO measure (Martin et al., 2007). The second stage of completion for the original PGI asks respondents to rate the nominated areas from 0 to 100 (Ruta et al., 1994). Respondents are not presented with a scale which they cross at the appropriate scale point, but rather, they are instructed to give a score between 0 and 100. In the third stage, respondents are asked to distribute 60 points between the areas in which they would most like an improvement.

Several versions of the PGI have been developed which represent attempts to improve acceptability and hence data quality or to adapt the instrument to specific groups of respondents. More recent versions of the PGI represent attempts to simplify completion and hence improve acceptability which in turn should lead to higher completion rates. This was undertaken through the use of a 0–10 and subsequently 0–6 scoring in stage two and corresponding reduction in the number of points given in stage three (Tully & Cantrill, 2000; Haywood et al., 2003; Klokkerud et al., 2013).

There are three possible approaches to administering the PGI at follow-up. The blind format does not give the respondent their previously nominated areas at follow-up. The closed format gives the areas which cannot be changed. The open format gives the areas and the respondent can change them if they wish. Previous studies that have evaluated the reliability and validity of the PGI have used the blind format with one exception which used both blind and closed formats (Haywood, Garratt, Dziedzic, & Dawes, 2003). This may be due to the additional research costs associated with providing respondents with their previous responses. However, this one study found that the open format was more responsive than the closed format (Haywood et al. 2003).

### Reliability

Eight studies were found that had assessed the PGI for ► [test-retest reliability](#) with correlation

following a systematic review (Martin et al., 2007). Correlations ranged from 0.48 (Callaghan, Sockalingam, Treweek, & Condie, 2002) to 0.86 (Dempster, Donnelly, & Fitzsimons, 2002); however, there is some variation in the design of these studies. The review concluded that the PGI is reliable enough for group comparisons and that a smaller number of scale points in stage two and a smaller number of points in stage three generally give higher reliability. Three more recent studies reported coefficients in the range of 0.61–0.87 (Klokkerud et al., 2013; Witham, Crighton, & McMurdo, 2007; Witham et al., 2008).

### Validity

The PGI has been assessed for construct validity by means of comparisons with scores for measures that assess disease-specific and general health. The systematic review found nine studies that had formally assessed the validity of the PGI (Martin et al., 2007). The SF-36 and SF-12 were the most widely used measures for assessing the validity of the PGI with correlations in the range of 0.11–0.68 for the eight SF-36 scale scores. While the study concluded that there was good evidence for validity regardless of the version of the PGI used, there is limited evidence that versions with a smaller number of scale points in stage two and a smaller number of points in stage three generally have higher correlations (Camilleri-Brennan, Ruta, & Steele, 2002; Haywood et al., 2003; Witham et al., 2007).

### Responsiveness/Sensitivity to Change

The systematic review found seven studies that have assessed the PGI for responsiveness and based on these findings, it was concluded that the PGI was found to be responsive or highly responsive (Martin et al., 2007). Of these, four studies used anchor-based approaches or assessed responsiveness following an intervention that was known or expected to improve health. Two studies used anchor-based approaches with effect sizes for quantifying responsiveness. In the first, a disabled population completed global ratings of change in the form of health transition items at 4.5 months follow-up, and standardized response

means (SRMs) of 0.62 and  $-0.35$  were found for respondents reporting improvements and deteriorations in health, respectively (Macduff & Russell, 1998).

In the second, patients with ankylosing spondylitis (AS) completed the PGI, four disease-specific measures – AS Quality of Life (ASQoL) questionnaire, Bath AS Disease Activity Index (BASDAI), Revised Leeds Disability Questionnaire (RLDQ), and Body Chart – and two generic measures, EuroQoL EQ-5D and SF-12 (Haywood et al., 2003). At 6 months, patients were randomized to blind and informed and open completion of the PGI and completed AS-specific and general health transition items. Modified SRMs in the range of 0.05–0.50 were found for the blind format of the PGI in patients reporting their AS and health as worse or improved. For patients reporting their AS as improved, higher SRMs of 0.62 were found for the BASDAI and the SF-12 physical and mental component summary scores (0.65–0.67). In patients reporting their AS as worse, higher SRMs were found for all measures but the EuroQoL EQ-5D. These measures were generally more responsive than the PGI in relation to the two categories of change in general health.

Modified SRMs in the range of  $-0.78$  to 1 were found for the informed and open format of the PGI in patients reporting their AS and general health as worse or better. For patients reporting their AS as improved, higher SRMs were found for the BASDAI, the SF-12 physical component summary scores, and the EuroQoL EQ-5D (0.55–0.76). For patients reporting their AS as worse, higher SRMs were found for three of the disease-specific measures – ASQoL, BASDAI, and RLDQ (0.64–0.76) – and the EuroQoL EQ-5D and SF-12 mental component summary scores (1.02–1.23). With the exception of the Body Chart and RLDQ, the other measures were generally more responsive in relation to the two categories of change in general health (Haywood et al., 2003).

Two studies included in the review assessed responsiveness following an intervention. The first included patients with obstructive sleep apnea who received continuous airways therapy

and completed the PGI, EuroQoL EQ-5D, and SF-36 (Jenkinson, Stradling, & Petersen, 1998). The PGI was found to be the most responsive with an effect size of 1.33. Effect sizes for the remainder of the measures ranged from 0.23 to 0.80 for the EQ-5D and SF-36 physical component summary scores, respectively. The second study included patients with colorectal cancer undergoing surgery completing the PGI, two European Organization for Research and Treatment of Cancer (EORTC) Quality of Life questionnaires – the cancer-specific QLQ-C30 and colorectal cancer-specific QLQ-CR38 – and SF-36 (Camilleri-Brennan et al., 2002). The SRM for the PGI was 0.59 which was higher than those for the SF-36 and EORTC QLQ-C30 measures (0.04–0.44); only the QLQ-CR38 micturition problem item had a higher SRM of 0.61.

Two further studies have since assessed the responsiveness of the PGI using an anchor-based approach. The first included patients with heart failure who completed the PGI, Chronic Heart Failure Questionnaire, Minnesota Living with Heart Failure Questionnaire, and SF-12 together with a quality of life transition item at 1 week and 3 months follow-up (Witham et al., 2007). The PGI had an effect size of 0.08 and 0.48 in patients reporting an improvement and deterioration on the transition question compared to effect sizes in the ranges of 0.13–0.44 and 0.03–0.14 for the other measures in these groups, respectively.

The second study include older day hospital patients who completed the PGI, Barthel Index, Functional Limitations Profile (FLP), and Hospital Anxiety and Depression Scales (HADS) together with two quality of life transition items at 1 week follow-up (Witham et al., 2008). The PGI had effect sizes of 0.11 and 0.02 for patients who improved and 0.23 and 0.27 for patients who had worsened. Effect sizes for the remainder of the measures ranged from 0.04 to 0.28 and from 0.02 to 0.58 for the same groups of patients, respectively. The PGI was relatively more responsive in the group of patients that had worse quality of life at 1 week and had the highest level of responsiveness in relation to one of the transition items in this group (Witham et al., 2008).

## Discussion

The PGI is an individualized measure with a 20-year history of development and evaluation. The measure is easily adaptable to different groups of respondents and has been evaluated in several groups of respondents including different health problems, carers, and mothers (Martin et al., 2007). It can be self-administered and hence can be used alongside the majority of existing generic and disease-specific PROs. Much of this work has focused on psychometric criteria including a systematic review, which concluded that the instrument has good evidence for reliability, validity, and responsiveness although the results are not consistent across all groups of respondents (Martin et al. 2007).

Criteria relating to acceptability and data quality are also of particular relevance to measures that have a higher respondent burden compared to standardized measures based on summated rating scales. Completion rates suggest that the inclusion of the PGI within a package of measures does not affect response rates. The response rates for self-administered questionnaire surveys that have used the PGI alongside standardized instruments are within the ranges found for those that have used standardized instruments alone (Ruta et al., 1994, 1999; Haywood et al., 2003). Higher completion rates have been found for more recent versions of the PGI with simplified stages two and three and 87.5 % of respondents completed the PGI correctly in a study that also included several measures based on summated rating scales (Haywood et al., 2003). The version of the PGI which uses a 0–10 point scale in stage two has undergone more extensive evaluation for reliability, validity, and responsiveness than the original version (Martin et al., 2007).

There are several versions of the PGI which make interpretation of the evidence difficult. However, there is some evidence that more recent versions with simplified stages two and three have resulted in improvements in evidence for data quality, reliability, validity, and responsiveness. The application of a version with a seven-point scale in stage two and use of ten points in stage three is recommended for future applications of the PGI.

## Cross-References

- ▶ [Effect Size](#)
- ▶ [Sensitivity to Change](#)
- ▶ [SF-36](#)
- ▶ [Test-Retest Reliability](#)

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## Patient Participation

- ▶ [Decision Making](#)

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## Patient Satisfaction

- ▶ [Medical Care, Satisfaction with](#)

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## Patient's Role in Medical Treatment

- ▶ [Decision Making](#)

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## Patient-Physician Collaboration

- ▶ [Decision Making](#)

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## Patient-Physician Communication

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### Synonyms

[Clinician-patient communication](#); [Doctor-patient communication](#); [Patient-provider communication](#)

### Definition

Patient-physician communication is a dyadic interaction aimed at exchanging information on the patient's health conditions and at reaching agreement on decisions concerning preventive behaviors, treatment, and care.

### Description

Pointing to the limitations of the biomedical model of medicine, focused on symptoms and physical impairments, Engel (1977) claimed for the necessity of a bio-psycho-social model, centered on the patient as a person with a specific cultural background and with a subjective interpretation and experience of health and disease. Most researchers presently agree that health is a multidimensional construct including physical, social, and psychological dimensions. However, the dominant model in health care is still biomedical (Kuehn, 2012). Health professionals are trained to focus on the physical components of disease, overlooking their psychosocial consequences and the exquisitely interpersonal dimension of their own job.

In the last decade, empirical evidence was gathered about the impact of physician-patient communication on bio-psycho-social health outcomes (Mead, Boewr, & Hann, 2002). Physicians who show empathy and attention to their patients'

experience and perceived quality of life are ultimately more effective in getting patients' adherence to prescriptions aimed at both prevention and treatment and across healthcare settings (Di Caccavo, Ley, & Reid, 2000; Nguyen Thi et al., 2002).

The concept of patient-centeredness is however not clearly defined yet (Hall & Roter, 2011). It rather represents a broad construct including various aspects of the physician-patient relationship. Mead and Bower (2000) proposed to distinguish some major components in it: the endorsement of a bio-psycho-social approach; the involvement of both the patient and the doctor as two persons, with their own values, feelings, ► [knowledge](#), and beliefs concerning health and disease; their commitment to share power and responsibility in making decisions on treatment strategies; the development of a long-term therapeutic alliance between patient and physician.

The adoption of a patient-centered model has several consequences for the physician communication style. It implies attention to the patient's perceptions and interpretation of symptoms; clarity and completeness in conveying exhaustive information through a language and communication style tailored on patient's sociocultural background; respect and consideration for patient values and preferences in the evaluation and selection of treatment options; promotion of patient ► [empowerment](#) and mobilization of psychological resources that can be useful to effectively cope with the situation; readiness in providing comfort, security, and emotional support.

Several instruments and procedures have been developed to assess patterns and features of the physician-patient communication. Results are encouraging, even though empirical evidence is still fragmented and findings are not always consistent with each other (Jackson, Chamberlin, & Kroenke, 2001; Kenny et al., 2010; Roter & Larson, 2002). This heterogeneity can be partially related to variations in crucial characteristics of the samples selected for the studies, such as gender, SES, and cultural backgrounds of patient and

physician; specificity of care settings; typology of disease considered. Although the research field is still in its early stages of development, some communication models already proved to be effective, and practical intervention guidelines were derived from them, such as the SPIKES protocol in ► [oncology](#) (Baile et al., 2000). Recently, Street and his colleagues (2009) tried to summarize the communication dimensions that can prominently influence health outcomes, highlighting the necessity to empirically identify direct and indirect pathways through which communication can promote healing, well-being, and ► [quality of life](#). To this purpose, seven possible avenues of exploration and implementation were outlined, comprising the psychological and interactional dimensions of the patient-centered model, as well as aspects pertaining to society and medical education, such as an increased access to care, the promotion of higher quality in medical decisions, and an increased social support to patients.

## Cross-References

- [Decision Making](#)
- [Empowerment](#)
- [Oncology](#)

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## Patient-Provider Communication

- ▶ [Patient-Physician Communication](#)

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## Patient-Reported Outcome Measure

- ▶ [Condition-Specific Measure](#)
- ▶ [Disease-Specific Questionnaire](#)

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## Patriotism Measurement

- ▶ [Measuring National Identity](#)

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## Pay Equity

- ▶ [Comparable Worth](#)

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## PDQ-39

- ▶ [Parkinson's Disease Questionnaire \(PDQ-39\)](#)

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## PDQ-39SI

- ▶ [Parkinson's Disease Questionnaire \(PDQ-39\)](#)

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## PDQ-8

- ▶ [Parkinson's Disease Questionnaire \(PDQ-39\)](#)

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## PDQ-8SI

- ▶ [Parkinson's Disease Questionnaire \(PDQ-39\)](#)

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## PDUREL

- ▶ [Duke Religious Index in Portuguese](#)

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## PEA

- ▶ [Personal Existential Analysis Method](#)

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## Peace and Development

- ▶ [Global Peace Index](#)

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## Peace and Progress

- ▶ [Global Peace Index](#)

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## Peace and Well-Being

► [Global Peace Index](#)

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## Peace Assessment

► [Global Peace Index](#)

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## Peace Measurement

► [Global Peace Index](#)

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## Peace of Mind

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### Synonyms

[Inner peace](#); [Quietude](#); [Serenity](#); [Tranquility](#)

### Definition

An intrapersonal state of being where there is absence of agitation or hostility and the person experiences a harmonious and calm mode of functioning.

### Description

Etymologically, the word peace is derived from Latin *pax* which means “freedom from disorder.” The English “peace” was a translation of Hebrew word *shalom*. It was used in personal greetings from c. 1300. Its equivalents in Arabic and

Sanskrit are *Salam* and *Shanti*. They connote welfare and synergic coexistence. The peace of mind implies harmony in thoughts, emotions, and motives.

Peace is held in high esteem as an ideal in most of the religious and cultural traditions. A variety of practices of prayer and meditation are in vogue to attain peace. In the Vedic period, it stood for a lifestyle based on the principles of respect and goodwill for the entire creation. The Vedic rituals even today start with invocations for peace (*Shanti* path) and conclude with that. The Buddhist view is that peace comes after the end of suffering. Jesus of Nazareth is known as “Prince of Peace,” and the Messiah Christ established a kingdom of peace. The word Muslim refers to a person who submits to Allah in peace.

The Hindu philosophy holds many perspectives. According to one of the prominent views proposed in the *Bhagawadgēeta* the cravings and desires for the objects in the external world continuously influence the mind. As a result, the mind becomes restless, turbulent, and obstinate (see Chinmayanand, 1992 *Bhagawadgēeta*, Chap. 6, Verses 34–35). Due to ignorance, a person identifies with the external objects and forgets its true nature. If mind is not properly regulated, one cannot experience peace, and without peace, happiness is impossible (*Bhagawadgēeta*, Chap. 2. Verse 66). Since undisciplined mind makes life out of control, it is recommended that humans should strive to regulate it and assume ownership of their lives. The state of peace is rightly treated as a prerequisite for flourishing at societal level and for subjective well-being at the individual level (Diener & Tov, 2007).

In the course of everyday life, the peace of mind is constantly challenged by the ever-changing emotions and moods aroused by sensory and imagined stimuli. They are very engaging, and people often get attached to them. The processes of adaptation, social comparison, and increase in choices accentuate the conflict and make people perpetually dissatisfied. This substitution of ends by means causes afflictions, hatred,

craving, pride, and envy. Under these conditions, mental agitation becomes a major threat to peace of mind and well-being. People vigorously pursue the goal of increasing comfort, status, and wealth which disturbs the peace of mind and renders life into an unending series of disappointments. After some time, the strivings for pleasure, money, and power as means of happiness become goals in themselves. These have toxic effects on mind and make people lead unauthentic life and become increasingly vulnerable to suffering and pain (Ekman, Davidson, Ricard, & Wallace, 2005; Misra, 2011; Misra & Sharad, 2011). The conditioning of mind by the external stimuli is so powerful that people fail to decipher and rely on the misunderstood forms of reality.

The materialist and consumerist mind set of the affluent and prevailing ideology of individualism foster the tendency to possess and legitimize greed as a pertinent policy. This goes against the demands of sustainable lifestyle and eudaimonic view of wellness. There is growing evidence that the consumerist beliefs and extrinsic goals are positively related to suffering, unpleasant emotions, and use of drugs. They go against healthy, compassionate interactions and diminish healthy and positive relationships. In contrast, the intrinsic goals are positively related to the broader concerns of ecology. In the long run, self-centeredness proves to be a major source of discontent leading to disappointment.

An analysis of existential condition makes it clear that human beings have limited control over the happenings in their life world. Also, these happenings are transitory and deceptive. However, with all the strengths and weaknesses, humans have potential to grow and become free from mental states causing suffering. To this end, mind regulation is proposed. The most comprehensive system of this kind is Yoga. It was systematized by sage Patanjali in a treatise entitled *Yoga Sutras* sometime between 500 and 200 B.C. According to this system, the fluctuations, modifications, and modulations of thought disturb the consciousness. The main causes of disturbance are afflictions (*Kleshas*). They include

lack of understanding (*Avidya*), egoism (*Asmita*), attachment (*Raga*), aversion (*Dvesa*), and clinging to life (*Abhinivesha*). To this end, practice (*Abhyasa*) of Yoga and renunciation (*Vairaya*) are recommended. Patanjali has identified eight limbs of yoga: ethical discipline leading to self-restraint (*Yama*, i.e., nonviolence, truthfulness, non-stealing, continence, being without possessions), internal ethical observances (*Niyam*, i.e., purity, contentment, burning desire, study, surrender to god), poses (*Asanas*), breath control (*Pranayama*), sensory control and withdrawal (*Pratyahara*), concentration (*Dharana*), meditation (*Dhyana*), and blissful absorption (*Samadhi*) (see Iyengar, 1993). The practitioners of yoga become free of negativity and develop positive thoughts. Such practices emphasize on the control of thoughts, simplification of life, care of others, and dedication for peace.

Peace of mind is in no way an inert state. Instead, it characterizes a state of being when a person is mentally at harmony and has apt grasp of reality. It is a choice deliberately opted by a person. Such a person remains unperturbed amidst the stresses and strains of life. It is often linked to the experiences of bliss, happiness, contentment, and an evolved state of consciousness. It can be cultivated by the practices of mind training including Yoga, Tai-Chi-Chuan, Qigong, Vipassana, transcendental meditation, creative meditation, and devotion (*Bhakti*) to a Supreme Being (*Adishwaranand*, 2003; Kiran Kumar, 2002). They are claimed to bring the experience of deep peace, serenity, and calmness, to build self-awareness and promote the positive qualities of love, joy, peace, empathy, forgiveness, humility, compassion, and fearlessness (Dambrun & Ricard, 2011; Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Lutz, Greischar, Rawlings, Ricard, & Davidson, 2004; Rao, 2011). Many of these practices emphasize the development of mindfulness or a kind of witness (*Sakshi*) consciousness. The person is encouraged to become a detached observer and to have equanimity leading to self-transcendence. These practices also

create a focus on the present moment. The studies with meditators show that meditation leads to emotional balance, positive affect, and increased gamma waves and theta activity in frontal and parietal regions (Baijal & Srinivasan, 2010; Cahn & Polich, 2006; Wallace & Shapiro, 2006). The evidence strongly suggests the possibility of neuroplasticity.

So far, the issues related to peace of mind have been on the margin of the disciplinary discourse. The dominant objectivist, reductionist, and decontextualized models of human functioning looked upon it as esoteric and therefore obscure. The growing realization of the limits of economic development and awareness of global issues like climate change and increasing interdependence are paving way for serious study of the subjectivities. The meaning of good life and sustainable development is currently being redefined. It is becoming clear that happiness is not incessant chain of pleasurable experiences but an optimal way of being in which altruistic love and compassion matter and one is capable to grow amidst positive and negative happenings in life. Inner peace and contribution to others' well-being is possible by adopting a sense of equanimity. It brings mental balance and insight into the true nature of reality. Future research needs to address subjectivities and understand the dynamic nature of the optimal way(s) of being. We also need to develop evidence-based strategies for cultivating the conditions of inner peace and enhancing benevolence, altruistic love, and compassion that are central to enduring happiness.

## Cross-References

- ▶ [Adaptation](#)
- ▶ [Affluence, Stress, and Well-Being](#)
- ▶ [Consumption](#)
- ▶ [Eudaimonic Well-Being](#)
- ▶ [Harmony](#)
- ▶ [Intrinsic and Extrinsic Values](#)
- ▶ [Meditation](#)
- ▶ [Need Theory](#)
- ▶ [Pleasure, Engagement, Meaning, and Happiness](#)

- ▶ [Wellness](#)
- ▶ [Wisdom](#)
- ▶ [Yoga and the Quality of Life](#)

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## Peak Experiences vs. Everyday Feelings

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### Synonyms

Mystical experience; State of highest happiness; Transcendental experience

### Definition

Peak experiences are multifaceted transcendental and ecstatic states of extreme happiness, fulfillment, and loss of self in a mystical and transpersonal dimension. They represent crucial components of healthy human functioning which characterize self-actualizing individuals.

### Description

#### Historical Roots

Peak experiences were first described by Abraham H. Maslow (1968, 1970), a prominent founder of humanistic psychology. In his attempt to provide a broader vision of the human being, he paved a “third way” between behaviorism and psychoanalysis and heralded the advent of ► [positive psychology](#) by focusing on human resources and potentials as constituents of healthy human functioning. Maslow maintained that individuals have a strong desire to realize their full potential and to reach ► [self-actualization](#), that is, a state of ► [harmony](#), understanding, and accomplishment, at the top of the human hierarchy of needs. Self-actualized persons are thriving individuals who frequently report peak experiences as moments of intense meaning and joy in their everyday lives.

Compared to everyday feelings, peak experiences stand out as the most extraordinary and wonderful experiences in people’s lives. Through in-depth interviews with self-actualized individuals and university students, and after examining similar experiences in the literature on mysticism, ► [religion](#), arts, creativity, and ► [love](#), Maslow (1968) identified specific characteristics of peak experiences representing a “perfect composite syndrome” or a manner of thought he called Being-cognition—as opposed to Deficiency-cognition which is based on the fulfillment of deficient needs and on the interpretation of the world in terms of means instrumental to personal goals.

More specifically, peak experiences are characterized by a sense of unity, wholeness, and interconnectedness as well as by complete detachment from relations and possible material usefulness. They are felt as being an end in themselves, carrying their own intrinsic value. In such states, attention is completely absorbed, and cognition is non-judging or non-evaluating. Perception can be relatively ego-transcending, self-forgetful, and egoless. The person experiences the world as if it were independent of both self and other human beings in general. She/he further possesses the ability to fuse concreteness and abstractness. A disorientation between time and space is often reported, with people becoming oblivious of their surroundings and the passing of time. Such experience is always good and desirable and becomes richer through repetition. It allows individuals to fulfill the Being-values of wholeness, perfection, completion, justice, aliveness, richness, simplicity, beauty, goodness, uniqueness, effortlessness, playfulness, truth, and self-sufficiency, which are related to universal and not to personal/selfish interests. From this perspective, peak experiences transcend phenomonic contingency, as perceptions of reality independent of human beings and persisting beyond their life. Indeed, Being-cognition is much more receptive than active, similarly to the passive cognition of Eastern philosophies. Particularly, as in the mystical experiences described by William James (1902), the emotional reaction in peak experiences has

a special flavor of wonder, awe, reverence, humility, and surrender before something great. There is a complete though momentary loss of fear, ► [anxiety](#), inhibition, defense and control, a giving up of renunciation, delay, and restraint. Dichotomies, polarities, and conflicts are fused, transcended, or resolved. The person is godlike in the complete, loving, un-condemning, compassionate and perhaps amused acceptance of the world and of the person. His/her perception is highly unclassified, and as the Being of the world is perceived, the person comes closer to his/her own Being.

Maslow (1968) further stated that peak experiences are spontaneous in all people's lives. They can take place any time, even if they most frequently occur in self-actualized individuals and in relation to meaningful events, such as ► [meditation](#), exposure to art or music, beauty of nature, or intense love. Additionally, peak experiences bring about positive consequences. They have therapeutic effects in that they can give individuals a healthier view of themselves and change their views of other people and of the world. They give a sense of purpose, a feeling of ► [integration](#), and unity with the world. They can release creativity, spontaneity, and expressiveness and make life in general more worthwhile.

### Subsequent Research

In the wake of Maslow's pioneering work (1970), peak experiences have become part of humanistic psychotherapies (Schneider & Leitner, 2002) and subject of researchers' investigation in the following three main areas:

1. Development of assessment instruments. Following Maslow, most researchers adopted a qualitative approach to the analysis of peak experiences. Through in-depth interviews, individuals are asked to describe the most wonderful or joyful experience of their lives, how they felt, and if and how it affected their lives (Hoffman, Iversen, & Ortiz, 2010; Hoffman & Muramoto, 2007; Ho, Chen, & Hoffman, 2011). In addition, two self-report scaled questionnaires were developed to tap the various components of peak experiences:

the Peak Scale consisting of 70 true-false items (Mathes, Zevon, Roter, & Joerger, 1982) and the Experience Questionnaire consisting of 42 5-point Likert-type items and five scaled descriptions of peak experience (Privette, 1984).

2. Identification of core aspects of peak experiences across individuals and cultures. Research was conducted with various groups of individuals, differing in age, profession, and cultural background. Major findings pointed to the universality of peak experiences among adults, with some authors stressing the predominance of the transcendent and mystical components of the experience (Christopher, Manaster, Campbell, & Weinfeld, 2002; Mathes et al., 1982), and its correlations with ► [communitarianism](#) and empathy (Christopher et al., 2002), and others emphasizing the affective and emotional characteristics of intense ► [happiness](#) (Hoffman & Muramoto; Privette, 1983). Findings also showed that activities and situations that trigger peak experiences are affected by cultural ► [values](#). Adults in the USA referred to interpersonal relations, contemplation of nature, and daily activities, while members of collectivistic cultures put more emphasis on socially focused situations and group cohesion (Yeagle, Privette, & Dunham, 1989). Data collected in Brazil, China, Japan, Norway, and the United States showed that peak experiences also exist among children below the age of 14 (Hoffman et al; Hoffman & Muramoto; Ho et al., 2011), mostly related to encounters with nature and interpersonal joy.
3. Peak experience vs. other constructs. The multicomponential nature of peak experience has generated some problems in researchers' attempt to distinguish it from other experiential constructs. For example, ► [flow](#) or optimal experience has been misrepresented as a peak experience (Bakker, 2005), even if findings identified several differences between these two states (for a review, Delle Fave, Massimini, & Bassi, 2011). In particular, optimal experience is

not an extreme or transcendental condition, being rather characterized by a complex and positive balance between emotional, cognitive, and motivational dimensions. Moreover, flow is mainly characterized by concentration and involvement rather than by happiness and joy. Participants do not report loss of self-awareness in an ecstatic dimension. Rather, they perceive engagement and control of the situation. Optimal experience is not prominently associated with leisure activities or recreational tasks, as assumed by Privette and Bundrick (1991). Instead, any activity can be associated with flow as long as it fosters agency, engagement, and autonomous action toward meeting challenges and pursuing goals. Moreover, flow is not characterized by passive immersion in an uncontrollable condition of transcendence. Absorption in the ongoing task and merging of action and awareness are reported, but they are supported by active engagement and intentionality. Finally, although peak experience and optimal experience are spontaneously occurring events, the former arises in unpredictable situations and moments, whereas the individual has to engage in an activity—be it intellectual or physical—in order for optimal experiences to occur.

Comparisons can also be drawn between peak experience and the experience of meditation. Meditation practices can be broadly grouped in the two categories of concentrative meditation and ► [mindfulness](#) meditation (Goleman, 1988). In the Indian tradition, these practices represent pathways to attain liberation from the web of human conditionings and passions, which prevents individuals to attain the supreme state of bliss and freedom from contingent constraints and worldly pursuits (Kuppuswami, 1985). The practice of meditation is based on well-defined rules and implies discipline and perseverance in the face of laziness and loss of motivation. It cannot be considered desirable per se; rather it represents a powerful instrument to progressively attain a detached, stable, and equanimous attitude toward the mutable world of events and

interactions. The state of bliss attained through meditation practices shares some features with peak experience; however, it does not arise occasionally, but it derives from constant discipline; it endorses specific cultural and symbolic meanings; it leads to a stable and superior level of psychological development that could possibly characterize the truly self-actualized individuals. However, no empirical evidence is yet available on this topic.

### Future Directions

Considering the great appeal of peak experiences in fostering individuals' optimal functioning, much still needs to be done to fully understand this condition. Most research on the topic was carried out during the 1970s and 1980s, with current studies primarily focusing on childhood experiences. The multifaceted character of peak experiences calls for a better understanding of its core aspects and for the development of rigorous assessment methods with sound discriminant validity. Future research should tackle fundamental questions such as distinguishing between peak experiences and peak emotions, whether peak experiences only differ in intensity from positive everyday feelings, and whether extreme affectivity is a crucial component of peak experiences across cultures. The analogies and differences between peak experiences and the blissful states arising through meditation should also be explored more systematically.

### Cross-References

- [Anxiety](#)
- [Basic Needs](#)
- [Capability, Functioning, and Resources](#)
- [Collectivism](#)
- [Communitarianism](#)
- [Fears](#)
- [Flow](#)
- [Happiness](#)
- [Harmony](#)
- [Love](#)
- [Meaning in Life](#)

- ▶ [Meditation](#)
- ▶ [Mindfulness](#)
- ▶ [Music](#)
- ▶ [Nature and Well-Being](#)
- ▶ [Positive Psychology](#)
- ▶ [Religion/Spiritual Fulfillment, Satisfaction with](#)
- ▶ [Self-Actualization](#)
- ▶ [Social Integration](#)
- ▶ [Values](#)

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## Peak of the Distribution

- ▶ [Mode, Central Tendency of Distribution](#)

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## Pearson Product Moment Correlation

- ▶ [Zero-Order Relationships](#)

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## Pedestrian Environment

- ▶ [Walkability](#)

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## Pediatric Chronic Conditions

- ▶ [Childhood Diseases and Disabilities](#)

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## Pediatric Quality of Life Inventory

- ▶ [Pediatric Quality of Life Inventory™ 4.0](#)

## Pediatric Quality of Life Inventory™ 4.0

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### Synonyms

Pediatric quality of life inventory; PedsQL;  
PedsQL™

### Definition

The Pediatric Quality of Life Inventory or PedsQL is a measure of childhood health-related quality of life (HRQoL). The measure can be used with healthy children and adolescents as well as those with acute or chronic ► [health conditions](#). The PedsQL™ measurement model integrates both generic and disease-specific modules into one system.

### Description

The development and use of health-related quality of life (HRQoL) measurement in pediatric healthcare is still at an early stage when compared to the adult field (De Civita et al., 2005); however, there has been an exponential increase over the past 20 years in the number of measures available for use with children. As it is not appropriate to apply measures of HRQoL developed for adults to a pediatric population, it is essential that child-centered measures designed specifically to assess the issues of most relevance to children are used when assessing child HRQoL.

One of the most comprehensive measurement models for children is the PedsQL™ (Varni, Seid, & Kurtin, 2001). Advantages of the PedsQL™ include brevity and availability of age-appropriate versions and parallel forms for child and parent. The measure is also very

flexible, having been designed for use with a range of respondents, including community, school, and clinical pediatric populations. Thus as well as being used for research in clinical populations, the PedsQL™ Generic Core Scales are also used in several school districts within the USA as a way of monitoring the health of large populations of children. Furthermore, the measure complies with the requirement that HRQoL instruments be multidimensional, consisting at the *minimum* of the physical, mental, and social health dimensions delineated by the World Health Organization (WHO, 1948).

PedsQL™ integrates generic core and disease-specific modules into one measurement system. PedsQL™ 1.0 (Varni et al., 2002) was described as a generic instrument. This was developed from a sample of children with cancer but designed for use as a non-categorical instrument. Subsequent publications have reported a range of refinements to the generic measure. c 2.0 and 3.0 included additional constructs and items, a more sensitive rating scale and a broader age range. PedsQL™ 4.0 included further core dimensions to match those described by the WHO.

The PedsQL™ 4.0 has been found to have excellent psychometric properties. Good internal ► [reliability](#) (Total Scale score: 0.88 child self-report; 0.90 parent proxy report) has been established, and the ► [construct validity](#) of the measure has also been confirmed; using the known groups approach, studies have demonstrated that both parent and child reports distinguish between healthy children and children with acute and chronic health conditions, as well as distinguishing disease severity within a chronic health condition. The generic core scale has also been found to be responsive to clinical changes in health conditions over time (Varni, Seid, & Kurtin, 2001).

As well as having sound psychometric properties, the PedsQL Generic Core Scales are practical and easy to administer. The brevity of the instrument (23 items) means that it takes less than 5 min to complete. The PedsQL™ 4.0 generic core module includes parallel child self-reports (age range 5–18 years) and

parent/carer proxy reports (age range 2–18 years). Separate versions of the proxy report are available for ages 2–4, 5–7, 8–12, and 13–18 years, while for the self-report version are for ages 5–7, 8–12, and 13–18 years. Items on child and parent forms are virtually identical, differing only in developmentally appropriate language and first- or third-person tense. Instructions ask how much of a problem each item has been during the past month and responses are made on a five-point scale ranging from 0 (never a problem) to 4 (always a problem). The 23 items that make up the generic core module contribute to four subscales: physical functioning (8 items), emotional functioning (5 items), social functioning (5 items), and school functioning (5 items). Based on subsequent ► [factor analysis](#), Varni et al. (2001) reported evidence for a distinctive Physical Health Summary Scale (8 items) while the remaining subscales could be more parsimoniously viewed as a single Psychosocial Health Summary Scale (15 items). A Total Scale score can also be calculated (23 items). Full scoring instructions are available from the PedsQL™ website (<http://www.pedsq.org/score.html>). While both parent and child measures are designed to be self-completed, they can also be administered as an interview if necessary. Comprehensive instructions concerning the administration of the measure both as an interview or self-report measure can be found on the website (<http://www.pedsq.org/pedsqadmin.html>).

A number of condition-specific modules are also available, including cancer (Varni, Burwinkle, Katz et al., 2002), ► [asthma](#) (Varni, Burwinkle, Rapoff, Kamps, & Olson, 2004), diabetes (Varni et al., 2003), rheumatology (Varni et al., 2002), and cerebral palsy (Varni et al., 2005). These condition-specific modules were developed to complement the Generic Core Scales when used in the relevant clinical populations. More condition-specific modules are currently in development. The specificity of the questions in these modules means that they provide greater measurement sensitivity for particular populations. In this way, the PedsQL™

measurement model is able to combine the advantages of generic measurement (e.g., the comparisons of HRQoL across medical conditions and between those with a chronic health problem and those without) with those of disease-specific measures.

The success of the PedsQL™ measurement model is clearly demonstrated by the wide international application of the measure. PedsQL™ has been used in 60 different countries and translated into at least as many languages (and dialects) including Belgium, French, German, Spanish, and Mandarin (a full list of available translations can be found at <http://www.pedsq.org/translations.html>). Furthermore, a recent review of the literature identified PedsQL™ as the most commonly employed measure of child HRQoL in studies measuring both child and parent perspective; PedsQL™ was the measure of choice in 84 % of studies reviewed (Upton et al., 2008).

## Cross-References

- [Child Health and Development](#)
- [Health-Related Quality of Life Questionnaire Readability](#)

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## PedsQL

- ▶ [Pediatric Quality of Life Inventory™ 4.0](#)

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## PedsQL 4.0 Generic Core Scales Are for Ages 2–18 Years

- ▶ [PedsQL™ Applied to Healthy and Ill Infants](#)

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## PedsQL™

- ▶ [Pediatric Quality of Life Inventory™ 4.0](#)

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## PedsQL™ = Pediatric Quality of Life Inventory™

- ▶ [PedsQL™ Applied to Healthy and Ill Infants](#)

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## PedsQL™ Applied to Healthy and Ill Infants

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### Synonyms

[PedsQL™ = Pediatric Quality of Life Inventory™](#); [PedsQL™ Multidimensional Model](#); [PedsQL™ Infant Scales for Ages 1–24 months](#); [PedsQL 4.0 Generic Core Scales are for Ages 2–18 Years](#)

### Definition

A health-related quality of life (HRQOL) instrument should be multidimensional, consisting at the minimum of the physical, psychological (including emotional and cognitive), and ▶ [social health](#) dimensions delineated by the World Health Organization (FDA, 2009; World Health Organization, 1948). A generic HRQOL instrument enables comparisons across diverse pediatric populations, including chronic health conditions, as well as benchmarking with healthy populations (Patrick & Deyoo, 1989; Varni, Seid, & Rode, 1999). There has been a significant increase in the development and utilization of pediatric HRQOL measures in an effort to improve patient health and well-being and to determine the value of healthcare services (Matza, Swensen, Flood, Secnik, & Leidy, 2004; Palermo et al., 2008; Varni, Burwinkle, & Lane, 2005).

## Description

The PedsQL™ (Pediatric Quality of Life Inventory™) Infant Scales are generic HRQOL instruments developed specifically for infants ages 1–12 months and 13–24 months (Varni et al., 2011). They were developed following the theoretical framework that generic HRQOL is a multidimensional construct, consisting at the minimum of the physical, psychological (including emotional and cognitive), and social health dimensions delineated by the World Health Organization (FDA, 2009; World Health Organization 1948). This theoretical framework was the guiding principle for development of the PedsQL™ Infant Scales and the widely used the PedsQL Generic Core Scales are for ages 2–18 Years. (Varni, Seid, & Kurtin, 2001).

The new PedsQL™ Infant Scales were field tested in a study to determine the initial feasibility, ► **internal consistency reliability**, and validity of the PedsQL™ Infant Scales in healthy, acutely ill, and chronically ill infants.

The 36-item (ages 1–12 months) and 45-item (ages 13–24 months) PedsQL™ Infant Scales (physical functioning, physical symptoms, emotional functioning, social functioning, cognitive functioning) were completed by 683 parents of healthy, acutely ill, and chronically ill infants.

The PedsQL™ Infant Scales evidenced minimal missing responses, achieved excellent internal consistency reliability for the total scale scores ( $\alpha = 0.92$ ), distinguished between healthy infants and acutely and chronically ill infants, and demonstrated a confirmatory factor structure largely consistent with the a priori conceptual model.

## Discussion

The findings indicate that the PedsQL™ Infant Scales may be utilized in the evaluation of generic HRQOL in healthy, acutely ill, and chronically ill infants ages 1–24 months. The PedsQL™ Infant Scales differentiated generic HRQOL in healthy infants as a group in

comparison to infants with chronic illnesses as a group with large effect sizes and, to a lesser extent, to infants with acute illnesses.

The PedsQL™ Infant Scales make a significant contribution to the literature by creating a multidimensional instrument that can be integrated into the existing PedsQL™ Measurement Model, thus allowing generic HRQOL to be tracked from ages 1 month to 18 years utilizing similar constructs across the age groups, in particular, physical, emotional, social, and cognitive/school functioning (Varni & Limbers, 2009).

The PedsQL™ is available at <http://www.pedsq.org>.

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## PedsQL™ Infant Scales for Ages 1–24 Months

► [PedsQL™ Applied to Healthy and Ill Infants](#)

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## PedsQL™ Multidimensional Model

► [PedsQL™ Applied to Healthy and Ill Infants](#)

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## Peer Group Comparisons

► [Relative Income and Reference Group Behavior](#)

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## Peer Influence(s)

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## Synonyms

[Peer socialization effects](#)

## Definition

Process by which peers affect one another's attitudes and behaviors over time.

## Description

### Historical Approaches to Studying Peer Influence

Early socialization theories suggested that parents operated as the primary socialization agents of children and gave little consideration to peer influence. Beginning in the 1930s, Piaget (1965) speculated that peer influence might operate as a positive influence on children's moral behavior. Piaget suggested that there are two moralities for children. One of the moralities, "constraint," is based on rules enforced by parents and other adults and on "unilateral respect." It "remains external to the child's spirit and does not lead to as effective an obedience as the adult would wish" (pp. 362). The second morality is defined through children's interactions with their peers or peer influence. Piaget (1965) suggested that this form of influence in the domain of morality is more effective than the first type of morality. He stated, "Rules due to mutual agreement and cooperation, on the contrary, take root inside the child's mind and result in effective observance in the measure in which they are incorporated in an autonomous will" (Piaget, 1965, pp. 362). Piaget argued that the socialization of cooperation requires a joint construction of the meaning of the situation between two children and that this is most likely to occur within the context of peer interactions as peers influenced one another (Piaget, 1965). Similar to Piaget, Sullivan (1953) suggested that both parents and peers operate to socialize children with peers exerting a positive influence on children's development. Later, Youniss (1980) suggested that the Sullivan-Piaget thesis postulates that children socialize or influence one another. "In cooperative socialization both the child and the other person are agents and recipients of instruction. The meanings both bring to an event are potentially equally valid. When one expresses meaning, the other may do the same. Neither is free to step outside the interaction and call upon an external system as the final arbiter. Both have to contend with one another's meaning and both are obliged to stay within the interaction to settle the matter" (pp. 7). In this early work on

peer influence, the emphasis was on the positive influence that peers might have on children's development. More recently, researchers have focused on the negative influence that peers might have on children's development (Brown et al., 2008) including ► [adolescent problem behavior](#), ► [adolescent substance use](#), depression, sexual risk behavior, and thoughts of suicide. To a more limited extent, some current researchers recognize that peers can have a positive influence on children such that our notion of a "well-socialized person" is someone who is influenced by peer group norms, attitudes, and behaviors (Allen & Antonishak, 2008). Research on positive peer influence has focused on academic achievement, ► [altruism](#), ► [health behavior](#), ► [prosocial behavior](#), and ► [volunteering](#).

### Peer Selection Versus Peer Socialization

In examining peer influence processes, research differentiates between peer homophily (or similarity) due to peer selection effects and peer homophily due to peer socialization (or influence effects). Research suggests that there are several ways in which peers might become similar to one another. Peers might be similar because they select one another based on characteristics such as participation in similar activities or interests. In the case of peer selection, influence is not assumed to have occurred. Peers might also be similar to one another because of socialization or peer influence. That is, peers' attitudes and behaviors are affected over time through peer socialization. Most researchers believe that peer homophily is due to both selection and socialization processes. That is, children select others to be their friends because of similarity and then, over time, peers socialize or influence one another.

Early research on peer influences did not distinguish peer homophily due to selection. Kandel's (1978) classic research set the stage for understanding these distinctions. According to Prinstein and Dodge (2008), "several hundred empirical investigations have examined processes of selection and/or socialization among different populations of youth, with respect to a wide variety of attitudes and behaviors. Although some

equivocal findings have emerged, there now is fairly consistent evidence supporting selection and socialization effects for a wide variety of behaviors, including delinquency (Thornberry & Krohn, 1997); ► [violence](#) (Elliott & Menard, 1996), covert antisocial behavior (Keenan et al., 1995); early and high-risk sexual behavior (Dishion, 2000); substance use behaviors, including use of alcohol (Bosari & Carey, 2001), marijuana and "hard" drugs (Andrews et al., 2002; Dishion & Skaggs, 2000); weight-related behaviors (Christakis & Fowler, 2007; Paxton et al., 1999), self-injurious and suicidal behavior (Brent et al., 1993; Prinstein et al., 2001), as well as internalizing symptoms, such as depression (Prinstein, 2007; Stevens & Prinstein, 2005). Recent evidence also has suggested similar selection and/or socialization effects for prosocial behaviors (e.g. volunteer work, academic activities, altruism), as well as health-promotive behaviors, such as exercise and fitness-related behaviors (Barry & Wentzel, 2006; Rancourt & Prinstein, 2006)" (pp. 4).

### Methodological Issues in Examining Peer Influence

There are several methodological issues that are important in examining peer influence. First, in order to examine selection effects separately from socialization effects, a longitudinal design is needed as a cross-sectional design confounds the selection and socialization effects (Prinstein & Dodge, 2008). Second, researchers vary in their approach to examining the behavior of peers. As outlined by Bauman and Fisher (1986), in some cases, researchers ask adolescents to report on their own behavior as well as the behavior of their friends. Here, researchers reason that it is the perceptions of the peers' behaviors that are more relevant for understanding peers influence than the peers' actual behaviors. On the other hand, Bauman and Fisher (1986) argued that the peers' reports of their own behavior is a more accurate approach to estimating peer influence as children's perceptions of their peers' behaviors are likely to be heavily influenced by the children's own behaviors. Third, researchers have relied heavily upon ► [survey](#)

research to examine peer influence processes. Yet, according to Larsen et al. (2009), there is evidence to suggest that surveying children regarding peer influence outside the context in which the influence occurs might lead to underestimates of peer influence. Furthermore, in using survey data, peer influence is inferred to occur as opposed to an actual examination of peer influence processes. Future investigations might examine peer influence processes using experimental designs that employ observational methodologies. Finally, longer-term longitudinal investigations as well as observational investigations are needed to understand the bidirectional nature of peer influence processes. That is, the influence process might differ depending on the characteristics of the child in the friendship dyad who is the focus of the analysis (Allen & Atonishak, 2008).

### Sources of Peer Influence

Historically, the peer influence literature examined peer influence largely from the level of the dyad (Bukowski et al., 2008). More recently, sophisticated ► [social network analysis](#) techniques and statistical analysis techniques have enabled researchers to examine dyadic relationships that are nested within larger peer cliques or crowds (Brechtwald & Prinstein, 2011). ► [Siblings](#) are another important source of influence from peers. Dunn (2007) suggested that the range of emotional feelings (positive and negative) experienced between siblings and the high degree of familiarity and intimacy shared provide a context where the potential for influence is high. Research has suggested the presence of sibling influence for constructs such as aggression (Patterson, 1986), alcohol use, and competence with peers (Whiteman et al., 2007). Although there has been a significant amount of research conducted on peer influence, the influence of romantic partners as peers has largely been overlooked. Research suggests that romantic relationships are important with regard to development and adolescents portray these relationships as intimate and influential. Haynie et al. (2005) found that a romantic relationship partner's delinquency is a unique predictor of

adolescent participation in minor and more serious delinquency. Despite the evidence that romantic partners contribute uniquely to an adolescent's deviant behavior, the strength of this relationship is smaller than that evidenced for the influence of peers.

### Mechanisms of Peer Influence

There is some speculation in the literature regarding the explanations for variability in peer influence. Several potential ► [moderators](#) of peer influences have been identified including ► [parenting style](#) (Mounts & Steinberg, 1995), child impulsivity, poor parental discipline, peer rejection (Snyder et al., 2010), and social status (Cohen & Prinstein, 2006). Much more research is needed to understand the way in which peer influence might be moderated by other factors. Brown and colleagues (2008) suggest a conceptual model of the peer influence process in which the following might function as moderators: (1) individual factors, such as age and gender; (2) contextual factors, such as school, family, neighborhood, and ethnicity; (3) openness to influence (including susceptibility to peer pressure); (4) salience of peers; (5) characteristics of the peer relationship; and (6) ability to perform the behaviors.

### Cross-References

- [Adolescent Problem Behavior](#)
- [Adolescent Substance Use](#)
- [Altruism](#)
- [Dating Relationships](#)
- [Exercise](#)
- [Experimental Design](#)
- [Longitudinal Data Analysis](#)
- [Moderators](#)
- [Network Analysis](#)
- [Parenting Style](#)
- [Premarital Sex, Young People's](#)
- [Prosocial Behavior](#)
- [School Violence](#)
- [Sex Differences](#)
- [Siblings, Overview](#)
- [Social Competence](#)

- ▶ [Social Development](#)
- ▶ [Survey Research](#)
- ▶ [Violence](#)
- ▶ [Volunteering](#)
- ▶ [Weight Loss](#)
- ▶ [Wellness](#)

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## Peer Socialization Effects

- ▶ [Peer Influence\(s\)](#)

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## Peer Support Groups

- ▶ [Support Group\(s\)](#)

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## Peer-to-Peer Research

- ▶ [Marginalized Communities](#)

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## People with Disabilities

- ▶ [Institutionalized People](#)

## People with HIV: Positive Nutrition and Quality of Life

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### Synonyms

Nutrition assessment, counseling, and support; Nutrition intervention

### Definition

Positive nutrition is a process of inquiry and action that aims to improve the nutritional status of individuals or populations. Good nutrition promotes optimal immune function and leads to an individual being healthier and more productive. Nutrition intervention may improve clinical outcomes in people living with HIV (PLHIV) and support optimal ► [quality of life](#) (QoL) (Mahlungulu, Grobler, Visser, & Volmink, 2007).

### Description

#### HIV and Quality of Life

##### Introduction

Human immunodeficiency virus (HIV) is a retrovirus that infects cells of the immune system, destroying or impairing their function. Infection with this virus impairs the body's ability to fight off infection and disease which can ultimately lead to death. In 2010 there were an estimated 34 million PLHIV globally and 1.8 million AIDS-related deaths (WHO and UNAIDS, 2012).

The management of HIV infection with antiretroviral therapy in combinations of three or more drugs can greatly enhance QoL of PLHIV. Although antiretroviral therapy cannot eliminate HIV infection, it slows down replication of the virus. Treatment success needs lifelong drug

adherence. In addition to access to antiretroviral therapy, good nutrition, psychological support and other important element of care can help maintain a high QoL for a person living with HIV (WHO, 2008).

#### HIV as a Chronic Condition

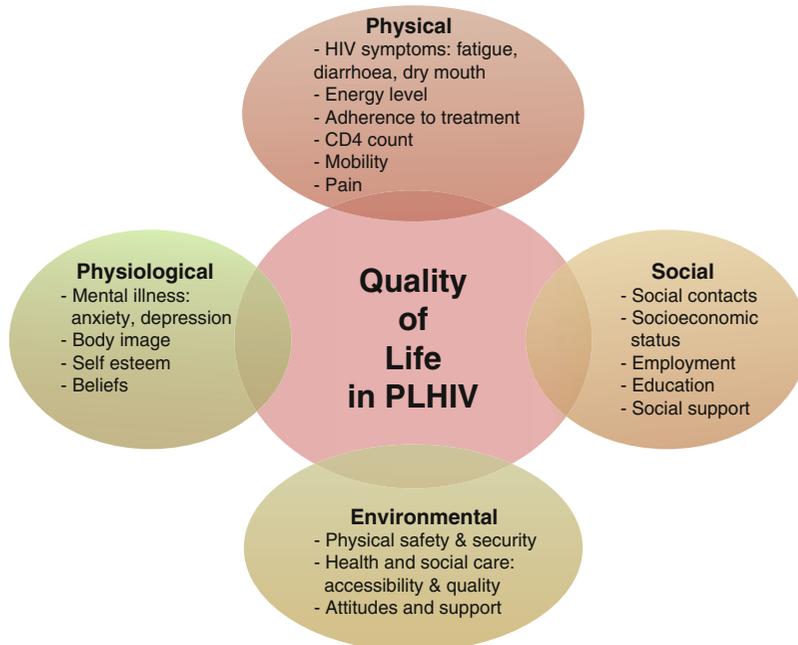
HIV has all the features of a chronic condition. In recent years, the development of antiretroviral drugs has brought vast changes in PLHIV to live a long life. Antiretroviral use has seen a dramatic fall in morbidity and ► [mortality](#) associated with HIV and AIDS, resulting in a population living and gradually aging with chronic illnesses (Palella et al., 2006). Nevertheless, living with HIV as a chronic illness possesses a constant challenge. For a person living with HIV, this means having to cope better with the challenges of long-term living with HIV, including a wide range of symptoms related to the infection itself, additional illnesses or “comorbidities” or side effects from HIV-related medications (Halloran, 2006; Kassutto et al., 2006). As well as facing problems related to chronic disease, PLHIV face various socio and psychological challenges such as stigma, poverty, depression, substance abuse, and cultural beliefs which can affect their QoL, not only from the view of physical health, but also from that social and mental health (Aranda-Naranjo, 2004).

#### Quality of Life of People Living with HIV

Given the longevity achievable with the effectiveness antiretroviral treatment, QoL has emerged as a significant health outcome measures for an individual living with HIV (Clayson et al., 2006). A number of studies measuring health-related QoL (HRQoL) of HIV-positive individuals using different types of QoL measuring tools have reported various associations between HRQoL and other factors. The use of antiretroviral drugs has been reported to have both positive and negative effects of the treatment on QoL (Oguntibeju, 2012). The mortality and morbidity benefits of antiretroviral treatment are obvious for PLHIV; however, the chronic effect of HIV infection generates challenges and problems, as

### People with HIV: Positive Nutrition and Quality of Life, Fig. 1

Different aspects of quality of life in people living with HIV (Adapted from Oguntibeju, 2012; Basavaraj, Navya, & Rashmi, 2010)



lifelong therapies cause various adverse side effects, which can lead to a significant impairment of individuals' HRQoL. The impact of HIV mainly falls under four major contributing factors (Fig. 1) (Oguntibeju, 2012; Basavaraj, Navya, & Rashmi, 2010).

#### Physical Factors

- Many PLHIV find it challenging to perform daily tasks of living, continue regular work, participate in moderate to vigorous exercise, or have sufficient energy to engage in an active social life while managing HIV (Basavaraj et al., 2010).
- Fewer bothersome HIV-related symptoms have been shown to be important clinical indicators of better QoL. ► **Fatigue** and tiredness is one of the most common symptoms affecting QoL in PLHIV. Fatigue is linked with multiple factors such as increased energy needs in the body's response to HIV, psychological problems, advanced stage of the disease, poor nutritional status, hormone deficiency, and anemia (Basavaraj et al., 2010).
- Other symptoms that many PLHIV may experience either as a consequence of HIV

infection or side effect of antiretroviral therapy such as diarrhea (Tramarin et al., 2004), oral dryness (Jeganathan, Carey, & Purnomo, 2012) have been reported to have effect on QoL.

- Adherence to antiretroviral medication is known to contribute to QoL of PLHIV (Basavaraj et al., 2010), and QoL is in turn believed to positively influence adherence (Oguntibeju, 2012). Such adherence is critical for therapeutic success in HIV infection.
- CD4 cell count has been increasingly used in HIV studies as surrogate marker for disease progression. Studies have found a strong association between CD4 cell count and QoL (Venter et al., 2009).
- Pain is common in PLHIV and can occur at all stages of HIV disease. Pain can impair QoL and reduce productivity. When the disease progresses despite antiretroviral treatment, PLHIV can experience increasing difficulties with daily activities and ► **pain** (Basavaraj et al., 2010).

#### Psychological Factors

- HRQoL is influenced by various determinants of psychological morbidity. Comorbid mental

health problems such as depression or anxiety are common in PLHIV. The presence of depression leads to poor QoL; however, treatment of depression can lower the risk of suicide and improve QoL (Basavaraj et al., 2010).

- It has been observed that stressful life events have been associated with increased HIV disease progression. There are multiple stressors that accompany living with HIV such as the emotional impact of diagnosis, possible rejection from family, professional and social life, stigma and discrimination, clinical manifestation, chronic course of the disease, and side effects of antiretroviral drugs (Briongos Figuro, Bachiller Luque, Palacios Martín, González Sagrado, & Eiros Bouza, 2011).
- Many PLHIV who are on treatment have normalized their lives and are able to work, build a family, and face a long-term future. Unfortunately, morphological changes such as body fat changes may occur as a result of antiretroviral therapy. Changes in body shape can have a profound influence on HRQoL, producing loss of ► [self-esteem](#), enabling ► [stigmatization](#) (particularly facial lipoatrophy), and decreasing the social functioning of PLHIV (Guaraldi et al., 2008).
- Beliefs about illness such as cultural beliefs, negative beliefs, and punishment beliefs associated with having HIV can affect QoL (Safren, Radosky, Otto, & Salomon, 2002).

### Social Factors

- PLHIV have greater emotional needs and require support for coming to terms with their infection. Many HIV-positive adults may lack social support and feel isolated. HIV-related stigma often creates social isolation. The high level of stigmatization of people with HIV makes disclosure of an HIV-positive status to family and friends is very difficult. PLHIV may choose not to disclose their HIV diagnosis, leaving them with fragile support systems and making them vulnerable

to depression (Basavaraj et al., 2010; Oguntibeju, 2012).

- The relationship between social support, depression, coping, and health appears to be important for PLHIV. Satisfaction with social support and coping style influence QoL. HIV coping by avoidance is associated with greater health-related stress. Social isolation has been shown to increase stress, resulting in poorer overall social functioning (Basavaraj et al., 2010).
- Prolonged disease affecting a person living with HIV can affect occupational functioning and employment. Unlike acute medical condition in which patients may return to pre-illness levels of functioning after treatment, patients with HIV infection must adapt to an unpredictable illness course. It was observed that employment and income are related to QoL of people living with HIV (Basavaraj et al., 2010; Oguntibeju, 2012).

### Environmental Factors

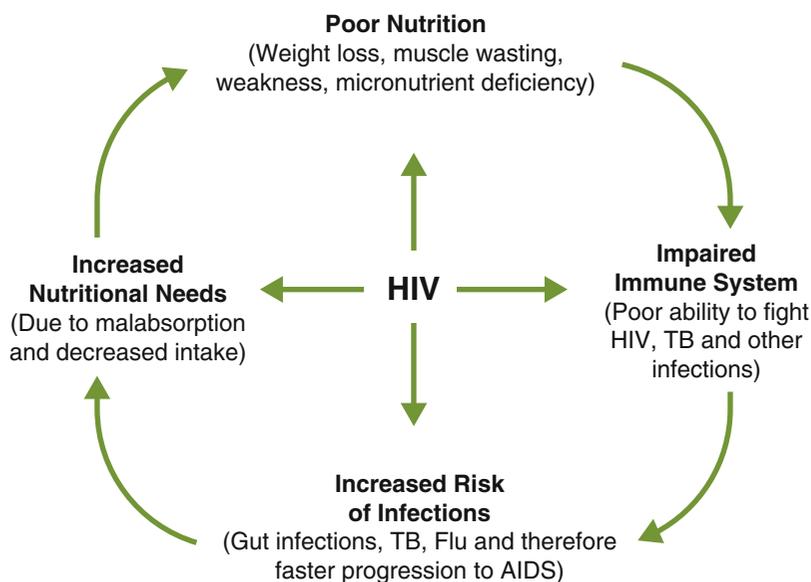
- Various environmental barriers to productive living include hassle of getting care, societal attitudes, funding for care, and negative provider patient relationship, while structural barriers to successful HIV treatment includes transportation and ► [poverty](#) (Basavaraj et al., 2010; Nichols, Tchounwou, Mena, & Sarpong, 2009).
- PLHIV who have access to care, social support, and antiretroviral therapy have better QoL than those who do not have the access (Basavaraj et al., 2010; Nichols et al., 2009).

### Nutrition and HIV and Quality of Life

#### Introduction

Nutrition plays an important role in the immune system of all people including PLHIV. The ranges of complexity of biological and social factors influenced by HIV have devastating impacts on health, nutritional status, and well-being of person living with and those affected by HIV. A number of symptoms caused by HIV and other complications related to antiretroviral treatment increase the frequencies of person living with HIV experience ill health, which can

**People with HIV: Positive Nutrition and Quality of Life, Fig. 2** Cycle of malnutrition and infection in HIV (Adapted from FANTA, 2003)



lead to reduced productivity and ability to earn income. At the same time, rising expenses such as medical costs make it worse, limiting the individual's income available for food. In addition, social isolation and stigmatization can affect access to nutritious foods that all contribute to an individual's food and nutrition insecurity (ADA, 2010; FHI, 2009).

#### The Relationship Between HIV and Nutrition

Good nutritional status is important from the time a person is diagnosed with HIV. Optimal nutritional status helps to protect and maintain a healthy immune system that can delay disease progression (Bloem & Saadeh, 2010). If optimal nutritional status is not restored or maintained, a progressive cycle of ► **malnutrition** and infection can occur involving impaired immune function, increased vulnerability to infections, and increased nutritional needs. The HIV disease process can cause or worsen malnutrition by increasing energy needs and reducing the absorptions of nutrients through frequent diarrhea. Together, higher nutrient needs, impaired immune function, and poor nutrition can lead to the downward spiral illustrated in Fig. 2 (FANTA, 2003). Poor nutritional status affects functional status and QoL. ► **Weight loss** has been associated with both morbidity and ► **mortality**. Studies indicate

that severe and moderate malnutrition at initiation of antiretroviral therapy are associated with two to six times higher risk of early mortality (de Pee & Semba, 2010).

#### Nutrition Intervention and Support in the Context of HIV

The goal of healthcare for person living with HIV is lifelong: to keep the individual as healthy as possible through health-promoting behaviors. These include good nutrition, ongoing risk reduction, early detection and management of opportunistic infections and other HIV-related conditions, prescription of antiretroviral therapy, and comprehensive care to address diverse medical, psychosocial, spiritual, legal, and human rights needs (FHI, 2008). Ongoing monitoring of outcome and adjustment of medical treatment and nutrition management is necessary as HIV infection results in complex nutritional issues (de Pee & Semba, 2010).

Nutrition is important in all stages of the disease. However, the nature of nutrition interventions changes over the course of the disease. Good nutrition is crucial before the initiation of treatment in order to maximize the chances of slowing down the disease progression (Bloem & Saadeh, 2010). Nutrition assessment, education, and counseling at this early stage are crucial to

provide the person an opportunity to build up healthy eating habits and to take action to maintain general health and well-being. Dietary counseling, particularly when provided early, has been shown to improve the body weight of PLHIV (de Pee & Semba, 2010). Around the start of treatment, nutrition intervention and support is critical to minimize side effects and metabolic changes due to drug therapies. Counseling on healthy eating principles, food safety, physical activity, and symptom management are the focus of nutrition interventions during the course of HIV infection (Nerad et al., 2003).

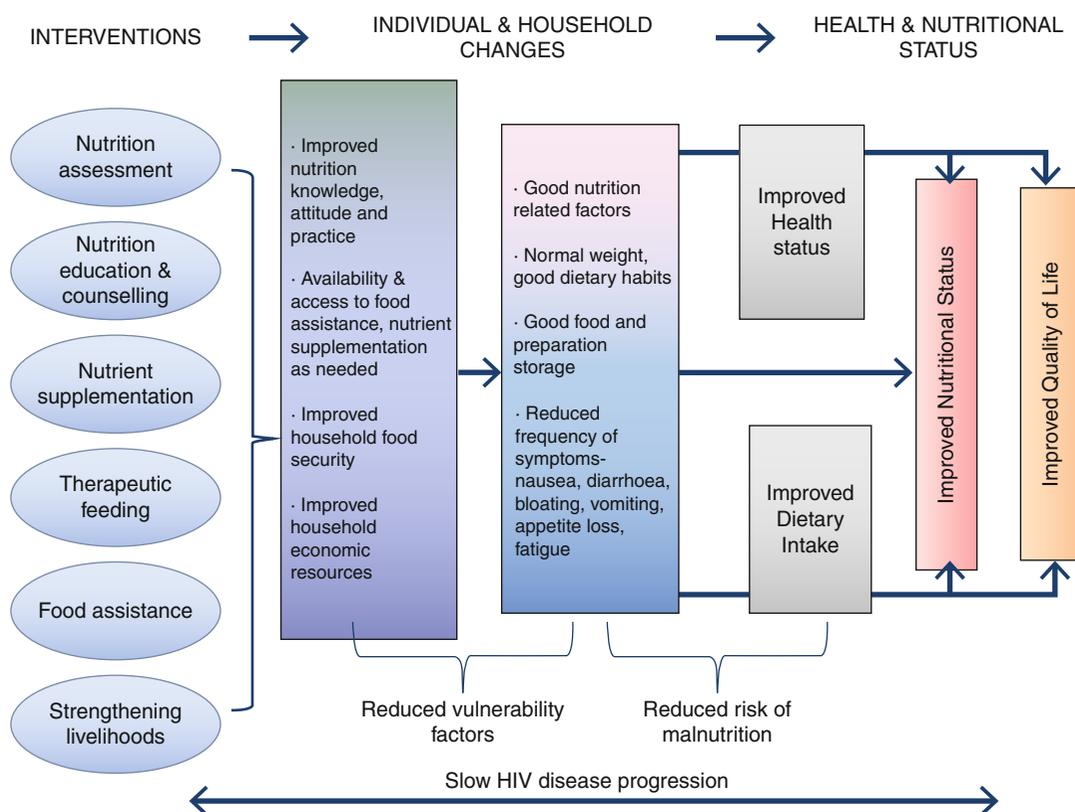
Incorporating nutrition interventions into HIV care, support and treatment programs can help improve health outcomes for PLHIV. Food and nutrition support is particularly important where malnutrition and food insecurity are common (de Pee & Semba, 2010). Nutrition assessment, counseling, and support (NACS) is an approach that provides food and nutrition interventions as a part of clinical package of HIV care, support, and treatment with strong links to community-based services for optimal quality and impact (FANTA, 2012). It has the potential to support treatment, promote adherence, and assist individuals and their families with making dietary changes that promote long-term health and improve QoL (Byron, Gillespie, & Nangami, 2008). The NACS components that have been implemented in the HIV context include nutrition assessment along with nutrition counseling, micronutrient supplementation, point-of-use water purifications, food assistance (provision of therapeutic and supplementary foods), and activities to strengthening livelihoods (FANTA, 2012).

#### The Link Between Nutrition Intervention, Nutritional Status, and Quality of Life in the Context of HIV

In response to multifaceted relationship between HIV and nutrition, various food and nutrition interventions are used to address the disease among the infected individuals and affected households. [Figure 3](#) presents a conceptual framework that shows how NACS leads to improvement in health, nutritional status and

QoL in the context of HIV. Despite the lack of properly conducted trials, a review of evidence for the relationship between macronutrients and HIV concluded that nutrition interventions in HIV enhance defense against infection, promote recovery, and improve QoL and survival (Hsu, Pencharz, Macallan, & Tomkins, 2005). NACS may lead to reduced nutritional vulnerability at the individual and household levels through improved nutrition knowledge, dietary practices, and food access. Dietary practices and food access influence health and nutritional status of PLHIV through improved dietary intake and health-related factors (e.g., immune response, frequency and severity of infections and symptoms, response to medical treatment). Reduced vulnerability and risk of malnutrition may also improve the nutritional status, physiological, psychological, and eventually QoL of PLHIV (Castleman, Dietchler, & Tumulowiz, 2008; Oketch et al., 2011).

Although there are a considerable number of studies on the effectiveness of food and nutrition interventions in the context of HIV, those that evaluate the link between NACS and QoL are limited. There are only some of these have proven effective in showing significant changes in QoL. WandenBerghe, SanzValero, EscribàAgüir, CastellóBotia, and Guardiola-Wanden-Berghe (2009) in their review of studies in general population that relate HRQoL with nutritional status found that only three studies out of 29 addressed the link between QoL and nutritional status using valid method for measuring QoL. Despite this finding, a significant correlation was found between nutritional status and HRQoL. A cross-sectional study conducted in South Africa found that HIV-positive adults attending an outpatient antiretroviral clinic had an average QoL. The poorest QoL was reported for the physical and psychological domains of the WHOQoL-HIV instrument. Low energy intake, lack of [physical activity](#) level, and lack of independence seemed to be interrelated. The study suggested that good dietary practices are essential to improve QoL (Venter et al., 2009). The evaluation a nutrition supplement program in Zambia showed improved self-care functioning,



**People with HIV: Positive Nutrition and Quality of Life, Fig. 3** Conceptual framework: explaining the link between food and nutrition interventions in the context of

HIV and quality of life (Adapted from FANTA, 2008; Oketch, Paterson, Maunder, & Rollins, 2011)

performance of daily activity, and QoL with provision of nutrient supplement (Egge, Senefeld, Strasser, & Lovick, 2007). Clinical experience suggests that lipodystrophy can have a profound impact on HRQoL, producing erosion of self-esteem and decreasing social functioning of people living with HIV experiencing this condition. An evaluation of nutrition intervention in relation to the QoL and mood of PLHIV and lipodystrophy found that there was a trend toward significant improvement in the QoL of participants after a 10-week intervention compared with the control group at the same time. The intervention program consisted of nutrition counseling and education, behavioral therapy, motivational interviewing, and a nutrition information booklet (Reid & Courtney, 2007).

Positive impact from NACS has been observed on nutritional vulnerability, risk

malnutrition, nutritional status, and QOL of people living with HIV. Several studies, however, have found that NACS had little impact on the QoL. A recent cross-sectional study of HIV-positive adults receiving NACS (food assistance, food supplementation, weight assessment, micronutrient supplementation, and nutrition counseling and education) found that there was no significant difference on QoL between NACS and non-NACS recipients. Similarly, Berneis et al. (2000) found that nutritional supplements and counseling did not significantly affect QoL of HIV-positive adults. However, Hsu and colleagues, in their review of evidence for the relationship between macronutrients and HIV, concluded "It seems reasonable to assume that nutritional interventions in HIV/AIDS will enhance defense against infection, promote recovery and improve quality of life and survival

despite the lack of properly conducted trials” (Hsu et al., 2005).

As the Participant Statement from the World Health Organization Consultation on Nutrition and HIV/AIDS in Africa noted, “Adequate nutrition cannot cure HIV infection but is essential to maintain a person’s immune system, to sustain healthy levels of physical activity, and for optimal quality of life” (WHO, 2005), ensuring access to an adequate nutrition through nutrition assessment, counseling, and support is essential for people living with HIV.

## Cross-References

- ▶ [Fatigue](#)
- ▶ [Food Security](#)
- ▶ [Malnutrition](#)
- ▶ [Mortality](#)
- ▶ [Pain](#)
- ▶ [Physical Activity](#)
- ▶ [Poverty](#)
- ▶ [Quality of Life](#)
- ▶ [Self-esteem](#)
- ▶ [Stigmatization](#)
- ▶ [Weight Loss](#)

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## People with Impairments

### ► Disabled Persons

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## People with Intellectual Disabilities, Quality of Life Assessment

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### Synonyms

[Personal outcomes scale](#)

## Definition

Quality of life measurement in the field of intellectual disability.

## Description

In the field of intellectual disability (ID), the concept of ► [quality of life](#) (QOL) was primarily used as a sensitizing notion that guided the initial efforts to understand its components and potential application. The emergence of a broader concept of quality of life had three primary sources: “(a) a shift in focus away from the belief that scientific, medical, and technological advances alone would result in improved life towards an understanding that personal, family, community, and societal well-being emerge from complex combinations of these advances plus ► [values](#), perceptions, and environmental conditions; (b) the next logical step from the normalization movement that stressed community-based services to measuring the outcomes from the individual’s life to the community; and (c) the rise of consumer empowerment with its civil rights movements and its emphasis on person-centered planning, personal outcomes, and self-determination” (Schalock et al., 2002: 457).

Throughout the literature, the construct of “quality of life” has been defined in many different ways. There is a general agreement that ► [social indicators](#) as well as perceived well-being have to be brought into account when measuring quality of life and that subjective and objective indicators are two complementary facets that need to be measured separately (Cummins, 1997). Also in the field of ID, throughout the first period, the assessment of QOL was approached from multiple perspectives, resulting in over a thousand measures reported in the QOL literature (Hughes, Hwang, Kim, Eisenman, & Killian, 1995).

The current approach to the measurement of QOL is based on the need to provide a framework for the assessment of personal outcomes. This framework can be characterized by (a) its multidimensional nature involving core domains

and indicators; (b) the use of methodological pluralism that includes the use of subjective and objective measures; (c) a systems perspective that captures the multiple environments impacting people at the micro-, meso-, and macrosystems levels; and (d) the increased involvement of persons with ID in the design and implementation processes (Bonham et al., 2004; Verdugo, Schalock, Keith, & Stancliffe, 2005, Schalock et al., 2008a, b).

Although there is general consensus regarding these four measurement characteristics – even quite common in the broader field of ► [social welfare](#) studies (Inogushi & Shin, 2009) – there are still two unresolved questions concerning the development of quality of life measures: the principles that should guide the measurement process and how QOL assessment should be undertaken (Cummins, 2004; Perry & Felce, 2002; Schalock, Gardner, & Bradley, 2007). In a previous entry, we presented eight principles that should underlie the assessment of QOL-related personal outcomes (Claes, Van Hove, van Loon, Vandeveld, & Schalock, 2009). These eight principles are as follows: (a) scale development should be based on a validated QOL conceptual and measurement framework; (b) a QOL outcome measurement instrument has to be theory-based and inductively developed; (c) items measuring QOL outcomes should be constructed in a methodologically sound way; (d) a QOL assessment instrument should address construct-related questions; (e) data analysis and feedback should guide the developmental process; (f) correlation coefficients among respondents should be acceptable; (g) ► [concurrent validity](#) needs to be demonstrated; and (h) data should be collected in a conversation situation around the answers. Our premise was that model development and test construction should work in tandem and that a “quality of life assessment instrument” should be based on an empirically derived QOL conceptual and measurement model that is formulated on the basis of observation, description, and concept mapping and is validated by demonstrating the factor structure of the model’s domains.

We used the development and validation of the Personal Outcomes Scale (POS)

(van Loon et al., 2010) to exemplify each of the respective principles. The POS has been developed for the purpose of assessing quality of life of people with ID based on specific indicators associated with each of the eight core QOL domains that have been validated in a series of cross-cultural studies (Jenaro et al., 2005; Schalock et al., 2005). These eight domains are personal development and ► [self-determination](#) (that reflect a person's level of independence); interpersonal relations, social inclusion, and rights (that reflect a person's ► [Social Participation](#)); and emotional, physical, and material well-being.

Together with the eight principles, the described QOL assessment procedure corresponds with four key notions, i.e., utility, robustness, understanding, and relevance.

### Utility

The POS provides information that can be used for quality improvement on the individual, organizational, and policy level. On the individual level, the POS can be used to (a) provide feedback to the person regarding his/her status on the eight domains composing a life of quality, (b) establish an expectation that change is possible and can occur in different dimensions composing a life of quality, (c) show that the organization serving the client is committed to a holistic approach to the person, and (d) compare subjective and objective assessments of quality of life indicators. On the organizational level, POS data can be used to (a) provide information about client outcomes and changes in those outcomes over time (self-evaluation) and (b) determine predicting factors on outcome scores (evidence-based practices). At the macro-level, measuring personal outcomes provides information for public policy in terms of funding mechanism and outcome-based evaluation.

### Robustness

Since the POS may provide information on a wide range of issues improving QOL, the quality of the collected data is essential through the demonstration of ► [reliability](#) and validity. The assessment of the POS includes both subjective/self-report and objective/direct-observation

ratings. Consistency between self-report and direct-observation data suggests that the POS can serve a useful role in using proxies when the person cannot be the primary respondent. During the development of the scale, special attention was given to training procedures, since the POS requires administration skills that are different from traditional assessment methodology that is used in the field (e.g., the assessment of Adaptive Behavior with items on Communication, daily living skills, or socialization). Without training, interviewers may be not familiar with quality of life-related principles and the importance of collecting information in an interview format.

### Understanding

In a QOL interview, both the interviewer and the respondent must clearly understand the meaning of the items. A conversation style should focus on the person being interviewed, and training procedures should focus on clearly understood item descriptions, understanding and respondent encouragement, and the use of augmentative or alternative communication if necessary.

### Relevance

The concept of QOL has numerous possible indicators. In respect to its etic (universal) and emic (culture-bound) properties, the items selection should be based on available literature and cross-cultural studies (domains) and modified on focus groups (indicators). In that regard, the information we present indicates that the POS is theory-based and inductively developed by active involvement of significant participants in ► [focus groups](#). The POS has satisfactory psychometric properties and therefore can be used with confidence in research and evaluation activities.

In conclusion, the suggested principles that guided the development process of the Personal Outcomes Scale emphasize the importance of an empirically derived QOL conceptual and measurement framework and underscore the unique procedures of how QOL assessment should be undertaken in order to address the four key notions mentioned in this entry, i.e., utility,

robustness, understanding, and relevance. Although developed in the field of ID, to the authors' opinion, the presented eight principles can support any attempt of measuring quality of life-related personal outcomes in the broader field of health and social welfare studies.

This summary is based on an article published in *Social Indicators Research* (Claes et al., 2009).

## Cross-References

- ▶ [Intellectual Disability](#)
- ▶ [Measurement Methods](#)

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## People's Democracies

- ▶ [Conceptualizing Democracy and Nondemocracy](#)

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## People's Republic of China

- ▶ [Macau, Quality of Life](#)

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## People-Plant Interaction

- ▶ [Gardens and Well-Being](#)

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## Perceived Ability

- ▶ [Perceived Competence](#)

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## Perceived Appearance

- ▶ [Self-Worth and Measures of Body Image](#)

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## Perceived Caregiver Strain

- ▶ [Caregiver Perceived Burden Scale](#)

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## Perceived Causes of Poverty

- ▶ [Beliefs About Poverty](#)

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## Perceived Competence

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### Synonyms

[Perceived ability](#); [Self-competence](#); [Self-perceived competence](#)

### Definition

Perceived competence is a psychological construct based on self-evaluation of one's effectiveness or capability in a specific context. It is defined as one's awareness, beliefs, expectancy, or understanding of abilities, skills, or capacities to be effective in interactions with the environment (Boekaerts, 1991).

### Description

Perceived competence is synonymous with the notion of "I can" and is determined by the degree to which individuals believe that their abilities and skills meet the demands of a specific domain. This differs from ▶ [self-efficacy](#), which refers to one's confidence in successfully performing a particular task. Most behavior is instigated, energized, and directed by the possibility of ▶ [competence](#), and decisions to engage in activities depend greatly on competence perceptions and expectations of success or failure. Perceptions of competence are based on subjective inferences about one's history of experiences with similar skills and abilities in a particular domain. Because feedback from prior experiences can be ambiguous or inconsistent, perceived competence may not accurately represent actual competence. Perceived competence is evaluated based on normative comparisons (e.g., performance of others), absolute standard comparisons (e.g., task requirements), or intrapersonal standard comparisons (e.g., prior performance) (Elliot, 2005).

The field of human motivation was instrumental in advancing the notion of competence in psychological research. Early drive and instinct theories of motivation were criticized because they were unable to explain behaviors such as mastery, attention, and thinking. Consequently, Robert W. White (1959) introduced his theory of competence motivation and defined *competence* as "an organism's capacity to interact effectively with its environment" (p. 297). White believed that the individual played a causal role in ▶ [motivation](#), such that the goal for certain behaviors was to become more effective and successful in one's environment. During this time, social psychologists (e.g., Smith, 1961) were also studying the relevance of perceived competence for conformity and group relations, with the belief that perceived competence developed based on prior social reinforcement and validation. The idea of competence as a human need was extended by Deci and Ryan's (2000) ▶ [self-determination theory](#), which considered competence as a universal innate psychological need that is essential to healthy development and well-being.

Perceived competence is a highly inclusive and multifaceted concept that has received substantial attention in several areas of psychology (e.g., developmental, educational, industrial-organizational, social-personality, sport). Perceived competence was often considered a generalized and global construct until Susan Harter (1982) argued for the domain specificity of perceived competence and suggested that individuals can distinguish competence in different domains. The most traditionally studied domains of perceptions of competence are academic/cognitive, social, emotional, and physical/athletic, with additional domains including health, cultural, moral, parenting, and work. Current definitions of perceived competence range from general assessments of adaptation to a particular context to perceptions of specific skills or abilities in a domain. Definitions of perceived competence have been further specified to include the interactions among characteristics of the individual, other people (e.g., coworkers, peers, cultural groups), and the particular context. For example, *perceived work competence* involves the perceived ability of individuals to successfully demonstrate or accomplish the demands, objectives, and skills that are valued by the workplace environment.

Because perceived competence integrates an individual's beliefs, perceptions, and expectations, self-report is the most common measurement approach. Some self-report instruments contain subscales to measure perceived competence in several domains (e.g., Piers-Harris Self-Concept Scale; Perceived Competence Scale for Children), while others focus on a single domain (e.g., Self-Perceived Communication Competence Scale; Perceived Health Competence Scale). The Perceived Competence Scale is designed to be modified for use in different domains.

### Perceived Competence and Quality of Life

Perceived competence contributes to positive outcomes in several domains across the lifespan and across cultures. Elliot and Dweck's (2005) *Handbook of Competence Motivation* and Deci and Ryan's (2002) *Handbook of Self-Determination Research* provide rich resources

covering the influence of perceived competence across many domains.

Research on perceived competence has established its importance for overall psychological and ► [emotional well-being](#) across the lifespan. Perceived competence is integral to the development and preservation of ► [self-concept](#), ► [self-esteem](#), ► [self-worth](#), and personal identity. Perceptions of competence are related to several indicators of well-being, such as ► [positive affect](#), vitality, psychological flexibility, life satisfaction, positive coping skills, effective self-regulation, perceived control, and lower ► [negative affect](#) (Deci & Ryan, 2002; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). Conversely, low perceived competence predicts mental ► [distress](#) and symptomatology, such as depression and ► [anxiety](#). Because of its self-evaluative nature, perceived competence has been related to specific self-conscious emotions, such as joy, ► [happiness](#), and pride for those with positive perceptions of competence and embarrassment, shame, and guilt for those with low perceived competence.

Perceived competence has also been linked to actual and perceived physical health across the lifespan, with higher perceptions of competence related to better general health and fewer physical symptoms (e.g., somatization, soreness, runny nose; Deci & Ryan, 2002; Reis et al., 2000). Those with positive perceived competence are more likely to initiate and maintain healthy behaviors that prevent disease (e.g., exercise, seeking dietary and health information), engage in fewer unhealthy or risky activities, and have more positive mental health (Marks & Lutgendorf, 1999). Furthermore, for individuals who undergo treatment for health issues (e.g., smoking, diet improvement), high perceptions of competence can increase the likelihood that change will be initiated and maintained (Deci & Ryan, 2002). Individuals with lower perceived competence are more likely to have poor well-being and physical health because they avoid situations in which they may feel incompetent, including those that are likely to build competence and support their growth and development.

Perceptions of competence are also an essential aspect of ► [motivation](#) towards academics

and academic achievement. Students are more intrinsically motivated and willing to invest effort during academic tasks if they believe they have the abilities and skills needed to be successful (Deci & Ryan, 2000). Because of this increased motivation and effort, students have greater opportunities to learn and develop more advanced skills and knowledge, supporting both their actual and perceived competence. When students have higher perceptions of competence, they are also more likely to select and engage in more challenging tasks. Conversely, students with lower perceived competence report higher boredom and anxiety in academic situations. Perceptions of competence have also been related to goal theory, with higher perceived competence orienting an individual towards approach goals because of the greater potential for success and opportunity to develop one's competence (Elliot & Church, 1997). Conversely, individuals with lower perceived competence tend to endorse performance or avoidance goals because they perceive the possibility for failure and strive to avoid demonstrating incompetence.

Perceived competence also predicts ► [social well-being](#) and outcomes across the lifespan. Individuals with higher perceived competence have more positive social interactions and relationships, are more accepted by peers, tend to be sought out as a partner or group member, have better social problem-solving skills, and are less susceptible to peer pressure (Rubin, Bukowski, & Parker, 2006; Semrud-Clikeman, 2010). Children with lower perceived competence are excluded more by peers and show more internalizing social problems, such as loneliness and social withdrawal.

Reliable age-related changes have been found in perceived competence. Compared to early childhood, perceived competence in middle childhood differentiates into several domains, becomes more abstract and realistic, and is based on different standards and information (Harter, 1982; Nicholls, 1978). During late childhood and adolescence, a decline in perceived competence occurs in several domains, such as school, sports, physical appearance, and relationships with parents (Marsh, 1989; Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991).

Studies have found an increase in perceptions of competence in early adulthood (Marsh, 1989), but declines in older age due to deteriorating skills and abilities and constrained opportunities to develop competencies (Heckhausen, 2005).

Future research is faced with issues in the definition and measurement of perceived competence (Fulmer & Frijters, 2009). A variety of terms encompass self-perceptions, including ► [self-concept](#), ► [self-efficacy](#), self-image, self-evaluation, ► [self-worth](#), self-awareness, and ► [self-esteem](#). These terms have overlapping definitions and have been used interchangeably in the literature, but differ in terms of their stability and domain or time specificity.

## Cross-References

- [Anxiety](#)
- [Competence](#)
- [Distress](#)
- [Emotional Well-Being](#)
- [Happiness](#)
- [Health Behavior](#)
- [Intrinsic Motivation](#)
- [Learning](#)
- [Motivation](#)
- [Negative Affect](#)
- [Parent-Child Relationship\(s\)](#)
- [Positive Affect](#)
- [Self-Concept](#)
- [Self-Determination Theory](#)
- [Self-Efficacy](#)
- [Self-Esteem](#)
- [Self-Worth](#)
- [Social Competence](#)
- [Social Well-Being](#)

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## Perceived Daytime Sleepiness

- ▶ [Epworth Sleepiness Scale](#)

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## Perceived Demand-Ability Fit

- ▶ [Person-Job Fit, Transformational Leadership, and Job Performance](#)

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## Perceived Distance to Death

- ▶ [Objective and Subjective Nearness to Death](#)

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## Perceived Fairness

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## Synonyms

[Perceptions of equity](#); [Perceptions of justice](#)

## Definition

Perceptions of fairness refer to any element of the environment perceived by individuals or collectives as fair according to previous norms or standards.

## Description

Fairness is a ubiquitous element. Most people in our society considers fairness to be an important issue in different contexts (e.g., interpersonal relationships, organizations, consumer behavior). In any context, people perceives the fairness of a particular situation or event (Cropanzano, Rupp, Mohler, & Schminke, 2001). In doing so, people considers the fairness of the results and the procedure used to arrive at the distribution of outcomes. People also considers the way they are treated by others. Therefore, perceptions of fairness have to do with the rules and social norms governing how outcomes should be distributed (distributive justice), the procedures used for making such distribution decisions (procedural justice), how people are treated interpersonally (interpersonal justice), and how information is provided during the process (informational justice). These four forms of fairness are interrelated facets of perceived fairness impacting on an important number of human reactions. In fact, perceptions of fairness have been found to be positively and negatively associated with psychological well-being and psychological distress, respectively (Fondocaró, Dunke, & Pathak, 1998), and they are considered a critical psychosocial risk factor for health.

This fourfold model (distributive, procedural, interpersonal, and informational) has received empirical support (e.g., Colquitt, 2001). The first is related to the perceived fairness of received outcomes/resources (Adams, 1965). People compare the effort they put into their interactions with other actors (e.g., friends, colleagues) with the benefits they receive in return. In addition, they compare their ratio of costs/benefits with the ratios of other significant actors in order to evaluate fairness in terms of outcomes. Two different hypotheses can be formulated with regard to the meaning of distributive justice: fairness and self-interest. From the fairness hypothesis, it is assumed that people perceive that there is justice when a balance/equilibrium between effort and benefits exists. In different contexts, such as social and work relations, the fairness hypothesis has received support (Buunk, Doosje,

Jans, & Hopstaken, 1993; Van Dierendonck, Schaufeli, & Buunk, 1996), indicating the existence of a link from equilibrium to well-being. However, a second hypothesis is possible. The self-interest approach (Messick & Sentis, 1983) assumes that individuals are instrumentally motivated in their relationships with others and they seek to maximize their rewards and minimize losses in their relationships with others. This second hypothesis is supported in different contexts (Moliner, C., Martínez-Tur, V., Peiró, J. M., Ramos, J., & Cropanzano, R. (in press); Müller, Kals, & Maes, 2008; Oliver & Swan, 1989), and if a person loses his/her valued resources, distress and other negative affective reactions increase (Hobfoll, 1989).

A more relationship-centered approach to social exchange is presented in the concept of procedural fairness. Assuming that humans are social animals, theorists argue that in social exchanges, subjects not only consider the economic importance of outcomes but also their socio-emotional value. Thus, perceptions of fairness include the procedures/means by which the resources are allocated/accomplished. Specifically, fairness of formal procedures or procedural justice (Thibaut & Walker, 1975) refers to the procedures developed to achieve outcomes or resources. Therefore, while distributive justice is more outcome-oriented, the dimension of procedural fairness is more relationship-oriented. Procedural fairness has been related to decision-making processes. In this sense, some studies showed that a perception of fair treatment by the authorities increases people's identification with the organization, motivating them to make an extra effort (Tyler & Degoey, 1995).

In addition to distributive and procedural fairness, there is a third dimension of perceptions of fairness that refers to interactional justice. While procedural justice refers to the more structural facet of procedures, interactional justice focuses on the more interpersonal aspects. It concentrates on the relevance of interpersonal treatment when procedures are implemented (Bies & Moag, 1986). The interactional fairness dimension has been conceptualized as being composed of two facets, informational and interpersonal justice.

Informational fairness focuses on explanations or reasons provided during the implementation of procedures, while interpersonal fairness refers to the interpersonal treatment (e.g., dignity, respect). Both procedural justice and interactional justice (informational and interpersonal) are significantly related to well-being (Moliner, Martínez-Tur, Peiró, Ramos, & Cropanzano, 2008).

An emergent area in the investigation of fairness is climate of fairness. Historically speaking, perceptions of fairness (distributive, procedural, interpersonal, and informational) have mainly been conceptualized at the individual level of analyses. However, there are reasons to expect that people sharing a similar reality are able to share perceptions of fairness (Li & Cropanzano, 2009; Rupp, Bashur, & Liao, 2007). Therefore, perceived collective fairness is not simply the sum of the justice perceptions of individual members; it is also an emergent cognitive phenomenon (Kozlowski & Klein, 2000). Since shared information and organizational experiences arise in social interactions, and since members of the same group or collective are more likely to interact with each other, they probably share justice perceptions and interpretations of their social reality. This shared perception is able to predict well-being of groups (Moliner, Martínez-Tur, Peiró, Ramos, & Cropanzano, 2005).

Finally, it is also interesting to consider the pernicious effects of unfairness. In short, unfairness can harm well-being by assailing as many as three motives: instrumental, relational, and moral (Cropanzano, Goldman, & Benson, 2005). If one is treated unjustly, this treatment sends a signal that one is not valued by the group, expected results will be difficult to achieve, and social relations are being degraded. Moreover, injustice involves the violation of important social mores. It is unpleasant for people to observe assaults on closely held values (Cropanzano et al., 2005).

## Cross-References

- ▶ [Distributive Justice](#)
- ▶ [Equity](#)

- ▶ [Equity Theory](#)
- ▶ [Feelings of Justice](#)
- ▶ [Reciprocity in Exchange](#)

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## Perceived Freedom

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### Definition

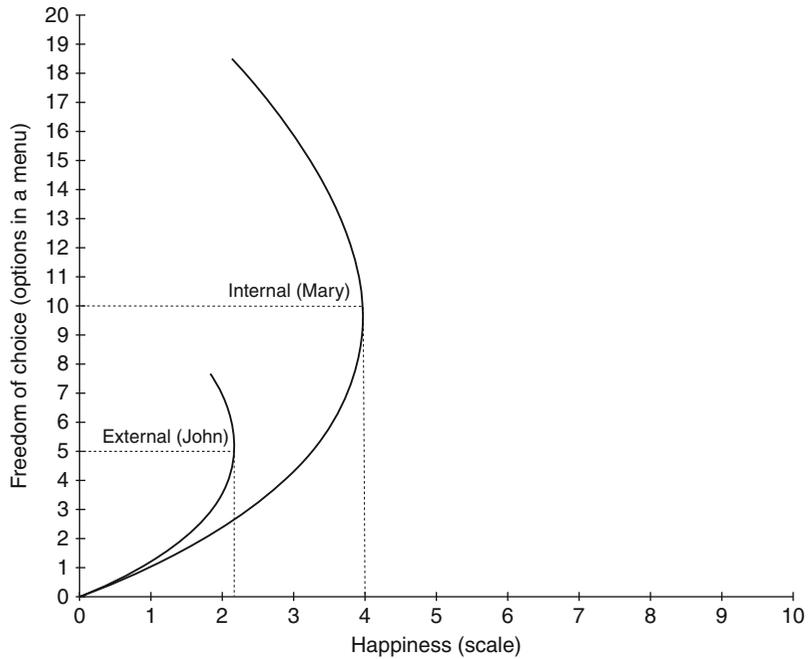
Perceived freedom is the degree to which people see their choices limited by others. The freedom and control hypothesis argues that the appreciation of increased freedom of choice varies across individuals and depends on a particular construct of personality known as the “locus of control.”

### Description

According to the World Values Surveys (<http://www.worldvaluessurvey.org>), the variable that best explains happiness worldwide is a variable that seems to combine two concepts: freedom of choice, defined as the set of choices available to an individual, and control over choice, defined as the individual perception of control over the outcome of choice. Such a variable explains happiness better than any other known predictor of happiness such as subjective health, labor status, income, family, friends, or religion, and this is true in virtually all countries in the world with a consistency that no other predictor of happiness has. Other variables that measure freedom of choice alone do not have an impact on happiness comparable to the one found for the variable that combines freedom and control (Verme, 2009). These findings would suggest that freedom of choice does not invariably increase happiness and that the appreciation of freedom of choice varies across people and countries.

How do people perceive and value freedom of choice? According to the freedom and control hypothesis (Verme, 2009), increased freedom of choice, per se, is not sufficient to make an individual happier. It is also essential for this individual to believe that more choice is a positive asset. This evaluation, in turn, depends on a particular feature of personality known as the “locus of control.” The locus of control is a construct attributed to Rotter (1954). People who believe that the outcome of their own actions depends on internal factors such as efforts and skills (the “internals”) have a greater appreciation of freedom of choice than people who believe that the outcome of their own actions depends on external factors such as fate or destiny (the “externals”). Freedom of choice being equal, individuals with a different locus of control will have a different appreciation of freedom of choice. This feature of personality can be measured through interviews and is quantified with what is generally referred to as the Rotter’s scale. One example of a Rotter’s scale is a scale that varies from 1 to 10

**Perceived Freedom,**  
**Fig. 1** Freedom and control (Source: Verme (2009))



where 1 corresponds to extreme “external” personalities and 10 corresponds to extreme “internal” personalities.

One example may illustrate the freedom and control hypothesis. Suppose that we have two individuals, John and Mary. John is an “external” who scores low on the Rotter’s scale of control, and Mary is an “internal” who scores high on the Rotter’s scale of control. According to the freedom and control hypothesis, internals have a greater appreciation of freedom of choice, implying that Mary will derive greater happiness than John at all levels of freedom. Both John and Mary will reach a point where more freedom will turn into disutility rather than utility, but this point will be higher for Mary as compared to John.

Figure 1 depicts the happiness (utility) curve as a function of freedom of choice. On the *x-axis*, we have the happiness scale ranging from 1 to 10 where 1 is extremely low happiness and 10 is extremely high happiness. On the *y-axis*, we have freedom of choice in terms of number of choices from 1 to 20. As an example, think of John and Mary as browsing the Internet to choose a restaurant where to dine by comparing a set of menus ranging from 1 to 20 choices. As the

number of choices in the menu increases from 1 to 5, both John and Mary increase their happiness. More choice is good for both. As the number of choices increases between 5 and 8, John begins having difficulty in making a choice, and more choice quickly turns into distress, whereas Mary still enjoys more choice. Eventually, when the number of choices reaches 10, Mary will also reach the threshold where more choice turns into disutility rather than utility as she realizes that too much choice makes her unable to choose and unhappy.

The freedom and control hypothesis could also be applied to societies rather than individuals. We may think of societies with an “internal” as opposed to an “external” locus of control, and we may think of freedom of choice as something that increases utility for a society. Certain societies may be made of individuals with a low tolerance for freedom of choice and a higher preference for policies that limit freedom of choice such as laws and regulations. Other societies may instead be made of individuals with a higher preference for individual freedom of choice and a lower taste for laws and regulations. However, all societies will reach a point where more individual freedom of choice

turns into anarchy and delivers social disutility rather than social utility.

The freedom and control hypothesis has important implications for public policies. Societies that are able to encourage the development of internal personalities will be able to expand individual freedom of choice further than societies that foster the development of external personalities. Social psychology has shown that the locus of control is partly shaped through education, via families and schools. Therefore, parenting and the educational system can have a very important role in determining how societies appreciate freedom of choice.

## Cross-References

- ▶ [Freedom](#)

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## Perceived Institutional Trustworthiness

- ▶ [Confidence in Institutions](#)

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## Perceived Need-Supply Fit

- ▶ [Person-Job Fit, Transformational Leadership, and Job Performance](#)

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## Perceived Physical Appearance

- ▶ [Self-Worth and Measures of Body Image](#)

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## Perceived Physical Attractiveness

- ▶ [Self-Worth and Measures of Body Image](#)

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## Perceived Physical Competence

- ▶ [Self-Worth and Measures of Body Image](#)

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## Perceived Purpose in Dementia

- ▶ [Dementia and Self-Reported Purpose in Life](#)

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## Perceived QOL in the Community

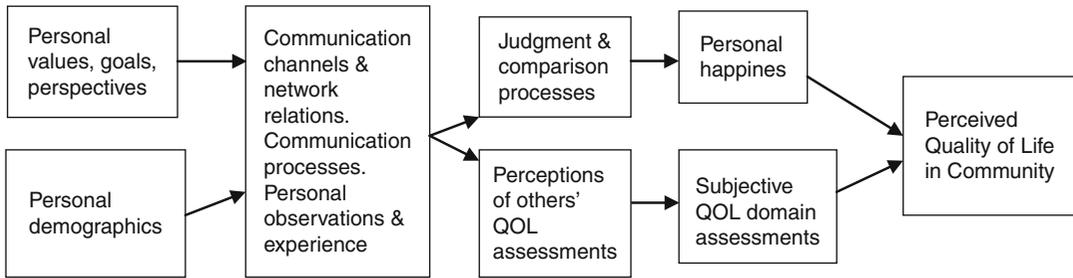
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### Definition

Communities of all sizes struggle to improve the quality of life for their citizens, an effort that is reflected in economic development strategies, initiatives to attract and retain residents, and programs enhancing a city's image and appealing to tourists. The *perception of a community's quality of life* is a key factor in these efforts, and researchers have begun examining the influences on such perceptions and the processes through which those images and assessments occur.

### Description

Andrews and Withey (1974) found that satisfaction with one's life as a whole – a global perceived quality of life – is additive, reflecting the sum of one's satisfaction in various domains. Since the correspondence between our objective environment and subjective experience is



**Perceived QOL in the Community, Fig. 1** Model relating sources of influence on perceived community quality of life

imperfect, we need to understand how people interact with their environments and develop perceptions leading to satisfaction. Since most people spend their lives in “geographic communities,” perceptions of the quality of life available in their communities should impact their personal QOL. We also know there is a comparative element to this process (e.g., the discrepancy model described by Campbell, Converse, & Rodgers, 1976, Inglehart & Rabier, 1986, Michalos, 1986). Comparative processes should operate when people assess the state of their personal lives as well as the quality of life available in their communities and others, and this involves not only our personal experiences and observations but also communication with others and what we learn through mass media.

Jeffres and Dobos (1990) proposed a model integrating communication into an interdisciplinary framework predicting community quality of life assessments (see Fig. 1). That model arrayed personal values, goals and perspectives, and demographics in the initial position, leading to communication processes and personal observation, which result in judgments and comparison processes, as well as perceptions of others’ QOL assessments. These then inform measures of personal happiness and subjective QOL assessments in various domains, all then culminating in a community QOL assessment. Drawing on three studies conducted throughout the 1980s, they found that communication variables (media news exposure and assessments of mediated community images and the strength of interpersonal communication with neighbors and those who travel outside

their community) and comparison processes (perceptions of others’ community QOL assessments and perceived images) impacted individual domain-specific comparisons and personal feelings of happiness, which in turn predicted ratings of the metropolitan area as a place to live (Jeffres & Dobos, 1995).

Earlier, Galician and Vestre (1987) found that news reports affected people’s feelings about their cities, and later Sirgy et al. (1998) found congruity life satisfaction positively correlated with television viewing. A series of studies in the 1990s found a pattern in which print media exposure tended to be positively related to perceived community quality of life and a radio-TV-film-video exposure index to be negatively related, and there was some suggestion that Internet use could be positively related, but the Web was just beginning to extend its popularity (Jeffres, Neuendorf & Atkin, 2000). Jeffres, Neuendorf, Bracken, and Atkin (2003) followed up this work with a project involving a national online sample and a regional sample of residents in a metropolitan area whose perceived quality of life was assessed. Since most respondents in the national sample had no personal experience with the community being assessed, their assessments had to be based on mediated reports, and that’s what the research showed. Media use variables played a role in predicting the QOL assessment for the city, with newspaper readership, listening to the radio, and Internet usage being the most important. Since only a single community was involved, more evidence is needed. The relative importance of personal experience and

interaction was reported in a subsequent study that focused on cosmopolitanism, where international interests and travel – which allow for QOL comparisons – impacted people’s assessments of the quality of life in their home communities (Jeffres, Neuendorf, Bracken, & Atkin, 2008). All of this research needs to be periodically updated to reflect the constantly evolving communication system.

The physical and ► **built environment** contributes to people’s perceptions of the quality of life in their community. Those who never leave home are dependent on learning of other places through the media and personal conversations, but, as noted above, those who travel obtain first-hand information for comparisons. Thus, we need to assess features of the community environment that could influence people’s QOL perceptions. We know from earlier research that people are more satisfied with their neighborhood, or immediate community, than they often are of the larger metropolitan area. While many different features of the community could be studied, a couple which have received systematic scrutiny for how they affect assessments of the community QOL are “leisure opportunities” and “third places.” Urban centers around the world see themselves as competing for residents and tourists through unique attractions and leisure activities (Clark, Lloyd, Wong, & Jain, 2002; Young, Diep, & Drabble, 2006). In multiple studies, Jeffres and Dobos (1993) found that people who valued leisure opportunities in their community also gave higher assessments to their community’s overall quality of life.

Third places refer to aspects of the built environment other than home or work, and researchers have viewed these contexts as the location where urban culture is enacted and attachments to community developed (e.g., Borer, 2006). This also is where people spend much of their leisure time and also interact with others in the community. Coffee houses come to mind when we think about where people go in their communities to share a conversation, but parks, community centers, and other aspects of the environment also are options. The range of

options varies by community. Oldenburg (1989) defined “third places” as the “great, good places” that foster community and communication among people outside of home and work, the first and second places of daily life. As Das (2008) notes, both objective and subjective factors are important for people’s quality of life, and “third places” are part of the “constructed environment” that contribute to objective conditions of living. Even economists now recognize that the “quality of life” is an “economic good,” with multiple dimensions (Lambiri, Biagi, & Royuela, 2007). Kearney (2006) found that opportunities by residents to visit nearby shared space affected neighborhood satisfaction. A national survey in 2005–2006 asked people where they would go to chat with a friend or neighborhood in their community (Jeffres, Bracken, Jian, & Casey, 2009). The most surprising finding was the number (29 % of respondents) who couldn’t think of anyplace in their community to go. The most frequently cited “third places” were coffee shops, cited by 13 % of the sample. While many cited the generic coffee shop, numerous gave specific names, from Starbucks to Pricilla’s Coffee Shop. As hypothesized, those living in communities with “third places” claimed a higher quality of life in the community and in their neighborhood. Controlling for social categories (age, education, gender, ethnicity, and marital status) reduced the magnitude of the relationships, but they still persisted for both community QOL and neighborhood QOL. Research focusing on the constructed environment and its relationship to communication and the quality of life also can be found in recent work focusing on the “communicative city” and “communication capital” (see Gumpert & Drucker, 2008; Jeffres, 2008, Jeffres, Jian, & Yoon, *in press*).

While anecdotal evidence of interest in perceptions of the quality of life in communities dates back decades, the stream of systematic empirical data is of recent vintage. Communities tend to evolve, but the communication systems linking people together are changing even more rapidly. At a time when the Internet and social

media are establishing virtual networks, traditional media struggle to find sustainable economic models, and cities themselves struggle to define themselves as attractive homes for new residents; perceptions of a community's QOL need more attention.

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## Perceived Quality of Life

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## Synonyms

Quality of life, subjective

## Definition

Perceived quality of life refers to how people perceive and evaluate their life. It is a perception that reveals the subjective evaluation of the life experience. The components focus on overall life satisfaction and happiness, as well as satisfaction with specific domains of life, e.g., marriage, interpersonal relationship, work, leisure activities, and health.

## Description

Perceived quality of life has been broadly used to refer to people's individual well-being and/or welfare (Andrew & Withey, 1976; Chamberlain, 1985; Diener, 1994). It can be seen as a perception that reflects the subjective evaluation of the life experience (Campbell, Converse & Rodgers, 1976; Veenhoven, 1996).

In empirical studies, the components of subjective quality of life were examined to indicate its various phases and the reliability of measuring people's perception and evaluation of their life (Campbell et al., 1976; Chamberlain, 1985). These components, including happiness or life stress, satisfaction with life as a whole, and satisfaction with specific life domains such as work, neighborhood, local services, and environment, were often used as indicators of subjective quality of life or as a composite index consisting of several relevant items.

Despite the difficulties to obtain consensus on operational definitions, most researchers tend to analyze perceived quality of life in an orientation that aims to define quality of life in terms of quantifiable categories that measure various perceptions of human life conditions (Ziegler & Britton, 1981). From such a viewpoint, the measures of quality of life are often viewed as "soft" or subjective indicators (see Campbell et al., 1976) in contrast to "hard" or objective socioeconomic indices that are often incorporated into a performance evaluation model of the social system. The subjective indicators are suggested as being essential for understanding the impact of

objective conditions and public policies upon individual well-being (Wilkening, 1982).

Factors associated with perceived quality of life have been broadly examined. Demographic variables such as age, gender, income, marital status, and educational level have been found to affect the quality of life (e.g., Hagerty, 2000; Shinn, 1986), but the explained variance is usually low (Rampichini & D'Andrea, 1998). The dispersion of such a subjective perception among a population has been seen as indicative of social inequality (c.f. Yang, 2008; Veenhoven, 1996). Social relationship, physical and mental health, volunteer work, and sociopsychological characteristics of individuals (Michalos, Zumbo & Hubley, 2000; Thoits & Hewitt, 2001) contribute to better life satisfaction as well, both overall and specific domains. Contextual factors, such as percentage of labor force, unemployment rate, and crime rate, help explain changes of perceived quality of life, for instance (Rampichini & D'Andrea, 1998).

Previous studies often examine the influence of the objective dimensions on the subjective perception, given the fact that these are the major approaches to understanding quality of life. Some studies claim that there are no significant effects of the objective dimension of quality of life on subjective perception, while others have found that improved socioeconomic conditions contribute to a better quality of life (Bradshaw & Fraser, 1989; Kao & Liu, 1984). When we look into the subjective perception and objective dimensions separately with respect to differences of life quality within a society, no consistent pattern can be found by using either objective socioeconomic indicators or subjective perceptions (Liao, 2009).

As the emergence of quality of life studies in psychology, economics, sociology, gerontology, and public health, just to name a few, the measurement of perceived quality of life has become an important issue. Despite a growing confidence in the perceived quality of life measurement (see Veenhoven, 1996), concerns over the scale construction and validity continue to exist, particularly when it comes to life satisfaction and general happiness. For example, Cohen (2000) extended multiple discrepancies theory (MDT) to examine

the association of overall satisfaction with specific life domains by applying a facet-theory statistical approach. His findings demonstrated close connections between overall life satisfaction and satisfaction in various life domains.

As for the general happiness, it can be measured by a typical single question: “Taking all things together, how happy would you say things are recently?” It has the advantages of easy implementation in surveys for comparison across time and culture (Diener, 1984). The response scales for both of the general happiness and life satisfaction, however, may vary significantly and lead to biased results (Lim, 2008). It is essential for researchers to ensure the variables used to measure the same construct or to transform the rating scales before comparisons can be made (Bjørnskov, 2010; Cummins, 2003; Lim, 2008). Despite researchers’ preference for one measure (such as general happiness) over others (cf. Campbell et al., 1976), however, the use of both overall and life-domain measures of quality of life has been shown to have a high correlation and validity and is thus a better analytical strategy (Cohen, 2000; Veenhoven, 1996).

## Cross-References

- ▶ [Adolescents’ Life Satisfaction](#)
- ▶ [Cross-Cultural Comparison](#)
- ▶ [Health](#)
- ▶ [MDT](#)
- ▶ [Objective Quality of Life](#)
- ▶ [Satisfaction with Life as a Whole](#)
- ▶ [Satisfaction with Life Domains Scale for Cancer \(SLDS-C\)](#)
- ▶ [Social Indicators](#)
- ▶ [Subjective Well-Being](#)

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## Perceived Quality of Life at School

### ► School Satisfaction

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## Perceived Quality of Life Scale

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### Synonyms

PQoL; Quality of life, subjective

### Definition

This instrument is a 19-item measure of satisfaction with physical, psychological, and social functioning and universal human needs that define quality of life (PQoL).

### Description

The Perceived Quality of Life Scale (PQoL) is based on a theoretical model defining quality of life as evaluation of major categories of fundamental life needs. Scale items were developed using ► [human needs](#) theory (Doyal & Goug, 1991; Maslow, 1943) and interviews with different populations of older adults, well persons, and persons with disabilities to establish the content of the instrument.

The measure is consistent with the needs-based theory of quality of life (Hunt & McKenna, 1992) and the World Health Organization definition of quality of life as people’s “*perceptions of their position* in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns” [italics added] (Bonomi, Patrick, Bushnell, & Martin, 2000; World Health Organization Quality of Life Group [WHOQoL], 1994).

Originally the PQoL was used in a briefer 12-item version for assessing the quality of life of persons following intensive care (Patrick, Danis, Southerland, & Hong, 1988). It was later expanded to 19 items plus a single global item to include the evaluation of satisfaction with areas of functional status considered important to persons with varying levels of wellness and disability. Since its original use, it has been more widely applied to a number of different patient and general population groups (Norburn, Patrick, Beresford, & Stein, 1987; Baxter et al. 1998; Caldwell, Baxter, Mitchell, Shetterly, & Hamman, 1998; Conn, Taylor, & Casey, 1992; Hurel, Loirat, Saulnier, Nicolas, & Brivet, 1997; Patrick et al. 1995; Sawdon, Woods, & Proctor, 1995; Steiner, Looney, Hall, & Wright, 1995; Unutzer et al. 1997).

### Measurement Model

The response scale for the PQoL ranges from 0, extremely dissatisfied, to 10, extremely satisfied. Factor analyses of the 19-item PQoL were conducted on data obtained from 2,500 well older adults participating in a health promotion/disease prevention project conducted by the University of Washington and Group Health Cooperative of Puget Sound. These analyses, conducted using the “PROMAX” rotation in SAS, resulted in three factors labeled as follows:

- P = Satisfaction with physical health and well-being
- S = Satisfaction with social health and well-being
- C = Satisfaction with cognitive health and well-being

Item 7 did not appear to fall into any factor and is best to use on its own. Subscale scores for satisfaction with physical, social, and cognitive health can be used in analyses as well as the overall score. Item-response analyses are currently being conducted to confirm these scores and domain structure. (Unpublished analyses).

### Reliability

#### Internal Consistency

Internal consistency (► [Cronbach's alpha](#)) for the original 12-item PQoL scale is 0.88 or above for both ill and well older adults. In a study of patients with chronic obstructive pulmonary disease, the internal consistency of the 19-item PQoL was examined in 90 respondents (Guttman-Cronbach alpha = 0.91; Patrick et al., 2001).

**Test/Retest** In an unpublished analysis of the 2-week test-retest reliability of the PQoL on well adults, the overall score showed an ICC of 0.84.

### Validity

#### Convergent and Discriminant (Known Groups)

In a sample of patients in intensive care, functional status correlated only moderately with ► [perceived quality of life](#) ( $r = 0.49, p < 0.01$ ). Objective measures of patients' material and social resources did not predict satisfaction (Patrick et al., 1988). In an evaluation of the association between self-reported functional status and quality of life in adults with and without chronic conditions, the PQoL was lowest for persons using wheelchairs and highest for older well adults. Scores decreased as ► [Sickness Impact Profile](#) (SIP) scores increased. Overall, being older, reporting better functional status, and having fewer depressive symptoms were significantly associated with higher quality of life (adjusted  $R(2) = 0.60$ ). This pattern held for most subgroups, although the association was much lower for adults with AIDS and younger well adults where ceiling effects were observed in functional status. Functional status and perceived quality of life are highly associated but are distinct in many populations.

Depressive symptoms and self-rated health are important mediators. This pattern of association supports the validity of the PQoL (Patrick et al., 2001).

### Use

In general, no recall period has been used with the PQoL as satisfaction "at the moment of instrument administration" is what is being requested. If all other instruments in the questionnaire have specific recall periods, it is wise to give a recall period to the PQoL as well. A recall period of "in the last week" or "in the last month" can be used. The PQoL, in usage with the SIP, should contain "think of yourself today" which was the original intent of the SIP.

### Discussion

The main advantage of the PQoL is the ability to use this instrument and examine the relationship between function and satisfaction with function. It is easy to administer and was developed using a theoretical model and interviews with different populations. The measure has been used most widely in populations with chronic conditions. The main potential limitation is the use of a 0–10 scale. Some respondents unfamiliar with rating scales or with questionnaires in general may have difficulty in directly assigning a number from 0 to 10 to indicate their level of satisfaction/dissatisfaction. For these respondents, a two- or three-step procedure can be followed. Verbal anchors can be put on a card (satisfaction/dissatisfaction for items 1–19 and happy/unhappy for item 20) and participants can locate their response in one of the three parts of the scale, and then narrow their choice.

This measure also incorporates the areas of dysfunction included in the SIP developed in the United States (Bergner, Bobbitt, Carter, & Gilson, 1981) and the ► [Functional Limitations Profile](#) (FLP), a culturally adapted and UK-weighted version of the SIP developed in the United Kingdom (Patrick & Peach, 1989). The PQoL can be correlated with SIP or FLP category scores to investigate the relationship

between functional status and satisfaction with functioning (see Patrick et al. 2000 on development of the PQoL).

## Cross-References

- ▶ [Convergent Validity](#)
- ▶ [Cronbach's Alpha](#)
- ▶ [Discriminant Validity](#)
- ▶ [Factor Analysis](#)
- ▶ [Functional Limitations Profile](#)
- ▶ [Human Needs](#)
- ▶ [Internal Consistency](#)
- ▶ [Known-groups Validity](#)
- ▶ [Perceived Quality of Life](#)
- ▶ [Reliability](#)
- ▶ [Satisfaction with Life Scale \(SWLS\), an Overview](#)
- ▶ [Sickness Impact Profile \(SIP\)](#)
- ▶ [Subjective Well-Being](#)
- ▶ [Test-retest Reliability](#)

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## Perceived Risk of Crime

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### Synonyms

Crime risk perception

### Definition

Perceived risk of crime is one's own evaluation of the probability of being a victim of a criminal offense.

### Description

Perceived risk of crime is related to the possibility of experiencing criminal ► [victimization](#), i.e., an experience which, per se, can determine negative ► [changes in quality of life](#). Beyond its harmful physical and economic consequences, it may have undesirable psychological outcomes, in that – being based on the perpetrator's intention to cause harm to the victim – it may jeopardize the victim's assumptions of (a) the benevolence of the impersonal world and of other people, (b) the existence of a just, meaningful, and controllable world, and (c) ► [self-worth](#) (Janoff-Bulman, 1989). Indeed, research has shown criminal ► [victimization](#) to foster ► [stress](#) (Norris & Kaniasty, 1994), lowered levels of well-being (Denkers & Winkel, 1998), lowered perception of ► [health](#) (Koss, Woodruff, & Koss, 1990), and even posttraumatic stress disorder (Resnik, 1987).

Thus, due to the potentially severe consequences of experiencing a criminal offense, it is far from surprising that people tend to interact with their relational and social world developing

specific levels of crime-related worries, among which crime risk perception and ► [fear of crime](#). Even if these two constructs have been often used as synonyms, they have a different psychological nature. Fear of crime, which belongs to the emotional sphere, should be considered as a feeling of dread or ► [anxiety](#) about ► [victimization](#) (Ross & Jang, 2000), while perceived risk of crime, which belongs to the cognitive sphere, is related to people's beliefs about the probability of being victimized (Perkins et al., 1992). Nonetheless, fear of crime and perceived risk of crime share many common predictors, even though not all of them (Rountree & Land, 1996).

If realistic, crime risk perception should be considered as a healthy mechanism helping people to defend themselves from the risk of being victimized (Fattah, 1993). However, if disproportionate, it may have negative consequences on people's ► [quality of life](#) at the intrapsychic level, in that it fosters ► [stress](#), ► [anger](#), aggressiveness, anxiety, disempowerment, and may even have psychiatric consequences. Moreover, several negative behavioral effects have been detected (mainly withdrawal from social participation and the imposition of constraints on one's own life) (McKee & Milner, 2000). Furthermore, at the ► [community](#) level, perceived risk of crime can weaken community integration, ► [social support](#), and social capital, fostering people's disinvestment on social relations and public life (Houghton, 2001). In addition, at the social and economic levels, the spread of disproportionate crime risk perceptions may (a) increase the division between the rich and the poor and between people who can afford private security measures and those who cannot (Hale, 1996), (b) transform some public places into no-go areas (Wilson, 1975), (c) exert a chilling effect on participation (Saegert & Winkel, 2004), and (d) help increase crime levels themselves, leading people to spend more time in their homes and thus reducing the level of surveillance in public places (Goodstein & Shotland, 1980). Finally, at the political level, it can impact on the ► [climate of opinion](#), promoting the development and spread of a security ideology that can turn the legitimate

demand for living in safe communities into an attempt to legitimize xenophobia and exclusion (Jeudy, 1986).

Researchers have typically explained perceived risk of crime relying on one out of two main families of predictors, respectively focused on contextual or on individual characteristics. Three sets of ecological factors showed to foster perceived risk of crime. First, the crime rate, which may be considered as a proxy variable for the objective risk of being victimized spread in the community. Second, social and economic disadvantage of people's life space, that weakens residents' control, efficacy, and even physical ► [health](#) (Franklin, Franklin, & Fearn, 2008; Taylor & Covington, 1993). Third, the spread of social and physical ► [neighborhood disorder](#) (LaGrange, Ferraro, & Supancic, 1992). Social disorder refers to disruptive behaviors such as loiterers, unruly and rowdy teenagers, gangs, begging, public drunkenness, prostitution, and public drug use or sales. Physical disorder refers to disorderly inanimate environments such as those in which there are abandoned cars, vandalized property, litter, graffiti, vacant houses, and dilapidated homes. Disorder worries residents because it is easily considered as the epiphenomenon of the fact that social order and social control have broken down and of the incapacity of residents to manage their neighborhood (Skogan, 1990).

However, due to the ► [ecological fallacy](#), the correlations identified at the contextual level do not necessarily reflect those at the individual level. Thus, another set of studies analyzed the individual predictors of perceived risk of crime, focusing on two main sets of variables. First, those assessing vulnerability, both from the physical (i.e., limited mobility and lack in physical strength and competence) and the social (i.e., the lack of material and social resources necessary to protect one's own home and/or retrieve financial losses in the event of ► [victimization](#)) points of view (Pantazis, 2000). Consistent with the idea of a vulnerability – crime risk perception link, people belonging to socially marginal groups (mainly women, the elderly, people low in ► [education](#), and people belonging

to low-income groups (Hipp, 2010; Miceli, Roccato, & Rosato, 2004) showed the highest crime risk perception).

The second – and most relevant – set of individual predictors of crime risk perception is made of direct (the experience of personally being the victim of an offense) and indirect (the experience of being victim of an offense involving a member of one's social network) criminal ► [victimization](#) experiences. Even if – somewhat paradoxically – the first research on the topic found a weak or null relationship between ► [victimization](#) experiences and crime risk perception, subsequent studies performed using ► [multivariate statistical analysis](#) to control for respondents' vulnerability have identified very strong relationships between perceived risk of crime on the one hand and direct and indirect ► [victimization](#) on the other hand (Rountree & Land, 1996). Recent research showed that criminal ► [victimization](#) tends to influence perceived risk of crime among people living in areas characterized by social disorder (Roccato, Russo, & Vieno, 2011) and by a high unemployment rate (Vieno, Russo, & Roccato, 2011), plausibly because victimization, by pushing residents to deeply explore their community, should make focal its contextual cues and make salient its signs of menace.

Moreover, criminal ► [victimization](#) showed to impact longitudinally on crime risk perception (Russo, Roccato, & Vieno, *in press*). However, its effects showed to be relatively short (less than 12 months). In addition, the effects of multiple (being a victim of different crimes) and repeat (repeatedly being a victim of the same crime) ► [victimization](#) showed to be much weaker than those of a single ► [victimization](#) experience (Russo & Roccato, 2010). These results indirectly suggest that people effectively cope with the negative effects of criminal ► [victimization](#), succeeding in neutralizing them.

Given that predictors of crime risk perception lay both at individual and the contextual level, in the late 1990s and in the early 2000s some authors started to model it using hierarchical linear modeling (HLM), a statistical technique that allows researchers to conjointly consider different level predictors as well as their

cross-level interactions. Such analyses, beyond substantially confirming the results of the research focused on individual or ecological variables taken separately, showed that perceived risk of crime actually depends both on individual characteristics and experiences on the one hand and on the features of people's life space on the other hand.

### Conclusion

From the theoretical point of view, the entwinement of individual and contextual variable at the basis of perceived risk of crime suggests that this construct has both a rational and a nonrational nature. On the one hand, its links with victimization, the crime rate (which account, at least in part, for the "objective" risk of being victimized), and the social disadvantage of people's area of residence support the idea that crime risk perception is a rational cognitive reaction to crime. This idea is also supported by results showing that the more salient, but less diagnostic, information about the immigrant rate does not show significant links with crime risk perception. However, the relationship between crime risk perception and the unemployment rate is also consistent with the thesis advanced by the most radical criminological researchers (e.g., Mathieu, 1995), according to which crime-related worries disguise a wide array of social and economic insecurities experienced by people in Western countries by conveying them into an insecurity that is more easily handled and faced by the dominant classes.

At the individual level, perceived risk of crime mainly depends on individual vulnerability and on criminal ► [victimization](#). However, the social and economic disadvantage of people's area of residence can foster it, both directly and as moderator of the effects exerted by its individual predictors. Thus, from the methodological point of view, given that the quota of crime risk perception variability due to ecological features is far from irrelevant and because, like the other crime-related worries, crime risk perception is inherently nested into the contexts where people live, the most appropriate statistical technique to predict it is ► [hierarchical linear modeling](#).

### Cross-References

- [Changes in Quality of Life](#)
- [Climate of Opinion](#)
- [Education](#)
- [Neighborhood Disorder](#)
- [Post-traumatic Stress Disorder \(PTSD\)](#)

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## Perceived Stress

- ▶ [Affluence, Stress, and Well-Being](#)

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## Perceived Value

- ▶ [Aspiration Theory](#)

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## Perceived Well-Being

- ▶ [Duke Social Support and Stress Scale \(DUSOCS\)](#)

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## Perception of Emotions

- ▶ [Well-Being and Ill-Being: Names and Naming](#)

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## Perception of Feelings

- ▶ [Well-Being and Ill-Being: Names and Naming](#)

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## Perception of Health of Old Italian People

- ▶ [Self-Rated Health of Italian Elderly](#)

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## Perception of Poverty

- ▶ [Beliefs About Poverty](#)

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## Perception of Remaining Lifetime

- ▶ [Objective and Subjective Nearness to Death](#)

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## Perceptions of Equity

- ▶ [Perceived Fairness](#)

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## Perceptions of Justice

- ▶ [Perceived Fairness](#)

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## Perceptions of Safety

- ▶ [Crime and Quality of Life in Saskatoon, Saskatchewan, Canada](#)

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## Perceptual Indicators

- ▶ [Subjective Indicators](#)

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## Perceptual Mapping

- ▶ [Faceted Smallest Space Analysis \(Faceted SSA; FSSA\)](#)

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## Performance

- ▶ [Exercise](#)

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## Performance Evaluation

- ▶ [Performance Indicators](#)

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## Performance Indicators

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### Synonyms

[Measuring service activities quality](#); [Multidimensional performance measures](#); [Performance evaluation](#); [Productivity in service economies](#); [Service activities assessment](#)

### Definition

The most widely accepted definition of “performance,” but also questionable, finds its recent source in managerial approaches. In a context of accountability, performance is a compared quantified result with a simple and targeted objective. “Performance” is also a method of coordination of the actions; a cognitive device of collective mark; a tool of control; an incentive, or encouragement, device; and also, very likely, a profound faith.

### Description

#### Introduction

The etymological duality of the word “performance” is a source of both semantic richness and ambiguities. On the one hand, the verb “to perform” means to function, operate, or behave in a particular way. Although it was originally limited to the functioning of animals or machines, its meaning is no longer restricted in this way and can be extended to any being or situation. Moreover, in the sense of “to accomplish,” it means to carry out or complete a task, giving it a dynamic effect referring to both the action and the result of that action.

On the other hand, the word’s Latin etymology gives it a meaning more akin to the (still positive)

idea of perfection. This idea relates more to a quality of an individual and in this case denotes a task or situation requiring exceptional qualities, the public manifestation of ► [capabilities](#), etc. In this sense, performance refers not so much to an action as to the outcome of an action. Thus, all things considered, this ambiguity of meaning arises out of the fact that “performance” denotes, in turn and with increasing degrees of overlap, both the results of an action and the optimization processes involved in attaining those results. In the sphere of work and employment, “performance at work,” although now in widespread use, is a relatively recently expression and has retained, through successive additions, the two meanings outlined above.

The initial aim in analyzing results and employee performance in service activities was to evaluate the *product* or output, just as ► [productivity](#) had been used in its time in manufacturing industry. Such evaluation is uncertain and makes coordination within activities more complex.

### **Productivity in Services: An Elusive Notion**

The transformation of industrial economies and production systems into service economies has changed the mode of coordination of agents and the arrangements for incentivizing employees. One of the reasons is that everything coming under the heading of “production” is less clearly defined and more determined by convention.

#### **The Difficulty of Using the Notion of Productivity in Service Economies**

The Fordist era was underpinned by a regime aimed at increasing production (in volume terms) and distributing the fruits of the growth in output on the basis of a Fordist compromise. Work organization in the industrial productive systems made productivity (of a production factor, particularly labor) one of the key indicators in the wage-labor nexus. “Productivity” compared output (what is produced by an individual or an organization) to inputs (the volume of labor – or capital – required to produce the output in question).

The homological application of this industrialist concept was extensively investigated by Baumol (1967) and then by Baumol, Blackman, and Wolf (1989).

However, it rapidly became problematic, particularly because it is not immediately evident what the output of a service activity is (Griliches, 1994) and because there is a certain degree of confusion in most services between the process of producing a service and the result of that process (Gadrey, 1996). Just as it is easy to identify what a firm in the automotive or clothing industry produces, and hence to monitor that output or to relate it to the effort required to produce it, so any attempt to establish what the output of a hospital, school, or even a consultancy firm is raises much thornier issues (Stiglitz, Sen, & Fitoussi, 2009; Triplett & Bosworth, 2004).

Broadly speaking, the responses to the issues raised have roughly been of two kinds. The first involves the estimation of inputs only, which is of course consistent with the need to allocate scarce resources. The second kind of response has been to estimate certain outputs, which of course requires agreement on the purpose of the activity and on the way in which its output is to be quantified. In this second case, which is constantly being developed and refined, these agreements (or conventions) are a more or less negotiated compromise between the actors in the transaction, those who monitor them and those who regulate them.

#### **The Necessary Conventions on the Product or Output of Service Activities**

There are different reasons for the difficulties and complexities in defining the output of service activities. Firstly, in the nature of service activities themselves, particularly when the tasks to be carried out involve the provision of care, support, advice, knowledge transfer, etc. Second, the ill-defined scope of such activities creates difficulties in identifying their boundaries and volume. What is the volume and unit of output of “education” or home help services?

The volume-based approach used to be embodied in the tools developed to measure industrial productivity. It is sometimes of no use

or even counterproductive when what is to be captured (or what ought to be captured) is more a matter of gains in the *quality* of the goods and services produced and consumed. This applies in particular to activities in which the allotted tasks involve “spending time with,” “doing with” in the case of apprenticeships, maintaining other people’s independence, the provision of care, etc.

The unique nature of service activities (Folbre, 2006; Karpik, 2007) also makes evaluations of any given activity and its results more uncertain and more complex. By causing two protagonists to interact with each other, the service relationship makes it difficult to standardize actions. It is on such standardization, though, that measures of industrial productivity are based. These uncertain encounters mean that quality can vary over time, despite recurrent attempts to rationalize work organization in order to reduce this variability. These attempts are embodied in ► **norms**, **certificates**, and **quality labels**.

The foundations have been laid for a new wage-labor nexus characterized by the following dialectic. On the one hand, there are forces (generated, e.g., by managers seeking to rationalize public action) whose effect is to objectify the result of an activity (which also becomes the numerator of performance ratios). The underlying assumption here is that this objectification can be achieved by putting in place batteries of quantified indicators. There are other forces, however, that tend to ensure that what is produced, particularly in services, can only be the result of joint negotiations, which works against the objectification of activities and hence of performance. Thus, this position, which has been adopted by professional groups and trade unions, for example, recognizes that a multiplicity of conventions emerge through negotiation, thereby providing the foundation for a pluralistic approach to the evaluation of activities, of their results, and hence of performance.

### **The Drive for Improved Performance Is Legitimated by the Need to Evaluate Public Policies**

New needs with regard to the coordination and evaluation of public policies have strengthened

this trend towards the objectification of performance. The emergence and popularization of the evaluation practices have been applied to public policies since the 1960s in the United States and the 1980s in France. They have gone hand in hand with an unprecedented wave of “modernization” (i.e., control of expenditure) in the public services, which was already at work with the rationalization of budget choices and of public action. One of the most visible symptoms in terms of work and employment has been the establishment of performance evaluation systems, with the legitimacy of public action increasingly being determined by investigations of its “effectiveness” and “performance.”

By creating a distinction between three aspects of performance (known as the “3 Es”: efficiency, effectiveness, and economy), consultancy firms, whose business has flourished as a result of the increasing demand for performance-enhancement measures (Power, 1997), have propagated the notion that it is possible to evaluate the overall performance of public services by putting in place systems based to a large extent on those used to identify companies’ overall performance.

*Economy*, firstly, is a financial ratio that compares direct outputs to costs. *Efficiency* relates the direct results of service production to the inputs used; there is a risk here of confusion between the direct result and the inputs. *Effectiveness* compares the resources used with the long-term results or outcomes. This notion of effectiveness is more highly developed in activities in which it is difficult to identify what exactly can be attributed to an employees’ direct action and when account has to be taken of more indirect effects, linked in part to exogenous events. It is also developed in situations in which the evaluation of an action’s effectiveness has a long-time horizon (e.g., ► **life expectancy**).

In all cases, it is possible to imagine radically different ways of defining the economy, efficiency, or effectiveness of a health care or educational establishment or of a police service. These three dimensions (i.e., the three Es) correspond to different aspects of what might constitute the “performance” of individual and

collective actions (financial, productivity in volume terms, long-term effectiveness). Once *decoupled* from the others, each one might also be an indication of the spaces for negotiation and debate that might be opened up: greater efficiency may lead to less effectiveness, just as greater economy is often incompatible with that same effectiveness, particularly if the time horizon for evaluating effectiveness is the long term.

### **A Major Aspect: The Quantification Process**

At the heart of the construction of any performance indicators, the process of quantification involves a stage in which judgements are made, in order ultimately “to attribute a value” (Desrosières, 2009). Thus, any evaluation of performance in activities is the result of this difficult process of reconciliation. When it is the result of a structured, well-thought-out study, supported by an examination of reality, performance evaluation may be validated. In some cases, it has become a blindly mechanical exercise leading to “governance by numbers” (Supiot, 2009, p. 78), the aim of which, in theory, is self-regulation by individuals. Some studies conclude that it is quantification that constitutes a trap. For others, it is excessive reliance on quantification that is to be condemned, particularly when the “quantification policy” that necessarily underlies any measurement procedure, whether it is at micro- or macro-level or social or economic in nature, is concealed (Bardet & Jany-Catrice, 2010; Desrosières, 2009). This sometimes causes certain human resource management systems to be characterized as “ratiocratic.” The authority or legitimacy of these systems results from the expert knowledge that implicitly forms the basis of this ratiocracy but which also makes such systems increasingly virtually and disconnected from the hardships and ordeals of work.

### **Performance as a Means of Coordinating**

#### **Action: A Cartography of the Four Performance Regimes**

Although we have presented a linear and synchronous analysis of the evolution of the dominant model of performance, there are in fact a number of different performance regimes that

either cohabit or constitute hybrid regimes. These performance regimes seem to be structured by two major debates.

- One concerns the process whereby the performance regime is produced. From this perspective, the modes of evaluation reflect both the (imposed or negotiated) coordination and its institutional referencing. The performance evaluation arrangements may be put in place in one of two ways. They may be planned, in which case they will reflect a hierarchical approach to coordination. Conversely, they may be negotiated, in which case the approach is more collective, more reflexive, and more consensual. In a vertical coordination system, individuals are subject to the will of a power which, through quantification, takes on a neutralized form. In a negotiated arrangement (the “negotiated” or even participatory nature of which can, in practice, take very different forms), the ultimate goal is frequently a shift in the balance of power and the search for actors’ reflexive capacities rehabilitation (Blondiaux & Sintomer, 2002).
- The second debate concerns the nature of the criteria used to measure and evaluate and whether they should be one-dimensional or multidimensional. This question is becoming increasingly central to the quest for new indicators of wealth and development (Gadrey & Jany-Catrice, 2006; Stiglitz et al., 2009). There is, after all, no consensus among researchers as to the number of indicators that should be selected in order to improve our ability to measure “economic performance and ► [social progress](#)” (Stiglitz et al.). Such measurements, which are essentially multidimensional, raise the following question: is it possible, in a single, quantified indicator, adequately to capture all the various dimensions encompassed by environmental, social, and economic values and those associated with good governance, or is it necessary to adopt a more conventional approach and use a battery of variables? This question is often formulated and discussed from two points of view. The first is the extent to which these dimensions can be regarded as

**Performance Indicators, Table 1** Multidimensionality of performances (Jany-Catrice, 2012)

The evaluation is	<i>One-dimensional (the indicator functions as a cognitive simplifier)</i>	<i>Multidimensional</i>
The process is		
Planned (and expressed in simple, quantified measures)	Example: financial target for a Capitalist Firm ( <i>autocratic regime</i> )	Example: State's managerialism ( <i>neoliberal regime</i> )
Negotiated (and expressed in a quantitative and/or qualitative multi-criteria grid)	Example: hourly productivity ( <i>fordist regime</i> )	Example: evaluation of not-for profit organisations' (economic and) social utility ( <i>deliberative regime</i> )

mutually substitutable. This is an important question in any discussion of lasting and sustainable development, since performance in some dimensions (e.g., environmental ones) cannot always be compensated for by performance in other spheres (e.g., social ones), particularly when threshold effects come into play, giving rise to irreversibilities.

Here we adopt Eymard-Duvernay's "action regime" conventionalist approach (Eymard-Duvernay, 1999) and transpose it to the establishment of performance evaluation regimes in organizations. The two disputed areas around which performance evaluation systems seem to be structured serve as a basis for identifying four performance regimes. Performance here has the status of a coordinating mechanism in a service world that is broadly defined (since increasing numbers of service activities are to be found in manufacturing firms) and can be individualized and quantified. These four performance regimes (see table below) are characterized by pairs of characteristics that are described in Table 1.

The autocratic (negotiated/individual) regime is part of a distinctive contractual arrangement in which each agent, following negotiations, is assigned a target expressed in numerical terms. This situation, which is probably fairly marginal among the various processes whereby

performance is defined, can be illustrated here. It applies to certain sales executives, who can exert some degree of control over the negotiation of sales targets, to which they then have almost irrevocably to submit.

The Fordist regime (negotiated and one-dimension performance combination) should be linked to the performance regime embodied in the notion of Fordist regulation, in which objectives of productivity gains where more or less negotiated with counterparts in terms of income increases.

The neoliberalism regime (planned process/one-dimensional performance combination) should likely be linked to the performance regime embodied in the notion of capitalist firm. The a equivalent of the "planned/multidimensional" combination is the French LOLF experiment (organic law on the finance acts).

The most paradigmatic case of the negotiated evaluation/multidimensional evaluation combination, the so-called deliberative regime, is to be found in the social and ► [solidarity](#)-based economy in which, with encouragement from the public authorities, economic and social performance is evaluated in terms of its "economic and social usefulness." Efforts here are directed towards the realization, in a reflexive and collaborative way, of a political project whose partly normative character will not, in this case, be concealed. In the case of voluntary and other nonprofit-making associations, which are playing an increasing role in the economy, the quest for social utility and the means to evaluate can take two forms. In the first, the social utility of certain organizations in the social and solidarity-based economy is analyzed and evaluated in collaboration with various categories of actors (let us call them "stakeholders"). Analytical frameworks and indicators are negotiated that will subsequently fuel the public debate on the conventions to be used for evaluating social utility. In the second, the actors embark on a process of deliberation independently of any external control or monitoring. This leads them to investigate, as the need arises or from to time, whether their values and actions are contributing to the common good, which may, depending on the country in question,

take the form of a search for the utility of the “core domain of the welfare state” (Salamon & Anheir, 1997), the social utility and performance of organizations (Wijkström, 2000), or even their political utility in order, for example, to activate democracy in the places in which they live and to engage with others in organizing cultural, leisure, or civic activities. Whatever form it may take, this type of evaluation, which is genuinely multidimensional and negotiated, can become a tool for consolidating or further developing the conventions used to assess an organization’s social or even political performance.

### Conclusion

The multiplicity of ways in which performance can be expressed is not primarily a question of the (hierarchical or spatial) level of analysis. It arises primarily out of the non-spontaneous way in which it is defined. To an even greater extent than productivity, which was conceived by and for an industrial world, performance “is the object of processes of social construction, of agreements on how to measure”. It is also the object of “conventions that may vary from one period to another and from one firm to another, depending on the collective organisation of work” (Eymard-Duvernay, 1999). Thus, it is within this multiplicity of worlds that serve to justify action, or even within competing value systems, that performance can be viewed from a variety of different points of view. From this perspective, analysis of public policy evaluation becomes, in retrospect, an heuristic of value to employment systems in general. Above the question of the measure to be used, it was when the notion of performance at work gained widespread acceptance, that the “status” or definition of work which can be characterized as “enforced autonomy” began to be questioned or renewed.

### Cross-References

- ▶ [Pluralism](#)
- ▶ [Policy Evaluation](#)
- ▶ [Program Evaluation](#)
- ▶ [Project Evaluation](#)

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### Performance Measures

- ▶ [Integrating Community Indicators and Organizational Performance Measures](#)

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## Performance of Roles, Fulfillment of

- ▶ [Psychosocial Adjustment \(Includes Psychosocial Functioning and Well-Being\)](#)

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## Perinatal Depression

- ▶ [Depression and Pregnancy](#)

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## Permanent Changes in Quality of Life

- ▶ [Long-Term Changes in Well-Being](#)

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## Permanent Income

- ▶ [Family Income and Wealth](#)

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## Personal Action Construct (PAC) Units

- ▶ [Personal Projects](#)

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## Personal and Institutional Accountability

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### Synonyms

[Agency](#); [Obligations](#); [Responsibility](#); [Sense of responsibility](#)

### Definition

Accountability is the external facet of the multidimensional concept of responsibility (Harmon, 1995). Responsibility includes the dimensions of agency and obligations, accountability, and a sense of responsibility. Accountability is the process by which agents are asked to respond and justify their actions and their consequences to a principal (Gelfand & Realo, 1999). It has to do with the norms and rules elaborated by others that influence and shape the behavior of an individual agent and with which he has to comply (Tetlock, 1999).

From another stream of research, Chambers (1997) proposes the term responsible well-being to centralize the personal dimension in development of nations and emphasize the role of rich and powerful actors in sustaining injustice as well as their capacity to generate change.

### Description

▶ [Subjective well-being](#) is concerned with an individual's personal judgment about his/her subjective well-being (Diener, Suh, Lucas, & Smith, 1999). The primary source of information for this judgment varies across cultures. The judgment of ▶ [life satisfaction](#) will vary accordingly across cultures. Different factors may explain these variations: among them, the notion of ▶ [self-esteem](#) in both individualistic and collective cultures, the notion of an independent and interdependent construal of self (Markus & Kitayama, 1991), and the judgments and feelings of responsibility and accountability will influence subjective well-being.

Accountability (Bovens, 1998; Tetlock, 1999) and responsibility (Schlenker, 1997) can be analyzed and understood from a personal, social, or governmental point of view. For instance, Frey and Stutzer (2000, 2002) explain differences in subjective well-being taking into account differences in individual as well as national variables. At the national, governmental level, accountability has to do with how

governmental officials respond to the general public about the actions, decisions, and omissions of government. For instance, in a study conducted by Helliwell and Huang (2005), authors show that capturing aspects of voice and accountability of citizens to government influence levels of subjective well-being particularly in poorer countries.

At the personal level of analysis, accountability is concerned with how an individual agent responds about his deeds to audiences that can be constituted by others.

To understand an individual as an agent means to consider his/her capabilities to develop a vision, an idea, or a project. An agent is a free and autonomous individual who takes decisions according to his/her intentions and who is able to assume the consequences of those actions. The principal or audience who asks for responsibility varies according to circumstances and situations (Wills-Herrera, 1998). Audiences for accountability can vary from the boss in an organizational setting, work or professional colleagues, God, family, or the self. Felt responsibility of the agent is his subjective internal acceptance of the responsibility for his/her acts. Accountability and felt responsibility affect each other, but the direction of this influence has not empirically validated.

The concepts of agency, accountability, and sense of responsibility are also influenced by the independent or interdependent self-construal (Markus & Kitayama, 1991). As these constructs vary across cultures, it is hypothesized that there are cultural differences in accountability and felt responsibility. The self (independent and interdependent) stands at the juncture of subjective well-being and culture (Diener & Suh, 2000). Therefore, it is hypothesized that accountability and responsibility influence subjective well-being (Wills-Herrera, 1998). Nevertheless, this relationship has not been empirically tested in the psychological, social psychological, and organizational literature.

In individualist cultures (Triandis, 1994), institutions, social norms, and habits foster the agentic way of being, emphasizing free will

and individual reason (Markus & Kitayama, 1991). Individualistic cultures advocate the primacy of individual experience so that they tend to focus their attention to individual psychological attributes. In contrast in collectivistic cultures, individuals are constantly referred to external social clues. The basis of the judgments about life satisfaction tends to differ in both types of culture. That is why accountability to an external principal may have much more influence on the subjective well-being feeling of an individual in collectivistic societies, whereas in individualistic countries such as the USA, individuals tend to feel happier according to their internal sense of responsibility.

In particular, the American culture strongly advocates the pursuit of individual interests and ► **happiness**. Cultural norms and values stress rewards and personal success. Therefore, American cultural conceptions of SWB emphasize personal accountability and responsibility so that levels of happiness are seen as a natural right for individuals; each person should be responsible and accountable for his own happiness. Being happy is seen as a personal accomplishment, and individualistic cultures stress the norm of achieving personal happiness. On the other hand, failing to be happy implies that one is shirking one's responsibility and failing to realize the cultural mandate (Lu & Gilmour, 2006).

In collectivist countries (such as Latin American and East Asian, Hofstede 1980), institutions, social norms, and habits in relation to social relationships emphasize being committed to others particularly to the in-group membership. In these countries, cultural conceptions of SWB have a distinct characteristic of role obligations. Cultural norms stress that happiness should be based upon the fulfillment of social role obligations and accomplished through self-cultivation. In so doing, group welfare and social harmony can be ensured. This is so because in these cultures it is possible to find a pursuit of socially desirable and culturally mandated achievement rather than striving for personal accomplishment (Helliwell, 2006). Therefore, the sense of responsibility and

accountability are more socially considered. Accountability will influence subjective well-being moderated by the independent and interdependent model of self (Singelis, 1994), so that cultural differences in subjective well-being in relation to individualistic countries may be found. From a different stream of research (development studies), Chambers (1997, 2006) proposes the concept of responsible well-being. The term “recognizes obligations to others, both those alive and future generations, and to their ► [quality of life](#).” It acknowledges that everyone, rich or poor, has agency and associated responsibilities and our (in)actions have widespread well-being implications at personal, national, and global levels. However, this interesting concept has stimulated only limited discussions in the development studies literature.

## Cross-References

- [Happiness](#)
- [Life satisfaction](#)
- [Quality of life](#)
- [Self-esteem](#)
- [Subjective well-being](#)

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## Personal and Social Performance Scale

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## Synonyms

[PSP scale](#)

## Definition

The Personal and Social Performance (PSP) scale, originally developed by Morosini, Magliano, Brambilla, Ugolini, and Pioli (2000), consists of four main areas:

1. Socially useful activities (e.g., housework, voluntary work) including work and study
2. Personal and social relationships (i.e., partner, family relationships, friends)
3. Self-care (i.e., personal hygiene, care of one's appearance)
4. Disturbing and aggressive behavior

The patient's degree of severity in the four domains is to be rated on a six-point scale from absent (which means no problems on this dimension) over mild, manifest, marked, severe to very severe difficulties in the given area. Out of the ratings on the four subdimensions, one total score on a 100-point scale can be created. A variation of eight points is already to be classified as a clinically relevant difference. The items "self-care" and "disturbing and aggressive behavior" are of greater concern for patients with acute schizophrenia, and the items "socially useful activities" and "personal and social relationships" are more important for patients with schizophrenia in a stable phase.

The PSP scale (see full scale in the [Appendix](#)) is a further development of the Global Assessment of Functioning (GAF) scale and the Social and Occupational Functioning Assessment Scale (SOFAS) and has proven to be a validated and practicable instrument to describe the course of treatment of patients with schizophrenia in the short, medium, and long term of their disorder. With less than 5 min needed, the evaluation is very efficient and practicable for everyday clinical use.

## Description

Schizophrenia is often associated with profound deterioration of ► [social functioning](#). Especially in the course of long-term treatment, deficits in social functioning remain prominent and increase the risk of ► [social exclusion](#) and poverty as

a consequence of poor ► [social competence](#) and unemployment. Although in the past most attention was paid to psychopathology, these days outcome parameters such as cognitive and occupational performance, emotional stability, ► [quality of life](#), and psychosocial functioning are recognized as important determinants of treatment success in terms of patients' recovery. In the future, medication and non-medication treatment strategies will also be judged by the ability to improve the patients' psychosocial functioning (Juckel & Morosini, 2008).

The assessments of quality of life as well as of social reintegration are new approaches to differentiate therapeutic effects and to consider more the patient's perspective. Given this, a more exact measurement of psychosocial functioning is needed. However, limited consensus on the definition and assessment of social functioning exists (Burns & Patrick, 2007).

The Global Assessment of Functioning (GAF) scale is widely used, but it is limited because, e.g., psychosocial facts overlap with psychopathological symptoms. Nevertheless, for the evaluation of functioning in general, GAF is a simple and short instrument. Out of the GAF scale, the Social and Occupational Functioning Assessment Scale (SOFAS) was developed. However, it includes no clear operational instructions for rating the severity of disability. On this background, Morosini et al. (2000) developed the Personal and Social Performance (PSP) scale in a rehabilitation center for patients with schizophrenia. It was developed on the basis of the social functioning component of the DSM-IV.

Compared to the GAF scale and the SOFAS, the PSP scale offers several advantages: Without mixing psychopathological with psychosocial aspects, there is a more exact and specific operationalization of the occupational, social, and personal functioning domains. The rater can assess one global score out of four subscores of the main areas: socially useful activities, personal and social relationships, self-care, and disturbing and aggressive behavior. Operational criteria to rate the levels of disabilities are defined for the four domains. This distribution in four subdimensions creates a higher specific

expressiveness of the PSP scale in comparison to the GAF scale and SOFAS (Juckel et al., 2008). The global score will be given on a 100-point rating scale subdivided into 10 equal intervals. From 100 to 70 points, the ratings refer only to mild difficulties, from 70 to 31 to manifest disabilities of various degrees, and under 30 points, the person's functioning is so poor that intensive support or supervision is needed (Morosini et al., 2000).

Morosini et al. (2000) validated the English version of the PSP scale (see Appendix) in a sample of 61 psychiatric patients – most of them with a schizophrenia spectrum disorder – in a rehabilitation center. Each patient was rated independently on the PSP scale by two workers with different professional backgrounds who knew the patient best. The PSP average scores showed a large variance in the level of disability from 83 to 16 points at which 68 % of the ratings fell in the range of 60-31 points. Excellent inter-rater reliabilities were obtained. Compared to the SOFAS, the PSP scale proved better face validity and psychometric properties. The time needed to do the ratings was on average less than 5 min.

In their meta-analysis of measures for the assessment of social functioning, Burns and Patrick (2007) reported data from a large cross-sectional validation study and three pooled antipsychotic trials; in these studies, the PSP scale proved to be a reliable and valid measure of personal and social functioning which is also sensitive to clinical changes.

We translated the promising PSP scale into German. As a help for rating the patient's personal and social performance, we also created an interview guideline to assess the most important information (see in Schaub & Juckel, 2010).

The validation of the German version of the PSP scale was conducted in patients with schizophrenia, one study with patients in an acute phase of the disorder (Juckel et al., 2008), one with patients with a chronic course (Schaub et al., 2011).

First, we validated the PSP scale in a sample of 62 patients with acute schizophrenia. Rating instruments were the PSP scale, the GAF scale, the SOFAS, the PANSS (Positive and Negative

Syndrome Scale), the CGI (Clinical Global Impression Scale), and the Mini-ICF-APP (Mini-ICF-Rating for Psychological Disorders). The results proved good ► **reliability** with  $\alpha = 0.64-0.84$ , high test-retest reliability as well as good inter-rater reliability for the PSP scale. The satisfactory reliability of the PSP scale can be seen as evidence that the four domains socially useful activities, personal and social relationships, self-care, and aggressive and disturbing behavior can be used together to operationalize the construct psychosocial functioning. Furthermore, the PSP total score showed high correlations to the GAF score ( $r = 0.91$ ), the SOFAS score ( $r = 0.91$ ), and the Mini-ICF-APP total score ( $r = -0.69$ ). These results affirm the high validity of the PSP scale for the construct psychosocial functioning for patients with schizophrenia, and containing the four subdimensions, the PSP scale has an advantage in content and specificity in comparison to the older scales GAF and SOFAS and is still quickly applicable. The significant correlation between the PSP scale and the Mini-ICF-APP can probably be attributed to the overlapping of topics, as both scales estimate functioning (especially occupational functioning). Given this, it is probably useful to use the Mini-ICF-APP to address the specific question of occupational functioning, whereas the PSP scale generally offers a broader assessment of social functioning. Thus, the results of the acute study prove the PSP scale to be a reliable and valid instrument for assessing social functioning of patients with schizophrenia during the course of treatment in the acute state of the disorder (Juckel et al., 2008).

Second, validation was conducted in a sample of 103 patients with chronic schizophrenia. Rating instruments were the same as in the first study. Besides good psychometric properties for the PSP scale, we found significant negative associations between the PSP scale and the PANSS. According to the PSP total score, the highest significant negative correlations were found with positive symptoms and disorganization, lower but also significant correlations with excitement and negative symptoms, and also a significant but minor

correlation with emotional distress. Especially the significant negative correlations between negative symptoms, disorganization and social functioning are in line with the literature: It is reported that negative symptoms are significantly associated with ► [unemployment](#) in schizophrenia and reflect less self-care (e.g., McGurk & Meltzer, 2000). These findings prove the close interplay between social functioning and psychopathology in the chronic course of schizophrenia. Generally spoken, the PSP scale is able to differentiate between patients with a severe psychopathological state – implicating also low psychosocial functioning – and those with a low degree of symptoms (Schaub et al., 2011).

So all in all, similarly to the original validation study for the English version of the PSP scale (Morosini et al., 2000), we found acceptable psychometric properties for the German version suggesting that the Personal and Social Performance scale is a reliable and valid instrument for assessing social functioning of patients with schizophrenia in the different stages of their disorder:

- As a short instrument, the PSP scale is well suited to everyday clinical practice in both in- and outpatient settings.
- The PSP scale is a useful tool for the documentation of changes in social functioning during treatment. Here, the PSP scale seems particularly helpful because it enables the clinician to realize even small relevant changes within one decimal level, e.g., from 53 to 56.
- And the PSP scale is also proposed as an adequate and practical instrument in future quality of life research.

## Appendix: PSP Scale English Version

Please rate the patient on his/her level of functioning during the reference period (e.g., past month or last 7 days). Consider what the person is doing, taking into account if she needs help or prompting by others (German Version see Schaub & Juckel, 2010).

The four main domains of functioning considered in this scale are (a) personal and social relationships; (b) socially useful activities,

including work and study; (c) self-care; and (d) disturbing and aggressive behaviors.

In each area, consider the worst behavior observed in the reference period. One difficulty is that areas a, b, and c include more subareas. In this case, give the score corresponding to the subarea where the worst functioning would be rated with the lowest degree of severity score 0–6 (see below). For area a, subareas are work or study and other socially useful activities (e.g., housework, voluntary work, “useful” hobbies as gardening); for area b, subareas are relationship with partner (only if the patient has a partner and usually lives with him/her, otherwise ignore), family relationships, and social relationships; for area c, subareas are personal hygiene, care of one’s appearance, and attire.

Other areas (different from the main four areas) (e.g., self-management of the disorder; having interests and being informed about social, political, or even sport issues; instrumental activities as managing money, using the phone, travelling) may be taken into account to define the score inside each ten-point interval.

If there was a recent crisis, you may want to give two scores, one for the crisis period (e.g., last 7 days) and one for the month before the beginning of the crisis.

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There are two different sets of operational criteria to judge the degree of difficulties:

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One for areas **a–c** and one for area **d**

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Degrees of severity

areas a – c	Degrees of severity area d
0. Absent	0. Absent
1. Mild: difficulties that are known only by someone who is very familiar with the person	1. Mild: corresponding to mild rudeness, unsociability, or whining
2. Manifest, but not marked (equivalent to moderate): difficulties clearly noticeable by everyone, but not interfering substantially with the person’s ability to perform his/her role in that area, given the person’s sociocultural context, age, gender, and educational levels;	2. Manifest or moderate: such as speaking too loudly or speaking to others in a too familiar manner or eating in a socially unacceptable manner

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(continued)

There are two different sets of operational criteria to judge the degree of difficulties:

One for areas **a–c** and one for area **d**

Degrees of severity areas a – c		Degrees of severity area d	
rate area <b>a</b> as “manifest” if the person has a sheltered work and the performance is good			
3. Marked: difficulties interfering severely with role performance in that area; however, the person is still able to do something without professional or social help, although inadequately and/or occasionally; if helped by someone, he/she may be able to reach the previous level of functioning	3. Marked: insulting others in public, breaking or wrecking objects, acting frequently in a socially inappropriate but not dangerous way (e.g., stripping or urinating in public) <u>not occasionally</u>		
4. Severe: the person is unable to perform any role in that area without help or has a harmful influence; the person’s health, but not his/her life, may be at risk	4. Severe: frequent verbal threats or frequent physical assaults, without intention or possibility of severe injuries <u>not occasionally</u>		
5. Very severe: impairments and difficulties of such intensity to endanger the person’s survival. Suicide risk should be taken into account only as much as suicide ideation and rumination interferes with social functioning	5. Very severe: defined as aggressive acts, aimed at or likely to cause severe injuries <u>not occasionally</u>		

For a disturbing behavior to be considered as “occasional,” it must have taken place only once in the preceding week or 1–2 times in the preceding month, **and** in the judgment of mental health professionals and caregivers, it is unlikely to happen again in the next 6 months. If a behavior meets this definition of “occasional,” the rating should be decreased by one point (e.g., severe to marked, moderate to mild). An injury has to be considered “severe” if it would need to be treated in an emergency department, if available.

The following table may be used to score the severity of problems in each main area

	Absent	Mild	Manifest	Marked	Severe	Very severe
1) Socially useful activities, including work and study	€		f	”		...
2) Personal and social relationships	€		f	”		...
3) Self-care	€		f	”		...
4) Disturbing and aggressive behaviors	€		f	”		...

**Overall score instructions on the basis of the four main areas’ scores**

100–91	Excellent functioning in all four main areas. He/she is held in high consideration for his/her good qualities, copes adequately with life problems and is involved in a wide range of interests and activities
90–81	Good functioning in all four areas, presence of only common problems and difficulties
80–71	Mild difficulties in one or more of the areas a–c
70–61	Manifest, but not marked, difficulties in one or more areas a–c or mild difficulties in d. For area a, include here sheltered work, if the performance is good
60–51	Marked difficulties in only one area a–c or manifest difficulties in d
50–41	Marked difficulties in two or three of the areas a–c or severe difficulties <u>in only one</u> area a–c <u>without marked difficulties</u> in the other two; <u>no marked difficulties</u> in d
40–31	Severe difficulties <u>only</u> in one area a–c <u>and</u> marked difficulties in at least one of the other two; or marked difficulties in d
30–21	Severe difficulties in two areas a–c or severe difficulties in d, even if severe and marked difficulties in the areas a–c are absent
20–11	Severe difficulties in <u>all</u> areas a–c or very severe difficulties in d, even if severe difficulties in area —c are absent. If the person reacts to external prompts, the suggested scores are 20–16; if not, they are 15–11
10–1	Lack of autonomy in basic functioning with extreme behaviors but without survival risk (scores 10–6) or with survival risk, e.g., death risk due to malnutrition, dehydration, infections, and inability to recognize situations of marked danger (scores 5–1)

5) Overall score | | | | |

(continued)

Summary meaning of PSP total score	
71–100	These ratings reflect absence of disability or only mild difficulties
31–70	These ratings reflect varying degrees of disability
1–30	These ratings reflect functioning so poor that the patient requires intensive support or supervision

## Cross-References

- ▶ [Quality of Life](#)
- ▶ [Reliability](#)
- ▶ [Social Competence](#)
- ▶ [Social Exclusion](#)
- ▶ [Social Functioning](#)
- ▶ [Unemployment](#)

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## Personal Beliefs Inventory

- ▶ [Need for Approval Measures](#)

## Personal Contact Index

- ▶ [Public Attitudes Toward the State in Asia-Pacific Region](#)

## Personal Contributions to Optimal Sexual Experiences

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## Synonyms

[Eroticism](#); [Optimal sexual intimacy](#); [Pleasure, sexual](#); [Sexual experiences and individual traits](#)

## Definition

Developmental experiences, individual qualities, and skills that contribute directly or indirectly to optimal sexual experience.

## Description

Until recently, the topic of optimal sexual experiences has been ignored within academic

research. Despite obvious interest from the general public and the perceived impact of such experiences on the quality of life, researchers and clinicians have focused almost exclusively on the nature and causes of sexual dysfunctions. The existence of a category beyond “functional,” which has usually been defined as the opposite of “dysfunctional,” has not been considered. The result is a superficial, unbalanced, incomplete understanding of sexuality and a significant gap in the literature. The media (e.g., lifestyle magazines, self-help books, pornography) have rushed to fill this vacuum with myths and misinformation.

Sex therapists (e.g., Broder & Goldman, 2004; Metz & McCarthy, 2007, 2012; Ogden, 1999; Schnarch, 1991) have explored the elements that might contribute to optimal sexual experiences. These include developmental experiences (e.g., differentiation, maturity), personal qualities (e.g., self-acceptance, openness to new experiences), and skills (e.g., communication). These contributors have been identified from clinical observations and were usually based on work with unhappy clients (at least initially Shaw (2012)).

In order to fill the gap in the literature, research was conducted to identify and describe factors that may contribute to or set the foundation for optimal sexual experience. Phenomenologically oriented research methods were employed in conducting semi-structured interviews with 75 key informants, that is, individuals presumed to have expert knowledge in the phenomenon under investigation (Kleinplatz, 2006; Kleinplatz, Ménard et al., 2007; Kleinplatz, Ménard, Paquette et al., 2009a; Kleinplatz, Ménard, Paradis et al., 2009b).

Developmental factors, personal qualities, skills, and individual factors during sex all contribute to facilitating optimal sexual experiences. Such experiences require letting go of destructive messages and shame in favor of deliberately pursuing and cultivating sexuality. Occasionally, individuals are lucky enough to meet a special person or experience a special, onetime event (e.g., coming out of the closet) after which optimal sexual experiences became possible. For others, the pursuit of optimal sexual

experiences entails seeking out formal and informal learning experiences (e.g., workshops, books). This involves deliberately setting out to improve skills in sexual and nonsexual areas, such as learning communication skills or massage techniques. Nourishing one’s capacity for optimal sexual experiences requires further practice, repetition, and refinement. The pursuit of optimal sexual experiences can be likened to a continuing journey. It is important to be open to experiences and opportunities as they occur, whether anticipated or unexpected, and to learn from them to gradually improve understanding of oneself and one’s sexuality.

Personal change and growth, both sexually and nonsexually, play a crucial role in developing one’s potential for and improving the quality of sexual experiences. Optimal sexual experiences require development of maturity and ► **adaptation** to changes across the life span.

A number of personal attributes contribute to optimal sexual experiences, including being generally optimistic, enthusiastic, “glass half-full” types with a zest for life, and an adventurous spirit. Such individuals value sex, make it a priority in their lives, pursue it actively, and enjoy reveling in ► **pleasure**.

It helps to be “poised” for experiences, that is, feeling completely ready and willing for whatever experiences might be encountered. This willingness can be conceptualized as receptive openness, fearlessness, and willingness to surrender one’s self to the experience (Mahrer, 2008, 2009). Optimal sexual experiences may require the deliberate invitation of the unexpected into one’s life and bedroom and being open to the spontaneous. Extraordinary lovers recognize that the flexibility to change and grow over time, coupled with the ability to center oneself and be present, is invaluable. They have developed the capacity to be present across a variety of levels (e.g., physically, emotionally, spiritually). Optimal sexual experiences involve an intense focus on oneself and one’s partner(s) that precludes the intrusion of internal or external distractions. For many extraordinary lovers, these centering skills develop over time, along with

increased maturity, the capacity to self-soothe and increasing levels of self-confidence and ► [self-esteem](#).

Several different skills are relevant for optimal sexual experiences. Familiarity with a variety of basic stimulation skills related to touching, kissing, and massage is an asset as are skills related to oral sex, manual sex, and intercourse. Bear in mind that the purpose of accruing these skills is *not* because wonderful sexual experiences are attainable through skills alone but rather to gain the flexibility so as to create the kinds of experiences worth wanting. One cannot apply a generic set of skills to every sexual partner; instead, it is necessary to tailor knowledge and techniques to each, individual partner.

Self-awareness and self-knowledge are important if lovers are to communicate their needs and wishes to their partners. It is difficult to communicate with another person without exploring and accepting one's own sexual desires, preferences, interests, etc. Communication about any and all aspects of sexual experience is crucial, including one's likes, dislikes, fantasies, feelings, thoughts, and other intimate details; such communication can be verbal or nonverbal and could take place at any time, before, during, and/or after sexual encounters. Communication of this caliber is characterized by sensitivity, responsiveness, awareness, and empathy in terms of reading and responding to a partner's verbal and nonverbal messages. When sexual preferences involve specific activities or fetishes (e.g., BDSM), specialized technical skills in those areas are valuable, too.

A variety of personal factors are relevant while sexual relations are actually underway and help to optimize them. It is necessary to feel connected within oneself and fully present in connection with one's partner. This level of engagement involves savoring, luxuriating, basking, and reveling in sexual pleasure. Optimal sexual experiences require being committed to the moment, embodied, and focused. Both mind and body needed to be completely engaged at all levels, that is, emotionally, physically, and spiritually.

The quality of sexual experiences is related to feeling comfortable and at ease with one's body, desires, ability to communicate, and capacity to give and receive pleasure. Extraordinary lovers describe knowing and trusting themselves, being aware of their boundaries, feeling safe, and taking a positive view of themselves. Being expressive was crucial to communicating ► [enjoyment](#) and interest; it is also necessary to perceive a partner's communications and reactions accurately. Extraordinary lovers pay attention to, receive, and respond to their partners' body language and tone of voice during sex and express themselves in any way they felt necessary.

The ability and willingness to be emotionally available, vulnerable, to let go and be flexible in the moment are essential. Being available may involve allowing oneself to open up, feel safe, and be engaged with another person. This involves allowing oneself to simply "be" rather than "do" (L'Abate & Hewitt, 1988; Shaw, 2012). Feeling enthusiasm and showing it by "diving in" and having fun is also important.

Optimal sexual experiences are facilitated by feelings of intense pleasure, anticipation, desire, high levels of arousal, and great satisfaction and release.

Those who wish to experience extraordinary sex would be encouraged to deconstruct negative messages and restrictive scripts in order to embrace greater authenticity and comfort with self. Optimal sexual experiences require personal development and growth toward greater maturity and self-awareness. The journey toward optimal sexual experiences involves making deliberate choices and taking advantage of opportunities, both sexual and nonsexual, to become the person one wants to become. The ability to center oneself – mind, body, and soul – so that one is embodied and present in the sexual experience is crucial. Self-awareness and acceptance at a deep level is important. It is then necessary to hone communication expertise in order to embrace honest self-expression. The pursuit of optimal sexual experiences requires the courage to be open to experiences and learn from them.

## Cross-References

- ▶ [Components of Optimal Sexual Experiences](#)
- ▶ [Lessons About Optimal Sexual Experiences from Remarkable Lovers](#)
- ▶ [Relational Contributions to Optimal Sexual Experiences](#)

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## Personal Development

- ▶ [Personal Growth](#)

## Personal Existential Analysis Method

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## Synonyms

PEA

## Definition

Personal existential analysis (PEA) is the central method of the ▶ [existential analysis](#) (EA) psychotherapeutic approach (Längle 1994, 2001). PEA is an integrative method that unfolds organically as a dynamic interplay of several processes that progressively activate and restructure clients’ core personal capacities involved in making authentic and free choices and acting responsibly in the world.

## Description

### Introduction

The PEA method was developed by Alfred Längle (Längle, 1993, 1994, 2001), and its theoretical tenet is Längle’s dynamic model of the human person as a relational presence engaged in an ongoing dialogue with both the internal and the external world. Thus, the main vehicle of the PEA is the person’s continuous and transformational dialogue with oneself (inner dialogue) and with the world (outer dialogue). This dynamic dialogue allows the person to maintain a state of fluid openness toward oneself and toward the

world in order to make sense of his/her experiences, to arrive at personally meaningful decisions, and to express his/her free will responsibly in various endeavors that he/she may undertake.

Although PEA has incorporated some elements of Frankl's theory (Frankl, 1975), it goes methodologically beyond Frankl's logotherapy. Whereas logotherapy was almost exclusively focused on the external world of duties and situational demands which ask the person to constantly go beyond oneself and, at times, even against oneself, PEA took a radical turn toward attending to clients' inner experiences as an essential part of the intensive integrative work that takes place during a PEA process. Thus, one's own experiences (the inner pole of the dialogue with world) become integrated with the situational demands (the outer pole of the dialogue) in order to engage the person in realizing his/her free will.

### **Purpose**

PEA serves a threefold purpose: (1) to facilitate the phenomenological access, experience, integration, and understanding of clients' lived experiences; (2) to support clients in finding their authentic inner positioning or personal standing with respect to their own experiences and to the various demands/constraints of their life situations or events; and (3) to assist clients to implement their free choices by engaging in responsible and meaningful activities.

### **Steps**

Corresponding to its three main goals, PEA follows three major steps: (PEA 1) impression, meant to elaborate clients' subjective experiences through phenomenological analysis; (PEA 2) inner positioning, aimed at finding clients' own standing toward their concrete life situations; and (PEA 3) expression, designed to assist clients decide and realize their personal decisions according to their personal standing and the actual circumstances. (PEA 1) Impression is preceded by a descriptive phase: (PEA 0) description, meant to provide a thorough account of the facts presented by clients during therapy (Fig. 1).

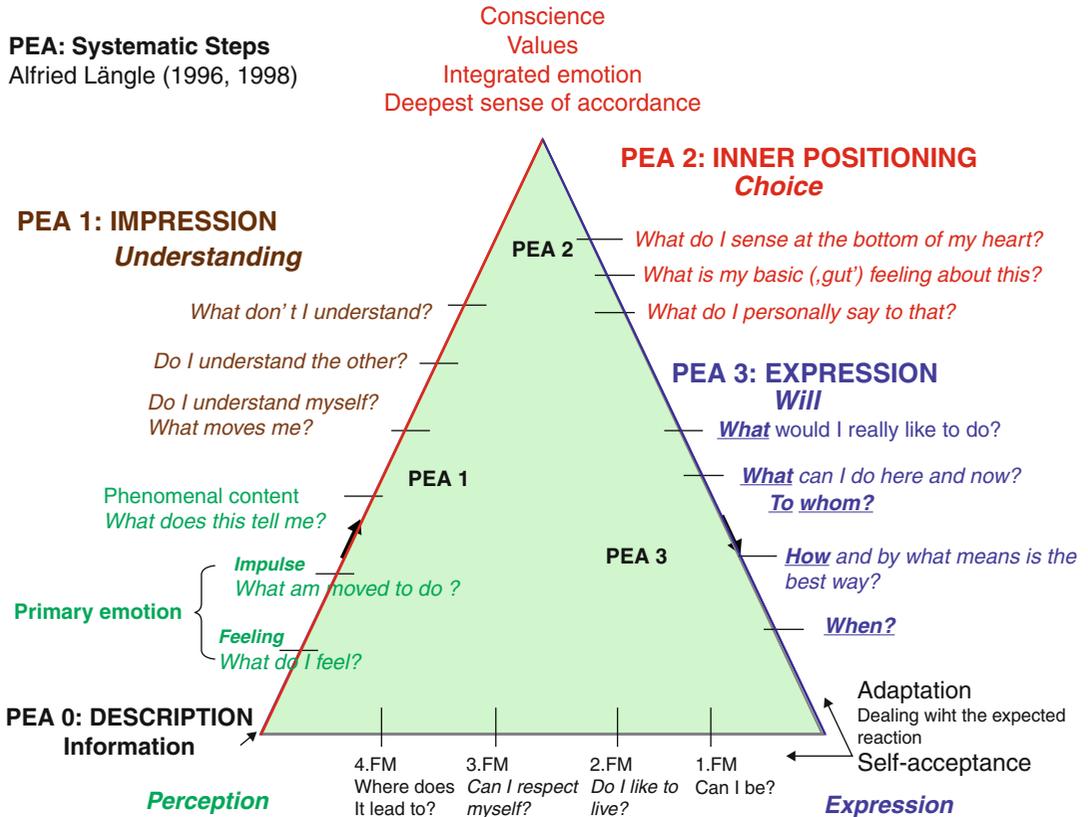
### **PEA 0: Description**

This phase aims to ensure a correct account and, as much as possible, an undistorted contact with the concrete facts of the client's problematic situation. Thus, the client is asked to describe his/her situation or event in full details and as concretely as possible. The focus at this time of therapy is on gathering accurate information about the client's reality, and the therapist's task is to ascertain that the client provides a report that is factual, clear, complete, realistic, and free of interpretations or fantasies. This descriptive phase resembles a rather arduous training in attending to reality as it is/was, and, hence, it may prove particularly helpful with clients who tend to quickly form subjective impressions or selective appraisals of various events or situations without fully contacting the concrete reality (e.g., anxious clients who selectively appraise certain isolated stimuli as dangerous and quickly flee from "what is" to "what if").

The main questions of the description phase are those able to facilitate a concrete and detailed access to facts: "What happened? When? Where? How? Who was there? Who did what? For how long? What exactly was done/said, by whom, when, etc.? What happened next?" The therapist may periodically encourage the client to search for more information: "Was there anything else that happened? What exactly? How did it happen?" During the description phase, clients' interpretations, evaluations, or emotional reactions are discouraged in favor of obtaining rich factual descriptions of reality. For some clients, this may be the first time when they actually became aware of the reality the way it is or the way it was, and this new awareness may be therapeutic and corrective in itself. Besides dialogue, adjunct methods such as personal diaries focused on facts and events, daily activity graphs, or Gestalt contact strategies may be helpful in this stage.

### **PEA 1: Impression**

During this phase, the client's personal (subjective) experience of the situation is closely examined by actively engaging client's experiential resources. This stage constitutes the



Personal Existential Analysis Method, Fig. 1 PEA steps

phenomenological analysis of the PEA. For this purpose, it is important that the therapist invite the client to elaborate on his/her subjective impression of a given situation. This impression usually consists of clients' spontaneous reactions on two levels: (1) the primary emotions and/or somatic sensations and (2) the immediate impulses for action.

Some helpful questions that may facilitate clients' work during the impression phase are as follows: "How is this situation/event for you," "What is going on within you when you see/hear this," "What does this provoke in you," "How does this situation/event impress upon you," "What emotions are stirred up in you by this," "Do you like/dislike this," "Does it make you suffer," "In what way/how," "What do you feel like doing," "What is your first (uncensored) impulse." The impression phase may be difficult when working with clients who tend to actively

engage in "experiential avoidance" by suppressing their raw emotional responses and impulses and with clients who are chronically disconnected from their bodies, emotions, and inner vitality (e.g., chronically depressed clients). The aim of this phase is to restore client's ability to access, experience, and accept one's experiences as they appear phenomenologically without criticism, devaluation, or unnecessary defenses. In order to facilitate this process, some other methods may be helpful such as Gestalt techniques, visual-expressive interventions, body-centered therapy, and somatosensory processing.

PEA 2: Inner Positioning

During this step, the client works first on integrating his/her primary emotions and impulses with the actual demands/constraints of the situation and with his/her own personal values. One of the key

processes that happen now is placing one's experiences and reactions within a specific context and into a broader perspective. The client integrates his/her actual experiences into the biographical and the present context of his/her life with the purpose of achieving a holistic understanding of what happened. This integrative understanding forms the basis for a second process later during this phase: the formulation of the personal evaluation along the lines of the client's conscience and the articulation of a personal judgment (understanding) about what happened. This understanding lays the solid ground for finding one's personal intention on how to encounter the so far unmastered situation. Some useful methods that can be applied in this stage are confrontation, self-distancing, existential dialogue, meta-positioning technique, and role playing to access various perspectives/angles of a situation. During this process, the client is encouraged to find his/her deepest sense of agreement between his/her values and conscience and the request of the problematic situation. This profound sense of inner accordance experienced as the client's inner truth, his/her gut feeling of what would be right given a particular context, allows the client to give his/her inner consent to responding in a certain way in that specific situation.

Helpful questions for this PEA stage can be any of the following: "How do you understand this situation," "What would be right for you to happen in this situation," "What message do you take from what happened," "Where do you stand right now with respect to this situation," "What would make justice to you now," "Do you believe that it is good/right for you what happened," "Does this correspond with your values/goals." It is important to note that the answers to these questions do not imply that this is what needs to happen or will happen, but they represent an elaboration and clarification of client's stand. Clients who have difficulties in any areas of self-development are likely to experience difficulties during this phase. Some likely complaints coming from these clients are that they cannot take a subjective, thus, selfish attitude or that they cannot judge or that they do not know or cannot

rely on what feels right for them. Hence, it is important that the therapist normalizes that expressing a value judgment and taking a subjective position are required steps and that the ability to take a deeply subjective and personally committed position is expected for an authentic decision-making process.

### PEA 3: Expression

The personal process of dealing with one's life situation/conditions concludes by finding one's own expression of free will, namely, what the person can and wants to do to in the respective situation, and how, when, and with which means he or she can do it. This is the basis for personal action in any given situation. In this stage, it is important to address with the client the following questions: "What do you want to do," "What will you do," "When, how, with what, with whom," "What will be the consequences of your action," "Can you assume these consequences," "How will you deal with the consequences," "What will you do if the outcome is different than the anticipated one." In order to develop the client's state of readiness to express his/her will, the therapist will discuss all the concrete elements of the client's decision to act in a certain way. Role play, psychodramatic techniques, strategic interventions, and any behavioral experiments may be the most useful therapeutic tools at this stage.

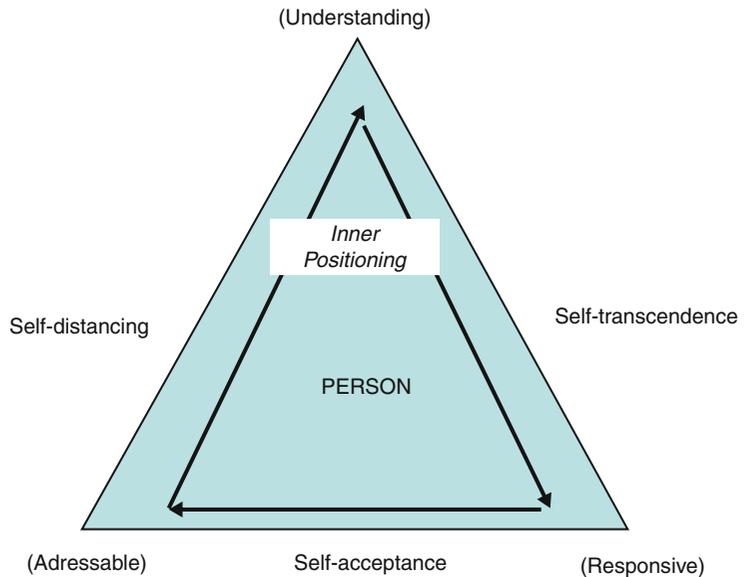
### Dynamics and Processes

*Self-distancing* (SD) links the impression phase of PEA with the inner positioning stage (Fig. 2). SD allows the person to literally take a step back from his/her raw experiences as revealed during the impression stage and to create an inner perspective or inner space by looking at oneself from a certain distance. In this process, the person becomes the subject/agent who is capable to reflect upon his or her experiences and to understand them within the larger context of personal values and situational demands. Self-distancing does not mean cutting off the person from his or her emotional experiences, but it represents a process of harnessing and meaningfully integrating these raw experiences. The result of self-distancing is the ability to integrate personal

**Personal Existential Analysis Method,**

**Fig. 2** PEA dynamic outline

**Schematic outline of PEA**  
*Alfried Längle (1990)*



experiences with the broader world of values and with multiple contextual determinants. Hence, SD lays the foundation for the client’s inner positioning and authentic decision-making stages.

*Self-transcendence* (ST) links the inner positioning and expression phases and allows the person to carry on his or her decisions in a dedicated, committed manner and in spite of the possible obstacles or distractions. Self-transcendence refers to the human person’s intentional capacity to devote oneself to a purpose that goes beyond one’s immediate pleasurable needs, wishes, or limitations. During the PEA, the personal capability of self-transcendence sustains the person in realizing his or her will (expression) in the world by responsibly assuming the consequences of his or her actions and by staying on course in spite of the possible obstacles or personal discomfort.

*Self-acceptance* (Längle, 2012) is a fundamental personal process present during PEA that allows persons to accept themselves and their own strivings, including the occasional setbacks or disappointments. It involves the wisdom to see the reality and one’s limitations for what they are, the courage to let go of unrealistic wishes, and the humbleness to embrace

whatever is given in one’s present situation. Self-acceptance is the respite that follows and precedes the strivings for self-distancing and self-transcendence. Self-acceptance is recognition of the fact that one’s self is one’s inner home as a basis for operation in all the other strivings and that without self-acceptance, a person cannot live a fulfilled existence.

**Applications**

PEA works by activating and restructuring one’s personal potentialities in a specific situation. Hence, PEA is the method of choice whenever a person becomes stuck as a result of a certain life event or interpersonal situation that has proved to be too difficult and/or too lengthy to process and integrate. In these conditions, a person may feel preoccupied, worried, or trapped in that particular life context, and the PEA helps by freeing the person to make authentic decisions that make moving beyond that particular problematic circumstance possible. If during the PEA process it becomes apparent that the client experiences important deficits or blockages on other fundamental anthropological dimensions, then these difficulties will be addressed through more in-depth methods before PEA can continue.

PEA is also helpful every time when clients manifest deficits, excesses, or distortions at the level of experiencing, deciding, and/or acting in the world. The method can help to improve the potential for dialogue and therefore the capability of true encounter, which is fundamental for developing one's own existence (Buber, 1973; Plessner, 1950; Scheler, 1980, 1991; Strasser, 1954).

More precisely defined, psychological disturbances (e.g., clinical depression, anxiety, phobias) are usually addressed with specific EA methods, and, in these cases, PEA would need to be complemented with these specific interventions. However, PEA processes are differentially relevant and, hence, can be differentially applied for various diagnoses. For example, depressive clients would benefit particularly during the first stage of the PEA (impression) given that these clients usually develop a distorted perception of themselves and of their environment with an abundance and rumination on negative emotional experiences. Anxious clients tend to experience difficulties during the perception phase of PEA because of their tendencies of not attending to present information but rather to their fear-based fantasies that distort the appraisal of reality. Clients suffering from mild to moderate disturbances with respect to their sense of self (e.g., borderline, histrionic, or narcissistic clients) may greatly benefit from the second stage of the PEA (inner positioning). More research studies need to confirm the applicability of PEA for more severe clinical conditions such as severe personality disorders or schizophrenia. In cases of severe clinical depression or severe anxiety, more specific interventions need to be employed before the client can move through the PEA stages (e.g., in severe depression, the energy for taking an inner positioning may be missing or may be too weak to sustain the expression of one's will).

## Discussion

PEA is an integrative method of existential analysis that aims to access, activate, and restructure the core existential capabilities of the human person. PEA is a bottom-up processing method that moves from the richness of concreteness

toward higher levels of personal integration and expression. Thus, PEA is an inductive and experiential therapeutic method, which works in a detailed, slow, and precise manner. Dealing with the subjectivity of the client and engaging the therapist's own subjectivity while working with the client (therapeutic intersubjectivity) represent the key features of the method. PEA has a well-developed structural model and a well-specified set of processes that follow a logical sequence anchored in the clients' natural way of processing information. PEA can be used in combination with other EA methods, such as biographical work method, specific methods for various mental health disturbances, and exploring the fundamental existential motivations. PEA also allows for a fruitful and flexible integration of other experiential, cognitive, and behavioral interventions during each of its phases.

## Cross-References

- ▶ [Existential Analysis](#)
- ▶ [Existential Fundamental Motivation](#)
- ▶ [Existential Psychotherapy](#)
- ▶ [Values](#)

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## Personal Fair Treatment Index

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### Synonyms

[Modern prejudice](#); [Racism](#); [Sexism](#)

### Definition

This index was designed to measure the degree to which a respondent believes he or she personally is treated fairly.

### Description

Following work by McConahay (1986); Morrison, Morrison, Pope, and Zumbo (1999); and Swim, Aikin, Hall, and Hunter (1995), the index was introduced in Michalos and Zumbo (2001) as one of several indexes designed to provide an overview of people's attitude measurement and beliefs concerning the cultural or ethnic background of others. The index was formed by calculating respondents' average score on the following eight items.

1. Police in your neighborhood are usually helpful and treat you fairly.
2. Health-care providers in your community (city) are usually helpful and treat you fairly.
3. Social service workers in your community (city) are usually helpful and treat you fairly.
4. People who work in banks and financial institutions in your community (city) are usually helpful and treat you fairly.
5. People where you work are usually helpful and treat you fairly.
6. People who work in local retail stores in your community (city) are usually helpful and treat you fairly.

7. Local school officials in your community (city) are usually helpful and treat you fairly.
8. Judges and lawyers in your community (city) are usually helpful and treat you fairly.

On a 5-point likert scale, a score of 1 would mean that a respondent believes that most people are usually not helpful and do not treat him or her fairly. A score of 5 would mean that a respondent believes that most people are usually helpful and treat him or her fairly.

The average score for 737 respondents 18 years or older drawn from a random sample of households in Prince George, British Columbia, was 3.7, with a range from 1.0 to 5.0. The average item-total correlation was  $r = 0.50$ , with a Cronbach alpha coefficient alpha of 0.79.

### Cross-References

- ▶ [Happiness](#)
- ▶ [Human Rights](#)
- ▶ [Life Satisfaction](#)
- ▶ [Perceived Quality of Life](#)
- ▶ [Subjective Well-Being](#)

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## Personal Goals

- ▶ [Personal Projects](#)

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## Personal Growth

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### Synonyms

Eudaimonia and personal growth; Fully functioning person; Personal development; Self-actualization; Self-realization; Virtues; Wisdom

### Definition

Personal growth refers broadly to a subset of personality development that relates to the process of becoming better in a personally meaningful way. But the notion of becoming better and fulfilling one's potentials has many interpretations, and a coherent and commonly accepted definition of personal growth does not seem to exist. Important approaches to personal growth are often grounded in operational definitions – typically self-report instruments. As a consequence, a number of “personal growth tribes” have evolved, each with different vocabularies that make the theoretical meaning of their respective personal growth concepts vary.

### Description

#### Historical Roots

The idea that development towards maturation and fulfillment is essential to a good life has always coexisted with the mainstream approach to current quality of life studies – which is subjective/hedonic well-being. For instance, growth towards some kind of perfection or excellence holds an important place in classical thinking on happiness, such as in the philosophy of Aristotle. No one, of course, fully understands Aristotle's work on happiness, but the old sage is often enough cited to have argued that the peak of human existence should be associated with

growth towards some final realization of a person's true and best nature. There is, according to this view, an ideal form for life in which human nature flourishes and reaches perfection, and the level of well-being for any person is in direct proportion to how near that person's life gets to this ideal (Griffin, 1986). According to some interpretations, Aristotle claimed that pure contemplation is the peak of human existence, a stance described by Thin as “Aristotle's embarrassingly smug effort in *Nicomachean ethics* to persuade us that the only really good life is that of the philosopher” (Thin, 2012, p. 41). Nonphilosophers may find comfort in the fact that Aristotle also operated with a lower but more realistic perfection, which is living in conformity with practical reason (Schwartz & Sharpe, 2006). Updated reviews of Aristotle's thinking on personal growth can be found in Katz (2009) and Kraut (2010).

A comprehensive presentation of early theories of personal growth is provided by Loevinger (1976). In the book, she reviews growth-related concepts and common themes developed by philosophers (i.e., Immanuel Kant, Adam Smith, Jeremy Bentham, and John Stuart Mill) and pioneers in psychology, like Sigmund Freud, William James, John Dewey, William McDougall, Jean Piaget, and Erik H. Erikson, to mention a few. The peak of humanistic psychology, dominated by Abraham Maslow, Carl Rogers, and Marie Jahoda, is extensively covered. Common themes in their philosophy of personal growth are related to autonomously motivated change, such as striving towards openness and tolerance, the experience of new and rich feelings, eagerness to learn and to seek challenges, and the intrinsic motivation to maximize one's potentials.

Hadley Cantril is well known for inventing the “Cantril ladder,” a self-report instrument for measuring life satisfaction (Cantril, 1965). His theory of personal growth is far less cited by students of happiness, even if the idea behind the “ladder” was to tap into the mechanisms of personal growth. Cantril's theory is one of stage development and he argues that the genesis of aspiration is the process of becoming, which again is an ongoing process of life changes.

According to Cantril, humans have the capacity to experience something he refers to as “valued satisfaction,” which is why we are motivated to learn and devise new ways of behaving. Humans’ inborn desire to enrich the value satisfaction of their lives develops from the most primitive phase (stage 1), at which point the individual is not even aware of his or her fundamental problems. At the highest level of personal growth (stage 5), people will feel that even if they have “arrived” at their final level of development, yet they still have much further to learn. Based on the examples Cantril provides for each stage of personal development (India at the bottom because people living there are not even aware of their own problems and US-Americans on top because the USA has built up a relatively neutral psychological world), one may readily consider Cantril’s view as ethnocentric by today’s standards.

### Concurrent Theories

Jane Loevinger’s own work on optimal functioning and personality development (Loevinger, 1976) is a theory of stages in ego development that is inspired by psychoanalytical thinking. Moving from one stage to another often involves the issue of solving conflicts. The sixth and highest level of ego development comes closest to the idea of personal growth or, in Loevinger’s own word, self-actualization. Personality psychologists such as Jack Bauer and Dan McAdams have followed up on the idea of ego development. On their view, personal growth can be expressed in terms of life narratives and cognitive growth goals (how complex one thinks about the self and others) and experiential growth goals (how good one feels about the self in a world of others). Fulfillment of growth goals, which reflects eudaimonic well-being, is basically unrelated to the fulfillment of experiential goals, which reflects hedonic well-being. There are a series of approaches to personal growth that take a similar point of view, which can be recognized in concepts such as personal striving (Emmons, 1999), personal projects (Little, 2007), life tasks (Cantor & Sanderson, 1999), growth goals (Dweck, 2000), self-concordance (Sheldon, 2007), and many others.

Not all growth goal approaches make the distinction between eudaimonic-oriented goals and hedonic-oriented goals. For example, the broaden-and-build theory argues that more or less all positive emotions contribute to the development of an individual’s potential (Fredrickson & Cohn, 2008), while other emotion-based approaches make a distinction between emotions that are related to stability and those that are related to change. Gisela Labouvie-Vief (e.g., 2003) speaks about personal growth in the terminology of affect regulation. Her work suggests that *affect optimization*, the tendency to constrain affect to positive values, should be treated separately from *affect complexity*, the amplification of affect in the search for differentiation and objectivity. Emotional optimization contributes to enhanced hedonic well-being, as characterized by high-positive affect and low-negative affect, and high ratings of self-acceptance and a sense of mastery in life. High differentiators, on the other hand, are defined more in line with the core ideas of personal growth, such as interest in analyzing one’s emotions, high tolerance of ambiguity, high scores on conceptual complexity, personal growth, and empathy.

Joar Vittersø has developed a functional approach to personal growth, inspired by developments in cognitive-emotional psychology. The basic idea in the Functional Well-Being Approach (FWBA; Vittersø, *in press*-a, 2013; Vittersø & Sørholt, 2011; Vittersø, Sørholt, Hetland, Thorsen, & Røysamb, 2010) is that hedonic feelings are typically not related to growth processes in themselves, but rather operate in order to reward the fulfillment of goal achievement and need fulfillment. The ultimate feeling of happiness, described by Wierzbicka (2004) as “I can’t want anything else now,” does not motivate us to invest the efforts needed for personal growth to take place. Rather than prompting further action, the role of hedonic feelings is thus to reward, remember, and contemplate the successes of goals already achieved. The growth processes themselves are more typically governed by so-called eudaimonic emotions, such as interest, engagement, and inspiration. The function of these feelings is to

commit us to important values and challenging goals, which provides the stamina needed for personal growth to take place, because the process of personal growth does involve being confronted with objects or situations that are complex or unfamiliar (and thus not necessarily pleasant). An important task for eudaimonic feelings is to enable humans to postpone a premature return to physiological or psychological state of homeostasis – which may be a tempting option because a return to a homeostatic balance normally is experienced as pleasant.

Another growth approach that makes an explicit distinction between two kinds of growth processes is found in the writings of Ursula Staudinger and her colleagues (Staudinger & Glück, 2011; Staudinger & Kunzmann, 2005). Building on the work of Paul Baltes, these researchers have proposed that wisdom is the prototype of human growth and they further see important reasons to make a distinction between two kinds of positive human development. Their first category, personality adjustment, regards human's functionality for both the individual and the community, in order to make everyday life running smoothly and to maintaining or augmenting subjective well-being. Their second category of human development is more similar to the classical ideas of personal growth, such as the development of particular virtues, like insight, integrity, self-transcendence, and the striving towards wisdom. A central idea in this tradition is the notion that our expectations and needs to continually be challenged by new experiences transcend the structures within which we have been socialized. Thus, openness to experience is a cornerstone within this approach to personal growth. However, and in contrast to those who argue that the two dimensions of growth should be regarded as relatively independent, Staudinger suggests that a certain level of adjustment is necessary but not sufficient for personal growth.

A widely cited work in recent personal growth research is that of Carol Ryff. She points out that the concept is part of the broader idea of a fully functioning person and that it is related to the continual development of one's potential, to

expand as a person, and to self-actualization (Ryff, 1989). She relates personal growth to the concept of openness to experience, which again is explained as a process of continually developing and becoming rather than achieving a fixed state wherein all problems are solved. On this view, personal growth includes a feeling of continued development, to see oneself as growing and expanding, to be open to new experiences, to have a sense of realizing one's own potential, and to change in ways that reflect more self-knowledge and effectiveness. According to Ryff, personal growth is, together with a sense of purpose in life, the dimension of well-being that comes closest to Aristotle's notion of eudaimonia.

Another popular approach to personal growth is self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000). SDT is a broad theory of optimal human functioning and motivation and it suggests that personal growth is inherent in humans' self-organizational nature. Individuals develop towards better functioning as a consequence of intrinsically motivated processes, which lead them to explore, discover, manipulate, and play in order to satisfy inborn needs for competence, autonomy, and relatedness. Another manifestation of personal growth within SDT is the tendency to internalize and integrate social and cultural information. The psychological need for relatedness is, for example, fulfilled when cultural values and practices are adopted. Fulfillment of the relatedness need, and the needs for efficacy and self-control (i.e., competence) and volition and self-endorsement of behavior (i.e., autonomy), is essential for psychological health and satisfaction. The self-determined nature of the self is associated with, but not reducible to, happiness (Ryan & Huta, 2009).

By introducing the concept of personal expressiveness, Alan Waterman has contributed to the idea of personal growth. His work on identity formation deals with the issue of how individuals come to understand themselves in terms of goals, values, and beliefs (Waterman, 2008). His focus is on how humans discover, develop, and express their latent talents, and his argument

is that engagement in such personal expressive activities leads to particular kinds of feelings. Waterman relates these processes to the concept of self-actualization rather than personal growth (cf. the entry on self-actualization).

Finally, flow theory explains why personal growth and the development of skills may be intrinsically motivating (e.g., Csikszentmihalyi, 1975; Delle Fave, Massimini, & Bassi, 2011). Entering flow depends on establishing a balance between perceived challenges and perceived skills, and this balance provides optimal experiences, which again act as a magnet to learning (Csikszentmihalyi, 1997, p. 33). During a flow state, one's attention is fully invested in the task at hand, and the person functions at his or her fullest capacity (Csikszentmihalyi, 2009, p. 394). Flow research has thus proposed a mechanism to explain how the development of skills and potentials are enabled by the cultivation of a balance between challenges and skills.

## Conclusion

Research on personal growth illustrates why an expanding group of quality of life researchers considers the concepts of happiness and life satisfaction to be necessary but not sufficient for a good life. Varieties of goodness exist over and above those expressed in pleasant feelings and subjective evaluations of life satisfaction. The continuous development of personal and meaningful talents and potentials is one such value, one that is even pointed out in the Universal Declaration of Human Rights. According to Article 22, everyone is entitled to realization “of the economic, social and cultural rights indispensable for his dignity and the free development of his personality.”

## Cross-References

- ▶ Eudaimonia
- ▶ Fully Functioning Person
- ▶ Personal Development
- ▶ Self-actualization

- ▶ Self-realization
- ▶ Virtues
- ▶ Wisdom

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## Personal Household Debt to GDP, Ratio of

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### Definition

A measure that expresses the financial obligations of individuals and households of a country in relation to the country’s economic strength or total income. The ratio is calculated by dividing the total amount of the personal household ► [debt](#) by the country’s gross domestic product. It is an indicator for the debt burden of households and of the long-run sustainability of household debt. The measure has to be distinguished from the ratio of federal debt to GDP referring to debts of the national government of a country.

### Description

Household indebtedness, as measured by the ratio of household debt to GDP (or relative to household income), has considerably increased since the early 1980s in most developed countries, notably in the United States but also in several European countries. The rise in household debt was particularly pronounced between 2000 and 2008, when household debt reached or even surpassed 100 % of GDP in both the United States and the ► [United Kingdom](#). The most important components of household debt are home mortgages and consumer credit (consisting of installment loans for financing the purchase of durable consumer goods and credit card debt). Furthermore, educational loans (i.e., students borrowing for financing education) have become increasingly important in recent years.

Rising household indebtedness is attributed to various factors, notably, increasing house prices,

financial innovations (increasing the accessibility of households to credit), changing attitudes towards credit, rising income inequality (► [social inequalities](#), [income distribution](#)), and slow growth of low wages, as well as demographic shifts (Barba & Pivetti, 2009; Chien & Devaney, 2001; Dynan & Kohn 2007). A growing literature (Drentea & Lavrakas, 2000; Dwyer, McCloud, & Hodson, 2011; Sullivan, Warren, & Westbrook, 2000) investigates into the various consequences of (growing) household indebtedness and points to both negative (increasing vulnerability to financial distress and personal ► [bankruptcy](#), adverse effects on health) and positive effects (increasing mastery and self-esteem). These mixed results demonstrate that the relationship between indebtedness and ► [quality of life](#) is complex and that more detailed research, including comparative analyses, is needed.

## Cross-References

- [Bankruptcy](#)
- [Debt](#)
- [Federal Debt to GDP, Ratio of](#)
- [Gross Domestic Product \(GDP\) and Happiness](#)
- [Income Distribution](#)
- [Quality of Life](#)
- [Social Inequalities](#)
- [United Kingdom \(UK\)](#)

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## Personal Income, Satisfaction with

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## Synonyms

[Financial well-being](#); [Material well-being](#)

## Definition

Satisfaction with personal income is the individual's experience of a sense of fulfillment of a need or want, concerning material and financial well-being. It is a multifaceted concept since it includes not only an objective monetary dimension but also subjective validation, different requirements, and expectations of objective income. It involves a direct influence of objective conditions on the ► [subjective well-being](#) and its interpretation. The satisfaction depends on the focus on the role of reference groups and on the role of expectations and is part of satisfaction with life as a whole.

## Description

Studies on satisfaction and income have been partly inspired by the larger literature on happiness and income. These studies have shown that income is a good predictor of happiness across people and countries but not in longitudinal studies or life cycles. In this case, considerable fluctuations were seen (Diener & Biswas-Diener,

2001). In social sciences, personal income is mostly defined as equivalent to net household income, which is adapted to household size and age of household members. Household income is a collection from different persons and different sources. Individual income depends also on different sources as loans and salaries, social income, and profits and interests. Personal income is altogether the money a household has at its disposal to balance living expenses and financial obligations.

Surveys of life satisfaction are increasingly used to study the relationship between subjective well-being and income. The essential question is to what extent higher income – or material well-being – translates into higher subjective well-being (Mayraz, Wagner, & Schupp, 2010). Satisfaction may be divided into various aspects of life. Satisfaction with personal income is one of the partial aspects of satisfaction with life as a whole. For centuries, happiness has been a term of research, and at least since Bentham (1789) it is known within the concept of ► [utilitarianism](#). A socioeconomic focus was settled in the 1970s. Then the question concerning satisfaction respectively subjective well-being and happiness got established in the scientific research through including it in representative data surveys (e.g., United States ► [General Social Survey](#) or the ► [German Welfare Survey](#)). Since then the surveys of life satisfaction have been increasingly used to study the relationship between subjective well-being or satisfaction and income (Mayraz, Wagner, & Schupp, 2010). It is thought that personal income reflects the range of options which individuals have available to achieve maximum satisfaction (Lora & Chaparro, 2008).

As a relevant basis for the studies about satisfaction, especially in the socioeconomic discipline and concerning personal income, the ► [Easterlin paradox](#) is often cited (for this see, e.g., Mayraz, Wagner, & Schupp, 2010; Veenhoven & Hagerty, 2006). In 1974, Easterlin documented – based on the dataset by Cantril (1965) – stagnant average happiness levels in the USA in the face of large increases in income. Satisfaction with personal income is influenced by different aspects. At first glance, it is certainly

influenced by the objective value of income. There is a direct effect of the objective income level to personal satisfaction (Glatzer, 1983). But satisfaction is also influenced through implicit factors of income. For example, a higher gross domestic product (GDP) depends as well on other factors within a country, like ► [health care](#), ► [education](#), nutrition, and ► [life expectancy](#). These are likewise factors of high importance for a higher rate of satisfaction (see, e.g., Argyle, 1996). Hence, income is an essential source of satisfaction in a direct or implicit way, but longitudinal studies show within countries that satisfaction is not that much correlated to the value of income in the moment all needs, desires, and wishes are fulfilled. Though poor people have a higher risk of unhappiness than rich people, and the correlation between income and satisfaction is much higher in poorer countries than in wealthy countries (Diener & Biswas-Diener, 2001). Lora and Chapallo (2008) explain that a country which has a low level of income per capita can grow at any rate while increasing its satisfaction levels but after reaching a special level of wealth, the satisfaction stops increasing as it had before. This means that after the basic needs are satisfied (e.g., nutrition, housing, education), satisfaction with personal income does not increase as before with an increasing income per capita. This is known as the “unhappy growth paradox” (see Lora & Chaparro, 2008).

Income influences satisfaction, but there are additional factors determining satisfaction. These are often also influenced by monetary aspects, e.g., health, life expectancy, nutrition, and education. But it reflects not only the objective living conditions, even more personal requirements and expectations to judge the individuals’ life situation. Happiness is systematically higher in nations that combine a good material standard of living with good governance, freedom and a climate of tolerance (Veenhoven, 2006: 2). Hence, valuations of satisfaction can be different, even if the objective situation is similar. On a macroeconomic level, Glatzer and Bös (1992) show a relationship between cultural background and subjective well-being. Analyses by, e.g., Cantril (1965) or Easterlin (1974) show

a significant cultural influence on the subjective well-being. Countries with a similar prosperity level can have different levels of satisfaction or vice versa countries with different prosperity can have similar levels of satisfaction.

Regarding the results of Easterlin, Kapteyn and van Herwaarden (1980) confirmed that comparison is an important factor. The individual's satisfaction with income depends as well on how its income compares to that of others. Thus, changes in one's income or in the income distribution of a society will not necessarily be reflected in changes in income satisfaction (Ferrer-i-Carbonell & Van Praag, 2002). Rather, the subjective valuation of objective life conditions, which reflects different demands, standards, and expectations, will influence individual satisfaction with income.

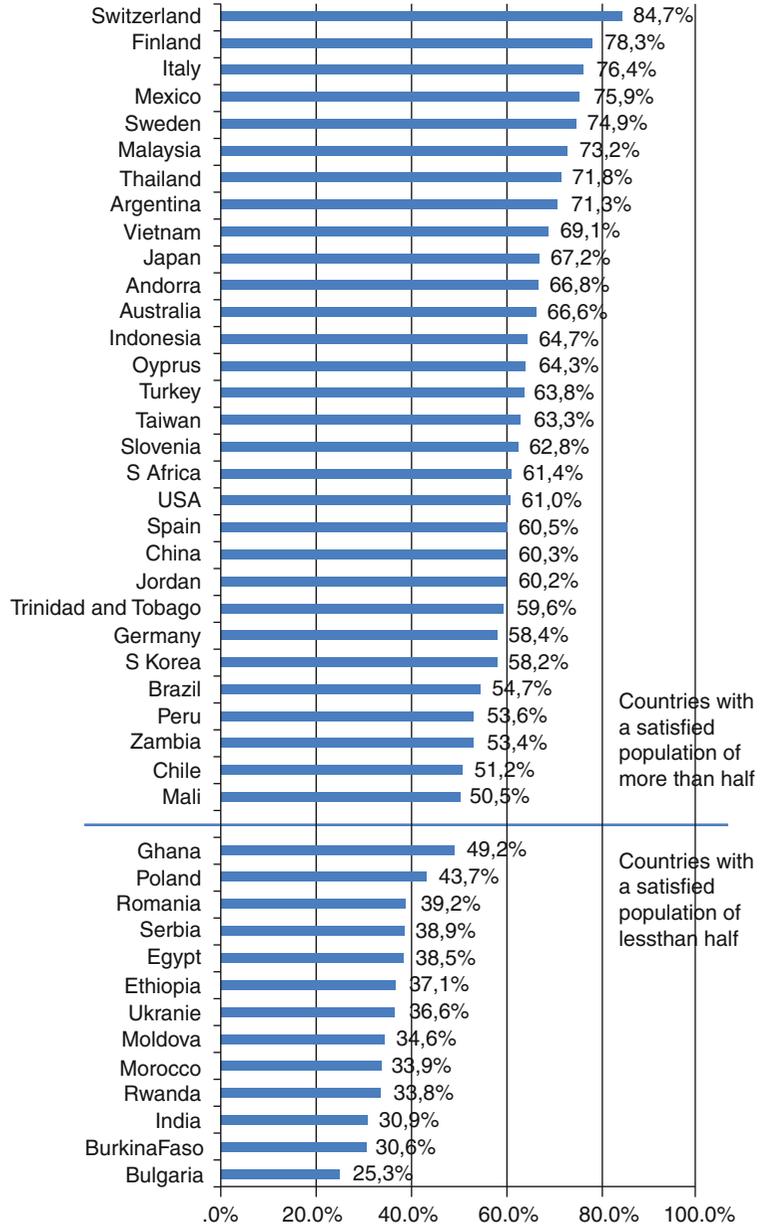
Karl Marx postulated the importance of comparison for subjective well-being. He pictured the comparison of the dwelling situation of individuals, which satisfies all social demands as long as there are similar houses around (Marx & Engels, 1966; 84–85). Referring to this, Easterlin (1974) concluded a relationship between references and individuals' income. Glatzer (1983) found that this is the most important reason for satisfaction with personal income. Testing other explanatory reasons for satisfaction with personal income, e.g., socioeconomic factors like age, gender, and education, was not as valuable as comparisons. Four comparisons of an individual's income affect satisfaction: the difference between the individual's income and the average of the population, the difference to the income of friends, the difference between the individual's income and the expectations of what would be reachable (aspiration theory), and the difference to the individual's income five years ago. Shown by analyzing the welfare survey in Germany, the relative position of income is most relevant for satisfaction (Glatzer, 1983). These results are in line with the theory of relative deprivation (see, e.g., Easterlin, 1974). Also ► [multiple discrepancies theory](#) (MDT) by Michalos (1985) illustrates the importance of comparisons for satisfaction. Michalos named seven discrepancies for comparisons: the

comparison between what a person has and the best that person ever had, what he/she has and some relevant other has (self-other gap), the aspiration-achievement gap (has-wants), the gap between what is had and needed, had and deserved, had and expected to have three years ago by now, and had and expects to have in five years (Michalos, 1985).

Overall, satisfaction is difficult to measure precisely. The questions about the way to measure and the sampling technique have often been criticized. Anyhow, mostly it is assumed that direct questions within a survey are answered properly and show the individuals' views. Satisfaction with life as a whole is a worldwide approved, individual value with full acceptance, even if it is still sometimes critically discussed in philosophical dialogues (Glatzer, 2005). The method measuring satisfaction with personal income is by means of individual answers to an income satisfaction question (Ferrer-i-Carbonell & Van Praag, 2002). Today many different databases are available for studying satisfaction with life as a whole as well as satisfaction with personal income. The World Values Survey is one of the most used databases for international studies on satisfaction with personal income (see Diener & Biswas-Diener, 2001). In Europe, e.g., the ► [Eurobarometer Survey Series](#) gives information about satisfaction with personal income. On a national level, there are several databases available, e.g., in Germany the GSOEP (German Socio-economic Panel Study) and in the USA or Canada the GSS (► [General Social Survey](#)).

Bös and Glatzer (1992) defined three different reasons and mechanisms to influence subjective well-being on an analytical basis: (1) a straight influence of objective life conditions on subjective well-being, (2) the expressed subjective well-being as a consequence of culture-specific standards, and (3) the influence of interpretations of objective life conditions on subjective well-being. There is a positive and reciprocal relationship between objective life conditions and subjective well-being. As already described, these factors are crucial for satisfaction in general as well with personal income and need to be reflected in analysis.

**Personal Income, Satisfaction with,**  
**Fig. 1** Satisfaction with financial situation of household



Question: How satisfied are you with the financial situation of your household on a scale from 1 to 10? (1= completely dissatisfied; 10= completely satisfied)

Measurement: All answers from 6 to 10 in percent of the adult population

Source: World Values Survey 2005, own computations.

In a prosperous society like Germany, more than half of the population evaluate their individual economic situation as “good” or “very good” and are satisfied with life in general (see Glatzer & Hasberg, 2010). Also the World

Values Survey, 2005 includes this question in asking for the satisfaction with the financial situation of one’s household. These data show a high rate of satisfaction with the individual financial situation in most prosperous countries. Based on

analyses of the World Values Survey, Fig. 1 illustrates a ranking of all 43 covered countries concerning the question how satisfied they are with the financial situation of their household. As not all countries are covered within the World Values Survey, the analyses give a small picture of international satisfaction with the financial situation of households. But it shows a correlation between prosperity and satisfaction. As well, the level of wealth but also the relative position of a country and the growth in the past years are possible explanations for different subjective satisfactions with the individual financial situation of households.

## Discussion

Summarizing it might be said that satisfaction with personal income is at first glance influenced by the objective value of income, by cultural standards and backgrounds, as well as by comparisons to reference groups, desires, and history. Many different factors can be analyzed in this context as satisfaction with personal income has many facets. The relationship between income and satisfaction might also be seen the other way around: A panel survey of young adults in Australia shows that happy people might on average earn more income than less happy people (Marks & Fleming, 1999). There it was found that a high subjective well-being at an earlier time period preceded increasing income (Diener & Biswas-Diener, 2001).

## Cross-References

- ▶ [Aspiration Theory](#)
- ▶ [Aspiration-Achievement Gap](#)
- ▶ [Basic Needs](#)
- ▶ [German Welfare Survey](#)
- ▶ [Longitudinal Data Analysis](#)
- ▶ [Multiple Discrepancies Theory \(MDT\)](#)
- ▶ [Relative Deprivation Theory](#)
- ▶ [Satisfaction with Life as a Whole](#)
- ▶ [Utilitarianism](#)

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## Personal Outcomes Scale

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## Synonyms

[Measuring quality of life of people with intellectual disabilities](#)

## Definition

As the concept of quality of life (QOL) has evolved from a theoretical concept to both a measurable construct and an action-oriented change agent, there has emerged a corresponding need to develop, implement, and use a systematic approach to the assessment of domain-referenced quality of life outcomes. The aim of this entry is to present the Personal Outcomes Scale (van Loon, Van Hove, Schalock, & Claes, 2008), which is a “quality of life assessment instrument” in the field of people with intellectual disabilities that is based on an empirically derived QOL conceptual and measurement framework (Claes, Van Hove, van Loon, Vandeveld, & Schalock, 2009).

## Description

### The Concept of Quality of Life

The concept of quality of life has been discussed for many years, with more than 200 definitions

**Personal Outcomes Scale, Table 1** Overview of factors, domains, and indicators of quality of life

QOL factor	QOL domain	Exemplary QOL indicators
<i>Independence</i>	Personal development	Education status, personal skills, adaptive behavior (ADLs, IADLs)
	Self-determination	Choices/decisions, autonomy, personal control, personal goals
	<i>Social participation</i>	Interpersonal relations
<i>Well-being</i>	Social inclusion	Social networks, friendships, social activities, interactions, relationships
	Rights	Community integration/participation, community roles, supports
	Emotional well-being	Human (respect, dignity, equality) legal (legal access, due process)
	Physical well-being	Safety and security, positive experiences, contentment, self-concept, lack of stress
	Material well-being	Health status Nutritional status Recreation/physical exertion
		Financial status, employment status, housing status, possessions

found in the early QOL literature (Schalock & Verdugo, 2002; Schalock, Gardner, & Bradley, 2007). However, after its introduction into the field of intellectual disabilities, the focus changed from attempting to define QOL to determining its core domains and associated indicators. This change was based on the fact that QOL is a multidimensional phenomenon rather than an individual trait or singular state of being. As it is now known that the quality of life of people is influenced by personal and environmental factors and their interaction (Schalock et al., 2007), it should be evaluated on the basis of both subjective and objective measures.

The framework shown in Table 1 reflects the considerable international research on operationalizing the quality of life (QOL) concept through the identification of QOL factors, core

QOL domains, and QOL-related indicators (Jenaro et al., 2005; Schalock et al., 2005; Wang, Schalock, Verdugo, & Jenaro, 2010). The three factors listed (independence, social participation, and well-being) represent higher order constructs and integrate the eight core QOL domains. These eight domains, which have been shown to have etic (i.e., universal or culture-free) properties, represent the range over which the quality of life concept extends and thus define the multidimensionality of a life of quality. QOL indicators, which have emic (i.e., culture bound) properties, are domain-specific perceptions, behaviors, and conditions that give an indication of a person's well-being. The exemplary indicators listed in Table 3 are the most common indicators for each of the eight core domains based on an international review of quality of life literature in the areas of education and special education, intellectual disability, mental and behavioral health, and aging (Schalock & Verdugo, 2002). These indicators are used to operationalize each QOL domain and are the basis for assessing QOL-related personal outcomes.

### Measuring the Quality of Life with the Personal Outcomes Scale

The Personal Outcomes Scale (van Loon et al., 2008) is based on the QOL conceptual framework summarized in Table 1. The proper administration and use of the Personal Outcomes Scale (POS) results in the assessment of QOL indicators related to the eight core (and universal) QOL domains (*independence*: personal development and self-determination; *social participation*: interpersonal relations, social inclusion, and rights; and *well-being*: emotional well-being, physical well-being, and material well-being). This assessment includes both subjective/self-report with the person or a proxy and objective/direct observation ratings with a professional or a parent.

The initial pool for indicator items was derived from previous research and published literature regarding domain-specific indicator items such as those shown in Table 1.

Expert judges in the field evaluated each item in reference to four criteria: (a) reflect what people want in their lives ("importance"), (b) relate to current and future policy issues ("relevance"), (c) those that the service/supports provider has some control over ("feasibility"), and (d) can be used for reporting and quality improvement purposes. Focus groups composed of important stakeholders (e.g., professionals, organization personnel, consumers, persons with different diagnoses, and families) and then evaluated each potential item/indicator in reference to its value and importance to them. A 3-point Likert Scale format was developed for the respondent to evaluate each item. Pilot studies were done to confirm the reliability, core QOL domain loading, robustness, and etic property of the respective item.

The scale results in scores over the three factors and eight domains on quality of life.

### Psychometric Properties

#### Reliability

The following steps were undertaken to guarantee the reliability of the instrument: (1) development of procedures for administering the POS, (2) analysis of internal consistency, (3) analysis of the correlations between client and proxy, and (4) analysis of the congruency between self-report and direct observation versions of the instrument.

#### Procedures for Administering the POS

To enhance the reliability of the outcomes, procedures for the administration of the interviews were developed. The POS should be *administered* by a professional who has extensive experience in the field of ID, in the administration and scoring of behavioral assessments, and who is familiar with the QOL framework, in knowledge, competence, and attitude. In administering the scale, accommodation may need to be made with respect to the language spoken and interviewing techniques, such as using prompt, augmentative, and alternative communications.

#### Internal Consistency

Cronbach alpha coefficients were calculated per domain and for the total. As for the self-report

the client or a proxy can be the respondent, and Cronbach alpha coefficients were calculated per type of respondent. All factor scores have a reasonable internal consistency,  $\alpha = .58 - .85$ . The internal consistency is less for the domain scores (which can be explained by only six items per domain), and what is notable is that scores of the clients have a similar pattern of internal consistency as that of the proxies or professionals (van Loon, Van Hove, Schalock, & Claes, 2009). It can be assumed that the different types of respondents provide reliable data.

#### Correlation Between Client and Proxy

As the administration of the POS can be done with different types of respondents, we checked the correspondence between one interviewer and different types of respondents. For the self-report, we calculated the correlation coefficients between the client and the proxy, and for the direct observation, we calculated correlation coefficients between two different professionals.

Following the guidelines of Cicchetti and Sparrow (Cicchetti, 1994, p. 286; Cicchetti & Sparrow, 1981; Tsatsanis et al., 2003), correlations can be interpreted as .40 or less = poor, .40 – .59 = fair, .60 – .74 = good, and .75 or more = excellent. The results showed that the correlation is acceptable (with an exception for the domain of self-determination from the perspective of two professionals) which leads to the conclusion that the POS can be administered in a reliable way with several types of respondents, with some prudence on this domain (van Loon et al., 2009).

#### Congruency Between Self-Report and Direct Observation

The correlations between self-report and direct observation versions of the instrument were measured. These varied from  $r = .48$  to  $r = .84$ . The lowest correlation was for the domain emotional well-being. This shows that the instrument maps two different perspectives by means of two separate subscales, which argues for them being complementary and giving an opening for a dialogue.

#### Validity

Discussed here are content validity, concurrent validity, and construct validity.

#### Content Validity

Content validity is the extent to which an assessment instrument actually measures the sample of behaviors under consideration. The POS was developed based on the conceptual model of quality of life which is internationally validated by cross-cultural research (Jenaro et al., 2005). Also, the items were thoroughly discussed within expert and focus groups.

#### Construct Validity

Construct validity is the extent to which a test measures the underlying theoretical characteristic or concept of the phenomenon being studied. We approached the demonstration of construct validity from two perspectives: descriptive and empirical. In reference to descriptive, our work was based on a conceptual and measurement model, expert judgments, focus groups, and the selection of final items on the basis of clearly described and literature-referenced criteria (Verdugo, Arias, Gomez, & Schalock, 2008).

In reference to the empirical perspective, inter-correlations were computed between the eight QOL domains and the total score for each version of the scale. If the subscales do measure the same construct, coefficients are expected to be moderate or high, or about .4 – .9 (MacEachron 1982 cited in Thompson et al., 2002). All the reported coefficients are “moderate” or “high” (except physical well-being of the direct observation form) and statistically significant at the .01 level.

#### Concurrent Validity

Concurrent validity is the extent to which a person’s score on a certain test (in this case the POS) correlates with a criterion measure, which is usually that person’s score on another test (in this case the GENCAT Scale; Verdugo et al., 2008). We approached the demonstration of concurrent validity through the administration of the direct observation version of the POS and the GENCAT (which is based on objective measures of QOL indicators only). In this study, the POS was

administered by a trained interviewer using the “Directions for Direct Observation Version” described earlier in the manual. The GENCAT was completed by a respondent under the direction of the same trained interviewer, who initially explained the purpose of the study and gave a brief overview of the GENCAT. During the respondent’s completion of the GENCAT, the interviewer was available for clarifying any items and answering any questions from the respondents. The total correlation between the POS and the GENCAT is high ( $r = .87$ ), as well as the correlation between the several domains, with an exception for the domain of “material well-being.”

### Conclusion

A thorough research process resulted in a solid instrument to measure the quality of life of people with ID in terms of outcomes of the supports they get. Important in this process was to secure thorough administration through good training instructions for interviewers. The POS provides information on actions to enhance an individual’s well-being and will contribute to an evidence-based use of quality of life data. On organizational level, POS data can, for example, be used to determine which individual, organization-referenced, and community factors predict outcome scores and to use information about outcomes and their significant predictors as a basis for data tutorials, right to left thinking, and targeting significant predictor variables (quality improvement).

The finalization of the POS and the initial data on reliability and validity set the stage for the administration of the POS to clients of several organizations and the use of the instrument for multiple research purposes.

### Cross-References

- ▶ [Intellectual Disability](#)
- ▶ [People with Intellectual Disabilities, Quality of Life Assessment](#)
- ▶ [Proxy Assessments](#)

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## Personal Projects

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### Synonyms

Personal action construct (PAC) units; Personal goals

### Definition

Personal projects are personally salient actions in context, or, less formally, the everyday acts that help shape the quality of lives.

### Description

Personal projects are personally salient actions in context and can range from the seemingly inconsequential acts of daily life (“put out the cat”) to the protracted commitments of a lifetime (“free my people”). Little (1983) proposed personal projects as a conceptual and methodological unit of analysis for the assessment of individuals and their contexts. From the outset, personal projects analysis (PPA) focused on quality of life issues, particularly ► [subjective well-being](#) (Palys & Little, 1983), and it continues to stimulate research in psychology, organizational studies, health, rehabilitation, occupational science, and gerontology (for a comprehensive review of personal project research, see Little, Salmela-Aro, & Phillips, 2007).

### Personal Projects Theory: The Social Ecology of Well-Being

Personal projects are the central theoretical concept of a social ecological framework for studying quality of life (QOL; Little, 1987, 1999, 2000). [Figure 1](#) displays the six basic elements of the model.

QOL (Block F) comprises a set of diverse aspects of the human good that, theoretically,

can be seen as complex, contingent, and contestable (Little, 2011). For example, audacious accomplishment may promote one key aspect of well-being but diminish others such as social relationship or one’s health.

QOL is directly and indirectly influenced by stable and dynamic features of persons and contexts (Block A, B, C, D). For example, happiness is directly related to stable personality traits such as extraversion (+) and neuroticism (–) ( $A \rightarrow F$ ) and is also influenced by relatively stable features of the contexts of daily life such as whether the political regime is a democratic one ( $B \rightarrow F$ ). But person and context features also have an indirect influence on QOL through their direct impact on the personal projects that individuals pursue ( $A \rightarrow E, B \rightarrow E$ ) which in turn influence QOL directly ( $E \rightarrow F$ ). Although stable personal and contextual factors may be difficult to change, personal projects are more *tractable* aspects of human functioning. The content, appraisal, and contextual impact of personal projects have substantial links with various aspects of QOL (Little, 2011).

*Central Theoretical Proposition:* A central proposition of the social ecological model is that *well-being is contingent upon the sustainable pursuit of core personal projects*. Core personal projects are those that are central to the project system as a whole. Core projects are sources of deep meaning, are tightly linked with other projects, and are resistant to change. *Sustainability* in personal project pursuit requires internal, self-regulatory skills that enable one to maintain commitment to one’s projects and external, contextual affordances that will facilitate rather than frustrate the successful pursuit of projects. Without both internal and external resources, sustainable project pursuit will be frustrated and well-being put at risk. For example, passionate project pursuit may be carried out in such a way that it leads to alienation of others who are critical to the project’s success. Both internal motivation and external affordances are necessary for sustainable pursuit. Although some of the links between traits, contexts, projects, and well-being are expectable, some of them are more subtle. For example, the personality trait of

conscientiousness is strongly correlated with desirable life outcomes in diverse areas such as occupational success, health, and mortality. And recent empirical evidence suggests that conscientiousness exerts its influence on quality of life by enhancing the efficacy of personal project pursuit (Albuquerque, Lima, Matos, & Figueredo, 2012). Such efficacy may, in part, represent the capacity to set clear and achievable goals and to remove external barriers to project pursuit. But, less obviously, conscientiousness is also associated with feelings of enjoyment in pursuing one's projects, which would increase the motivational force to persist in that pursuit (Little, Lecci, & Watkinson, 1992).

Personal Projects Analysis (PPA) is a distinctive methodology that is based on a set of 12 measurement criteria that contrast with orthodox approaches to assessment and are intended to guide assessment prior to conventional measures of consistency, reliability, and validity. Details of the assessment criteria appear elsewhere (Little, 2005, 2006; Little & Gee, 2006, 2007). PPA methodology is explicitly designed to be an integrative method that provides information about the content, appraisal, structure, dynamics, and impact of personal projects and allows analysis at the individual, group, or community levels. It also serves to guide efforts through which project change at the individual or supra-individual level can enhance well-being and quality of life. PPA was designed to provide resources for reflection and action by individuals, professionals, organizations, and policy analysts. Besides having direct and indirect effects on QOL, personal project features also have reciprocal effects upon more flexible, dynamic aspects of persons and contexts, as depicted in Fig. 1 (C↔F, D↔F). One distinctive concept of the social ecological model is that of "free traits." Free traits are patterns of action that are construed by others as emanating from relatively fixed traits but are strategic enactments that advance a person's core personal projects. Free traits illustrate the complex nature of well-being. They have a positive impact on well-being because they help advance core projects. However, they may extract a toll if engaged in over

a protracted period, unless restorative niches, states, and resources are available in the eco-setting (Little, 2008; Little & Joseph, 2007). Personal contexts, similarly, are more tractable and dynamic features of contexts that capture the subjective construal of environments that have consequences for subjective well-being (Little, 2000).

## Overview of Personal Projects Methodology

### Foundational Criteria for Assessment

#### Assessment Modules in PPA

PPA is not a fixed test but a modular methodology that can be adapted for particular research questions. There are four major assessment modules used in PPA, two of which are particularly relevant to QOL research.

*Project Elicitation Module:* This requires respondents to generate a list of their personal projects. The listing of personal projects in the person's own words is a rich source of information about activity in daily lives, and these data can be analyzed by various content analysis programs. The most frequently elicited categories of personal projects are those relating to interpersonal concerns, work (or school) projects, health, and recreational projects. Although less frequent in number, "intrapersonal" projects (e.g., be more outgoing; get control of my anxiety) have been shown to be linked both to depressive affect and to creativity (see Salmela-Aro, 1992; Little, 1989, 2007).

*Project Appraisal Matrix:* In this module, participants rate each personal project on a set of standard dimensions as well as any desired ad hoc dimensions. More formally, a  $j \times k$  matrix is completed by the participant, in which  $j$  personal projects are rated on a 0–10 scale across  $k$  features or dimensions (such as enjoyment, importance, difficulty, challenge, stress). Both  $j$  and  $k$  are variables, with  $j$  typically being between 8 and 12 and  $k$  between 17 and 24, although these constraints can be modified depending upon the particular research question being explored. The matrix data can be analyzed at the



**Personal Projects, Fig. 1** Social ecological model of personal, contextual, and personal project influences on QOL

single-case level or normatively, the latter approach involving the derivation of  $k$  total scores (often taken as the mean of each of the  $k$  features across the  $j$  projects).

PPA dimension mean scores are often used as predictor variables with diverse measures of QOL as outcome measures. Five theoretically relevant factors emerged from early factor analytic studies of the correlations among project dimensions: project meaning, structure, community, efficacy, and stress. In meta-analyses of studies using these factors as predictors of well-being and depression, project efficacy and (absence of) project stress were the most robust predictors. In recent years, reflecting the modular flexibility of PPA, several dimensions have been included, assessing positive and negative affect experiences when pursuing projects. Factor analyses of these matrices have reliably produced dimensions of project meaning, manageability, social connection, positive affect, and negative affect. QOL, within this most recent iteration of PPA, is enhanced when individuals are pursuing projects *that are meaningful, manageable, supported by others, and generate higher positive affect*, and lower *negative impact*.

Over the years, the data generated from studies with personal projects have been archived as part of the social ecological assessment data bank (SEAbank) which contains strings of the content and dimension scores on personal projects, together with indices from the other components of the social ecological model such as demographic, trait, and contextual assessments. Because of the granularity of the data, it is possible to examine questions such as what kind of personal projects do older people in rural areas find most enjoyable, yet challenging, or in what kind of personal projects do adolescent minority group members find the greatest sense of personal efficacy.

For those engaged in QOL research, PPA offers a constructive alternative to conventional measurement. By viewing quality of life in terms of the pursuit of personal projects, it provides a framework for reflection and action about the course of lives and the vicissitudes of well-being.

## Cross-References

- ▶ [Content Analysis](#)
- ▶ [Good Life, Theories of](#)
- ▶ [Meaning in Life](#)
- ▶ [Negative Affect](#)
- ▶ [Positive Affect](#)
- ▶ [Restorative Natural Environments](#)
- ▶ [Social Ecology](#)
- ▶ [Social Support](#)

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## Personal Social Network

► [Duke Social Support and Stress Scale \(DUSOCS\)](#)

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## Personal Well-Being

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### Definition

In a very broad sense, personal well-being is a good, satisfactory, and desirable state of

personal existence or life. It represents a personal aspect of the quality of life. According to the results of the empirical multivariate research, personal well-being is a multifaceted construct, embracing emotional well-being, satisfying life, vitality, resilience and self-esteem, and positive functioning (Michaelson, Abdallah, Steuer, Thompson, & Marks, 2009). It is related to the concepts of subjective well-being, emotional well-being, psychological well-being, mental well-being, satisfaction with life, and happiness and to the notions of social well-being and spiritual well-being. From the psychological point of view, personal well-being is a crucial aspect of health in the psychological and physical sense.

### Description

Since Democritus and Aristotle, well-being or happiness has been conceived as an inherent goal in the life of the individual human being. In a large literature on personal well-being, different disciplines from philosophy to economics are engaged, yet the empirical research of personal well-being is predominantly focusing on medical, sociological, economic, and psychological issues. Personal well-being is clearly related to the health conditions, healthy behavior, and healthy life.

According to the research in sociology and economy, personal well-being is connected to numerous demographic, societal, and socioeconomic determinants that include age, gender, socioeconomic status, income, housing, partnership, family life, professional work, social relations, recreation, gross domestic product (GDP), and ethnic identity (for reviews, see Dolan, Peasgood and White (2008)). In recent research of socioeconomic predictors of well-being, the growing interest has been devoted to the development of indicators that are related to the personal well-being (for social indicators, see Andrews and Withey (1976) and Michalos (2005)) and could serve as a basis for the assessment of socioeconomic items indexing the well-being (Michalos et al., 2010).

Although the determinants of well-being widely outrange the strict psychological domains including a variety of medical, demographic, economic, and societal variables, the psychological contents and variables are mandatory for the very concept of personal well-being. Psychological research of well-being has deep historical roots in ancient philosophy and psychological antecedents in humanistic psychology (Ryan & Deci, 2001). In past decades, the empirical research of well-being substantially increased by merits of the movement of positive psychology and its predecessors (Seligman, 2002; Seligman & Csikszentmihalyi, 2000). In the frame of positive psychology, different theoretical models have been developed, including the models of subjective emotional well-being (Diener, 2000), psychological well-being (Ryff, 1989), happiness, positive emotionality, optimism (Seligman, 2002), hope, flow, and good life (Snyder & Lopez, 2002). Nevertheless, the concept of well-being is related to practically all important constructs within the positive psychology.

Two integrative theoretical approaches to well-being have been proposed recently, the hedonistic, connected with the concept of subjective (emotional) well-being (SWB (Diener, 2000)), and eudaimonic, connected with the concept of psychological well-being (PWB (Ryan & Deci, 2001)). SWB refers to the pleasure and happiness feelings and encompasses both cognitive and affective dimensions, the first related to the life satisfaction and the second related to the (high) positive and (low) negative affect (Diener, 2000). PWB model stresses the importance of eudaimonic dimensions in the formation of well-being, including the feelings of life purpose, mastery, autonomy, personal growth, positive relatedness to others, and self-acceptance (Ryff, 1989). Ryan and Deci (2001) proposed an additional model of well-being that integrates the SWB and PWB aspects: it emphasizes the role of the satisfaction of human needs, especially the needs for autonomy, relatedness, and competence. Although conceptually distinct, the notions of well-being in the aforementioned models have also strong common denominators. According to

the empirical evidence, the dimensions of SWB and PWB correlate substantially within and between models and also have very similar correlations with other psychological variables, being connected with well-being, especially with the personality dimensions (Musek, 2007).

Multivariate analyses of basic psychological constructs representing two most integrative theoretical models of well-being (hedonistic and eudaimonic) clearly established a robust hierarchical structure both on the scale as well as on the item level of data (Musek, 2010). The analyses yielded a very strong highest-order factor (general factor of well-being or gWB), two higher-order factors (broad factor of happiness and broad factor of meaning), and five first-order factors (satisfaction, negative emotionality, positive emotionality, relatedness, and growth). Consequently, a new integrative structural model of well-being was proposed (Musek, 2010). The results convincingly demonstrated a great redundancy of major measures of well-being and its tentative components. Additionally, the results confirmed very substantial relationship between the dimensions of well-being and dimensions of personality. The general factor of well-being is highly correlated with the general factor of personality (GFP).

In psychology, personal well-being could be assessed by the instruments that measure subjective emotional well-being and satisfaction with life (e.g., Satisfaction with Life Scale/SWLS), positive and negative affect (Positive Affect Negative Affect Schedule/PANAS), psychological well-being (Psychological Well-Being Scale/PWBS), personal growth (Personal Growth Initiative Scale/PGIS), as well as many other measures focused on the assessment of the psychological and personal aspects and dimensions of the well-being and quality of life (for detailed information, see Positive psychology questionnaires, 2011). In the research of the quality of life and well-being, the composite measures of personal well-being are very usable. They combined different dimensions and components of personal well-being (sometimes including the measures of social and economic well-being). The examples of such measures represent the

Personal Well-being Index (PWI (International Well-being Group, 2006)) and National Accounts of Well-being Indicators (Michaelson, Abdallah, Steuer, Thompson, & Marks, 2009).

Personal well-being is related to many other areas of well-being and quality of life as social well-being, financial and economic well-being, health status, and spiritual well-being. It is especially connected to different domains of life satisfaction: satisfaction with partner, family, friendships, job/work/career relations, education, income, living/housing conditions, recreation, and others (Kahneman, Diener, & Schwarz, 1999, Musek, 2010). As indicated by numerous studies, personal well-being is correlated with a variety of important psychological variables including personality dimensions, self-concept and self-esteem, emotionality and affect, motivation and coping, mental and physical health, and burnout (Kahneman et al., 1999, Musek, 2010). Some basic demographic variables also correlate with the personal well-being, for instance, age, gender, socioeconomic status, level of education, marital status, ethnic identity, urban/rural environment, and others (Kahneman et al., 1999; Musek, 2010).

A number of theories and models aimed to the explanation of personal well-being can be found in different disciplines ranging from philosophy to the empirical sciences. The development of a theoretical explanation of personal well-being is an extremely complex and difficult task for it should take into consideration a number of contributing variables. A satisfactory theoretical model must include the role of personality dimensions, cognitive variables, self-concept, self-esteem, goals and values, and different demographic, societal, and economic factors like age, gender, education, socioeconomic status, income, religiosity, ethnicity, and other variables. Besides, the cultural aspects of subjective emotional well-being should be especially considered in explanatory models and also the relationship between psychological well-being and mental or psychological health. The existing models of personal well-being include the genetic and evolutionary explanations and cultural, sociological, economic,

and psychological explanations. The psychological models stress the role of personality and motivational factors, and more complex contextual explanations accentuate the role of adaptation-level mechanisms, social comparison, and goal setting. The theory of dynamic equilibrium (Headey & Wearing, 1992) is an example of promising theoretical framework for successful systemization of different factors influencing the subjective emotional well-being into a coherent and unified theoretical model.

One of the most important factors that must be considered by good theory or model is the stability of personal well-being. Despite the impact of changing determinants (e.g., diseases, financial conditions, and other life events), the personal well-being remains quite stable showing only minor (although sometimes significant) changes over time. It is very probable therefore that stable psychological, personality, and even evolutionary and genetic factors form a framework for the mechanisms that homeostatically control our subjective well-being (Theory of Subjective Well-being Homeostasis, (Cummins, Gullone, & Lau, 2002)).

## Cross-References

- ▶ [Emotional Well-Being](#)
- ▶ [Flow](#)
- ▶ [Gifted American College Students, Application of the Personal Well-Being Index \(PWI\) \(Adult Version\)](#)
- ▶ [Happiness](#)
- ▶ [Health](#)
- ▶ [Individual Quality of Life](#)
- ▶ [Mental Well-Being](#)
- ▶ [Optimism](#)
- ▶ [Positive Psychology](#)
- ▶ [Psychological Well-Being](#)
- ▶ [Quality of Life](#)
- ▶ [Satisfaction with Life](#)
- ▶ [Social Indicators](#)
- ▶ [Social Well-Being](#)
- ▶ [Subjective Well-being](#)
- ▶ [Well-Being, Spiritual](#)

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## Personal Well-Being (PWI) of Older Spaniards

- ▶ [Spain, Personal Well-Being Index; Application with People Aged 50 Years and Older](#)

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## Personal Well-Being Index

- ▶ [Adolescents in Spain, Application of the Personal Well-Being Index \(PWI\)](#)
- ▶ [Australia, Personal Well-Being Index](#)
- ▶ [Croatia, Personal Well-Being Index](#)
- ▶ [Israel, Personal Well-Being Index; Application to Different Population Group](#)

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## Personal Well-Being Index (PWI)

- ▶ [Spain, Personal Well-Being Index; Validation with Older Adults](#)

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## Personal Well-Being Index from Five Capital Cities in Mainland China

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## Synonyms

[Personal well-being index in Mainland China](#)

## Definition

This entry reports the findings of a survey administering the PWI to a sample from five Chinese capital cities ( $N = 3,099$ ). The PWI showed good psychometric properties in terms of its reliability and validity, consistent with other published studies. There were also some findings different from those in other studies for China and elsewhere. The cultural background and society transition in Mainland China should be taken into consideration when explaining these different results.

## Description

The PWI was developed by Cummins in 2001, and it has been used in regular surveys of the Australian population since then (Lau, Cummins, & McPherson, 2005). Some researchers have reported results based on residents from Mainland China (Chen & Davey, 2009; Davey, Chen, & Lau, 2009; Huang & Xing, 2005; Nielsen, Paritski, & Smyth, 2010; Nielsen, Smyth, & Zhai, 2010; Smyth, Nielsen, & Zhai, 2010). The aims of this survey research were to (a) examine the psychometric characteristic of PWI using an urban sample from five capital cities in Mainland China and (b) compare the results to existing studies from China and other countries.

## Method

**Instrument** (1) PWI: The original English PWI was translated into Chinese (Mandarin) by myself and then back-translated into English by another bilingual professional who were blind to the original English version. We did not find any problem while administering it to our respondents. (2) Subjective well-being scale for Chinese citizens (SWBS-cc, revised version): The SWBS-cc was developed by myself and includes 40 items in 10 dimensions (Xing, 2009). It has been used by some Chinese researchers and showed good psychometric properties (Xing & Liu, 2008).

**Participants and Procedure** A random sampling method was used to select participants from five capital cities in Mainland China, including

Beijing, Shenyang, Xian, Guangzhou, and Kunming. The sample size was 3099; Table 1 summarizes the demographic and socioeconomic characteristics of participants from each city and the total. The PWI was self-reported by participants according to the instructions specified by the International Well-being Group (IWBG). Each participant was assured that individual data would remain anonymous. As the primary researcher of IWBG in Mainland China, I presided over this survey research.

**Data Analysis** The data were checked prior to formal analysis. All data were standardized into units of %SM on a 0–100 distribution. Descriptive statistics were used to summarize rating scores. *t*-tests and one-way ANOVA were used to examine the difference of PWI in age, gender, education, and income. Cronbach's *a*, item-total correlations were calculated to determine the internal reliability of PWI. Confirmatory factor analysis was used to assess the structure of PWI. Bivariate correlations were conducted to study the interrelationships between PWI and SWBS-cc.

## Reliability of the PWI

**Cronbach's *a*** The Cronbach coefficient for the PWI among this sample was 0.79. This demonstrates ideal reliability and was consistent with the previous findings from Chinese societies (Chen & Davey, 2009; Davey et al., 2009; Huang & Xing, 2005; Lau et al., 2005; Smyth et al., 2010).

**Item-Total Correlations** The correlation coefficients ranged from 0.63 to 0.69, and all of them were above 0.5. This is consistent with another study from Shandong province (Huang & Xing, 2005) and slightly higher than the findings of other researchers from Chinese societies, for example, for urban China (0.50–0.61 in Chen & Davey, 2009; 0.49–0.61 in Smyth et al., 2010) and Hong Kong (0.33–0.69 in Lau et al., 2005).

## Validity of the PWI

**Construct Validity** Principal component analysis was used to examine the structure of the instrument. All assumptions for the performance of this analysis were met. All variables intercorrelated with at least one other variable at 0.30.

**Personal Well-Being Index from Five Capital Cities in Mainland China, Table 1** Demographic and socioeconomic characteristics of participants

	Beijing	Shenyang	Xian	Guangzhou	Kunming	Total
Gender (%)						
Male	50.9	53.9	56.7	48.7	47.1	51.4
Female	49.1	46.1	43.3	51.3	52.9	48.6
Marital status (%)						
Married	66.2	77.5	63.6	54.9	70.2	66.6
Single	33.8	22.5	36.4	45.1	29.8	33.4
Age						
Mean	38.1	38.2	32.5	38.0	37.2	36.8
SD	13.4	12.1	11.2	13.9	10.1	12.5
Educational level (%)						
Junior middle school or below	16.6	18.9	10.7	22.7	21.7	18.1
Senior middle school	40.5	32.4	31.2	38.5	31.2	34.7
College or above	42.9	48.6	58.1	38.8	47.1	47.2
Average annual income (RMB %)						
8,000 or below	20.5	21.9	22.1	23.3	21.2	21.8
8,000–12,000	24.8	22.6	21.4	23.5	25.3	23.5
12,000–20,000	15.7	16.7	18.1	17.3	19.6	17.5
20,000–30,000	26.3	22.7	19.8	22.2	17.1	21.4
30,000 or above	12.7	16.1	18.6	13.7	16.9	15.7

**Personal Well-Being Index from Five Capital Cities in Mainland China, Table 2** Factor analysis for the PWI items

Item	Factor loading
Standard of living	0.70
Health	0.67
Achieving in life	0.68
Personal relationships	0.62
Personal safety	0.61
Feeling part of the community	0.68
Future security	0.70
Eigenvalue	3.10
Percentage of variance accounted for	44.29

The Kaiser-Meyer-Olkin value was 0.84. The PWI was significant ( $p = 0.00$ ) for Bartlett’s test of sphericity. The analysis revealed the emergence of one component, similar to Hong Kong (Lau et al., 2005) and other studies from Mainland China (Huang & Xing, 2005; Davey et al., 2009; Smyth et al., 2010). The seven items of the PWI loaded 0.61–0.70 on this component and explained 44.3 % of the variance (see Table 2). This is slightly higher than some previous

findings from Mainland China (42.1 % in Huang & Xing, 2005; 35 % in Chen & Davey, 2009; 34 % in Davey et al., 2009) but a little lower than another study (47 % in Smyth et al., 2010).

*Criterion Validity* The respondents’ performance on SWBS-cc was used as criterion index to examine the criterion validity of PWI. The PWI correlated significantly with the SWBS-cc at 0.67, and the seven domains of PWI were also correlated significantly with the SWBS-cc (ranged from 0.36 to 0.52). The PWI showed favorable criterion validity.

**Satisfaction Ratings of the PWI**

The means and standard deviations of the domains of the PWI from 5 capital cities in Mainland China are given in Table 3. The mean domain scores ranged from 47.0 (SD = 29.9) to 67.1 (SD = 24.7), and the PWI score was 58.3 (SD = 17.9). This rating is lower than the level reported by other researchers but is very close to the normative range of 60–70 points for Chinese societies (Smyth et al., 2010).

For the western population, the normative range has been found to be 70–80 points with

**Personal Well-Being Index from Five Capital Cities in Mainland China, Table 3** Satisfaction rating of the PWI

Variable	Mean(SD)
Standard of living	47.03 (29.87)
Health	60.94 (28.40)
Achieving in life	54.55 (27.08)
Personal relationships	67.14 (24.66)
Personal safety	65.61 (25.44)
Feeling part of the community	57.67 (26.04)
Future security	54.00 (26.62)
Personal well-being index	58.27 (17.87)

a mean of 75, and this could be interpreted by theory of Subjective Well-being Homeostasis (Cummins, Eckersley, Pallant, van Vugt, & Misajon, 2003). The lower PWI level in Mainland China is related with cultural background and society transition. Satisfaction with personal health, personal relationships, and personal safety was above the PWI mean for this sample, while standard of living, life achievement, feeling part of the community, and future security were below. This result is consistent with previous findings for urban China (Chen & Davey, 2009; Davey et al., 2009; Huang & Xing, 2005; Smyth et al., 2010).

**Socioeconomic Variables and the PWI**

*Gender and the PWI* No significant gender differences in the PWI were found in this study, which is consistent with the previous findings for urban China (Davey et al., 2009; Smyth et al., 2010). Only one of the seven domains showed statistically significant gender differences at the  $p = 0.05$  level, which was different from other research (Smyth et al., 2010). Females scored statistically higher in standard of living.

*Marriage and the PWI* The sample was divided into two groups by marriage: married group and unmarried group. The married group reported higher mean scores. An independent samples  $t$ -test found significant differences at the  $p = 0.02$  level. Only one of the seven domains showed statistically significant differences in marriage at the  $p = 0.05$  level. The married group scored statistically higher in life achievement ( $p = 0.00$ ).

*Age and the PWI* The sample was divided into five age groups: 24 or below, 25–34, 35–44, 45–54, 55 or above. There were significant differences in the PWI scores between age groups ( $F(4, 3028) = 26.38, p = 0.00$ ). The highest mean score was reported by the eldest age group (55 or above): 66.6 (SD = 19.1), while the two lowest mean score was reported by the 25–34 age group and 45–54 age group, respectively: 55.4 (SD = 17) and 57.9 (SD = 17.8). A Tukey's HSD post hoc test found no statistically significant difference between these two groups.

*Education and the PWI* The highest mean score was reported by the group college or above (59.5, SD = 17.1). A one-way ANOVA found that there were significant differences in reported personal well-being scores ( $F(2, 2980) = 6.052, p = 0.02$ ). A Tukey's HSD post hoc test found that the group college or above had higher PWI level than the other group. There were no statistically significant differences between group junior middle school or below and group senior middle school.

*Income and the PWI* The sample was divided into 5 groups by personal annual income. A one-way ANOVA found that there were significant differences in the PWI scores between income groups ( $F(4, 2772) = 10.7, p = 0.00$ ). The highest income group (participants earning more than about 30,000 RMB per year) had the highest mean (62.2, SD = 17.0). A Tukey's HSD post hoc test showed the difference between each income group mostly reached significant level above  $p = 0.05$ . In general, higher income earners reported higher personal well-being.

**Statement**

These data are open to members from IWBG, and I am willing to share our data with other researchers in cooperation with international comparative studies.

**Cross-References**

- ▶ [Education](#)
- ▶ [Gender Differences \(in Quality of Life\)](#)
- ▶ [Happiness](#)

- ▶ [Homeostasis](#)
- ▶ [Income Influence on Satisfaction/Happiness](#)
- ▶ [International Well-Being Index](#)
- ▶ [Personal Well-Being](#)
- ▶ [Reliability](#)
- ▶ [Subjective Well-Being](#)
- ▶ [Survey Research](#)

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## Personal Well-Being Index in Mainland China

- ▶ [Personal Well-Being Index from Five Capital Cities in Mainland China](#)

## Personal Well-Being Index in New Zealand

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## Definition

Subjective well-being (SWB) has been gaining attention as a measure to investigate the health of a society (Cummins, Eckersley, Pallant, von Vugt, & Misajon, 2003b), complementing economic indices like the gross domestic product which fail to capture how people perceive their quality of life. The Personal Well-being Index (PWI), developed by Cummins et al. (2003b), is a well-established instrument to measure that subjective perception of quality of life.

The PWI originally contained seven dimensions that are regarded as a first level deconstruction of satisfaction with life as a whole (Lau, Cummins, & McPherson, 2005). An eighth dimension (Spirituality/Religiosity) was added in 2006 (International Well-being Group, 2006). This entry reports the application of two studies conducted in 2005 and 2011, employing PWI in the New Zealand context.

## Description

### Methodology

The New Zealand Lifestyle study (Lawson, Todd, & Evans, 2006) was conducted between 1990 and 2005 at 5-yearly intervals, with surveys containing a variety of questions relating to attitudes, interests, and opinions covering broad areas of life in New Zealand. The mail surveys were based on a commercially obtained sample, representative of the New Zealand population in terms of age and gender. The 2005 iteration was sent to 10,000 households and resulted in 3,556 completed questionnaires, 3,507 of which were suitable for further analysis.

**Personal Well-Being Index in New Zealand, Table 1** Demographic characteristics of 2005 and 2011 sample

Age	2005 (%)	2011 (%)	Income in NZ\$ <sup>a</sup>	2005 (%)	2011 (%)	Gender	2005 (%)	2011 (%)
Under 30	15	18	Under \$ 30,000	24	23	Female	54	57
30–39	30	19	30,000–49,999	22	23	Male	46	43
40–49	23	14	50,000–69,999	18	18			
50–59	16	19	70,000–89,999	13	16			
60+	15	29	90,000–110,999	10	13			
			110,000 and over	12	9			

<sup>a</sup>Annual household income before tax

The second implementation of the PWI in 2011 was conducted using an online sample, also representative of the New Zealand population in terms of age and gender, and again acquired through a commercial organization. The survey contained a variety of item batteries relating to respondents' leisure life, connectedness with nature, ethical consumption choices, and standard demographic information. Four hundred and three surveys were completed, with 397 suitable for further analysis.

Table 1 shows the basic demographic characteristics of the two surveys. Both surveys have a slightly higher percentage of female respondents. In terms of age groups of respondents, the 2005 survey has a slight underrepresentation of 60 + -year-olds, while this age group is overrepresented in the 2011 iteration. The distribution of annual household income before tax in both surveys is very similar and representative of the overall New Zealand population. It can be concluded that both samples match basic demographic characteristics of the entire New Zealand population to a satisfactory degree.

For practical reasons, the first survey contained the PWI at the end of the questionnaire, while in the second survey, demographic information was collected after the PWI questions. The 2005 application of the PWI included the original seven dimensions relating to satisfaction with Standard of Living, Health, Achieving in Life, Personal Relationships, Personal Safety, Feeling Part of the Community, and Future Security. The 2011 implementation included satisfaction with Spirituality, as suggested by the International Well-being Group since 2006 (International Well-being Group, 2006).

Satisfaction with Life as a Whole (SLAW) was included in both surveys.

The datasets were cleaned before the PWI was calculated. For the 2005 dataset, respondents who used only extreme responses were eliminated (34 cases). An additional 15 cases were eliminated from the analysis as they had an unacceptable number of missing values. As the 2011 online questionnaire forced respondents to provide an answer, responses that did not show any variation in the SLAW and PWI questions were deleted, six cases. For both dataset, this process resulted in deletion of approximately 1.5 % of responses.

In line with the International Well-being Group standard, the questions were asked on a 0–10 scale, anchored by “completely dissatisfied” and “completely satisfied” and converted to a 0–100 standardized scale. The PWI was calculated by averaging responses of the seven/eight individual dimensions.

### Results for PWI in 2005 and 2011 in New Zealand

Table 2 shows New Zealand results for the PWI in 2005 and 2011. Based on the original seven items, the 2005 PWI mean was 67.39. The application of PWI in 2011, based on eight individual dimensions, results in a mean value of 66.31. When Spirituality is excluded, the 2011 PWI decreases to 65.19.

A two-sample *t* test confirmed that the PWI, as well as Satisfaction with Standard of Living, Health, Achieving in Life, Personal Relationships, and SLAW, has decreased significantly ( $p < 0.01$ ) between the two applications. Satisfaction with Safety, Being Part of the Community, and Future Security show no significant

**Personal Well-Being Index in New Zealand, Table 2** Mean and standard deviation: satisfaction with life as a whole and PWI

	2005		2011		Difference 2005–2011 <sup>a</sup>
	Mean	Std. Dev.	Mean	Std. Dev.	
Sat with life as a whole	69.21	20.52	67.41	19.91	n.s.
PWI	67.39	15.50	66.31 <sup>b</sup>	15.72 <sup>b</sup>	n.a. <sup>c</sup>
Standard of living	69.50	21.07	63.73	21.91	< 0.01
Health	66.62	22.45	61.87	22.10	< 0.01
Achieving in life	67.69	21.44	62.88	21.62	< 0.01
Personal relationships	73.00	25.10	69.15	23.01	< 0.01
Personal safety	71.20	20.72	71.58	19.40	n.s.
Part of community	63.68	20.27	65.05	19.86	n.s.
Future security	60.31	22.99	62.10	22.13	n.s.
Spirituality	n.a.	n.a.	72.98	23.26	n.a.

<sup>a</sup>Based on two-sample *t* test; *p* < 0.01

<sup>b</sup>If Spirituality excluded: PWI: Mean = 65.19; *Std. Dev.* = 16.33

<sup>c</sup>PWI 2005 and 2011 not directly comparable, if 2011 Spirituality excluded *p* < 0.01

change between the two implementations of the PWI in New Zealand.

**Psychometric Properties of the PWI in 2005 and 2011**

In order to investigate the psychometric properties of both PWI implementations, the standard protocol was applied (Cummins et al., 2003b; Lau et al., 2005).

Except for Spirituality (2011), whose correlation with the PWI is 0.56, item-total correlation for both implementations shows that all correlations are above 0.64 (Health: 2005). Domain intercorrelations show a similar picture than results found in other studies (Cummins, Eckersley, Lo, & Okerstrom 2003a; Cummins et al., 2003b; Lau et al., 2005) with all correlations above 0.3 (Table 3).

Internal reliability of the PWI was investigated using Cronbach’s alpha. Both implementations return a value of 0.87. A principal component analysis further revealed that all dimensions load onto the first extracted factor to a satisfactory extent (see Table 4): All loadings are 0.63 or higher for the 2005 implementation; Spirituality shows the lowest loading for the 2011 application (0.55) with all other dimensions above 0.69. The extracted factors explain 51 % (2005) and 54 % (2011) of the variance.

Finally, regression analysis was performed to examine which variables significantly contribute to the explanation of SLAW. In 2005, all variables, except for Personal Safety, contribute significantly to overall life satisfaction (SLAW) with Standard of Living, Achieving in Life, and Personal Relationships providing the most explanation. Satisfaction with Health, Community, and Future Security provide small but significant contributions to Satisfaction with Life as a Whole. The individual PWI dimensions account for 64 % of the dependent variable in 2005. In 2011, this value increases to 67 %; however, the list of contributing variables changed. While the variables which contributed highly in 2005 (Standard of Living, Achieving in Life, and Personal Relationships) still provide significant unique variance, the previously lower influence variables, including Health, provide a nonsignificant contribution in 2011, while Personal Safety does contribute significantly in this second survey (see Table 4).

**Discussion**

The value of PWI (as well as Satisfaction with Life as a Whole, SLAW) in New Zealand is unexpectedly low (67 in 2005; 66 in 2011) when compared to other developed Western countries where a value between 70 and 80 is expected and reported (Cummins et al., 2003b).

**Personal Well-Being Index in New Zealand, Table 3** Item total and domain intercorrelation

		PWI	1	2	3	4	5	6	7	8
Sat with life as a whole	2005	0.75	0.69	0.44	0.67	0.56	0.41	0.45	0.50	
	2011	0.79	0.70	0.50	0.71	0.62	0.54	0.55	0.61	0.38
PWI	2005		0.74	0.64	0.75	0.68	0.69	0.68	0.74	
	2011		0.76	0.70	0.81	0.73	0.73	0.76	0.80	0.56
Standard of living 1	2005			0.42	0.59	0.43	0.40	0.41	0.50	
	2011			0.55	0.60	0.47	0.48	0.43	0.62	0.26
Health 2	2005				0.48	0.32	0.31	0.31	0.35	
	2011				0.62	0.39	0.39	0.40	0.47	0.20
Achieving in life 3	2005					0.48	0.37	0.41	0.50	
	2011					0.56	0.43	0.56	0.55	0.35
Personal relations 4	2005						0.41	0.36	0.38	
	2011						0.48	0.54	0.44	0.33
Personal safety 5	2005							0.49	0.50	
	2011							0.57	0.58	0.40
Community 6	2005								0.52	
	2011								0.58	0.41
Future security 7	2005									
	2011									0.44
Spirituality 8	2011									

**Personal Well-Being Index in New Zealand, Table 4** Factor loadings and contribution to life as a whole

	2005		2011	
	Factor loadings	Satisfaction with life std. $\beta$	Factor loadings	Satisfaction with life std. $\beta$
Standard of living	0.77	0.36*	0.76	0.32*
Health	0.63	0.05*	0.69	-0.04
Achieving in life	0.78	0.28*	0.81	0.32*
Personal relationships	0.67	0.21*	0.72	0.19*
Personal safety	0.69	0.00	0.74	0.10*
Part of community	0.70	0.07*	0.77	0.02
Future security	0.76	0.05*	0.81	0.07
Spirituality	n.a.	n.a.	0.55	0.05
	Var. expl. 51 %	*p < 0.01; adj. R <sup>2</sup> = 0.64	Var. expl. 54 %	*p < 0.01; adj. R <sup>2</sup> = 0.67

New Zealanders appear considerably less satisfied with their personal well-being than other nationalities, including neighboring Australians who report a PWI of approximately 75 (Cummins et al., 2003a; International Well-being Group, 2005). Anecdotal evidence suggests that New Zealanders are very proud and consider themselves lucky to live in *God's own country*, and commercial studies investigating Quality of Life in cities worldwide regularly rate New Zealand's major cities among the places with the highest

quality of life. While no definite answer can be provided why the PWI is surprisingly low, New Zealanders are generally very relaxed, which might be reflected in their evaluation of their personal life – seven or eight out of ten might be very good. New Zealanders might also be more reluctant to use the extreme points on scales – a phenomenon that is well established in Asian cultures (Lau et al., 2005).

In the 2005 implementation of the PWI in New Zealand, all individual dimensions of Personal

Well-being except for Personal Safety, which frequently does not contribute in Western developed countries, explain overall SLAW. While the 2011 PWI explains slightly more of SLAW (67 %; a value that is slightly higher than in other countries), the contributing variables change. Particularly the nonsignificance of Health is surprising, as this dimension generally contributes to overall satisfaction. However, while Health provided a significant contribution to SLAW in 2005, the contribution was not high (std.  $\beta$  0.05; lowest among PWI dimensions). The significant contribution of Personal Safety in 2011 is also unexpected, as this variable generally does not contribute to explaining overall life satisfaction in developed countries. No definite answer can be provided regarding the reasons for this finding, but high profile crimes, reported in the media around the time of data collection, might have contributed.

Overall, it can be concluded that the PWI in New Zealand provides satisfactory psychometric characteristics. At the same time, the overall level of PWI and the level of contribution of specific dimensions to explaining Satisfaction with Life as a Whole provide interesting results requiring future research.

## Cross-References

- ▶ [Australian Unity Well-Being Index](#)
- ▶ [International Well-Being Group](#)
- ▶ [Personal Well-Being Index](#)
- ▶ [Subjective Well-Being](#)

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## Personal Well-being Index: Preschool Children

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## Synonyms

[Children's personal well-being](#); [Children's subjective well-being](#)

## Definition

The Personal Well-being Index: Pre-School children (PWI-PS) is a one-dimensional and multi-item instrument developed by Cummins and Lau (3rd edition: 2005) for measuring personal well-being in preschool-aged children. It uses an 11-point scale and the alternative of a simplified format consisting of outline faces, from very sad to happy for respondents that cannot use the 11-point scale. It is designed to be responded on an individual basis and in any case by another person on behalf of the child. A previous testing in order to determine whether the child is able to respond is also included.

This instrument comprises seven items corresponding to satisfaction with the following

life domains: standard of living, health, life achievements, personal relationships, personal safety, community connectedness, and future security. These seven domains are theoretically embedded as representing the first-level deconstruction of the global question “*How satisfied are you with your life as a whole?*”

## Description

Nowadays there is a widespread idea to consider children the best informants when defining their own well-being (Fattore, Mason, & Watson, 2007; Casas, 2011). However, the majority of existing instruments to explore well-being are aimed to the adult population. The Personal Well-being Pre-School Scale (PWI-PS) by Cummins and Lau (3rd edition: 2005a) is one of the existing few examples to evaluate children’s well-being in preschool ages.

The instrument has been developed from the *Personal Well-being Index* (PWI-A) which was designed to evaluate the personal well-being of the adult population (Cummins, Eckersley, Pallant, Van Vugt, & Misajon, 2003), as there are the Personal Well-being Index School Children (PWI-SC), which allows identifying the levels of personal well-being of children and adolescents (Cummins & Lau, 2005b), and the Personal Well-being Index Intellectual Disability (PWI-ID), also by Cummins and Lau (3rd edition: 2005c), designed for use with people who have an intellectual disability or other form of cognitive impairment.

There are important differences between the PWI-A and the PWI-PS in order to adapt the instrument to the developmental period of preschool children. Concretely, and like the PWI-SC, in the PWI-PS questions on *satisfaction* are substituted by the term *happiness* when asking children about the different life domains. The authors of the scale defend that although both concepts (satisfaction and happiness) are not the same, they are very similar (Cummins & Lau, 2005a).

The PWI-PS also uses a more simplified and concrete wordings compared with the PWI-A in order to increase comprehension. Concretely, the

question about “How satisfied are you with your standard of living?” from the PWI-A has been substituted by “How happy are you about the things that belong to you? Like your toys and clothes?” and the question “How satisfied are you with feeling part of your community?” (also from the PWI-A) has been substituted by “How happy do you feel about playing and doing things with people outside your home?” The authors justify those changes due to the high level of abstraction of the adult version. Although the authors express that the questions are not exactly equivalent, they consider them to be an optimal approach to the explored domains. Moreover, the question that referred to satisfaction with religion and/spirituality, included in the adult version, is not included in the PWI-PS.

Significant differences also exist between the PWI-SC and the PWI-PS. Concretely, the question “How happy are you about the things you have? Like the money you have and the things you own?” corresponding to the school version has been reformulated into “How happy are you about the things that belong to you? Like your clothes and toys?” in the preschool version. For the exploration of the community domain, in the school version, children are asked about “How happy are you about doing things away from your home?” while in the preschool version, they are asked about “How happy are you about playing or doing things away from your home?”

The PWI-PS includes a pretesting protocol to determine whether, and to what level of complexity, children are able to respond. This pretesting is based on different four phases. In each phase, certain questions are asked and different criteria are used in order to continue with the pretesting or to discard with the application of the PWI-PS. Phase 1 (*testing for acquiescent responding*) is composed by four questions to which children have to answer yes or no. Phase 2 (*testing for Likert scale competence using 0–10*) involves two stages: establishing the respondent’s familiarity with a 0–10 distribution and then testing the person’s ability to use a 0–10 Likert scale. When the interviewee cannot use the 0–10 scale, the testing moves through three stages (*testing for Likert scale competence using a reduced-choice*

*format*) which are designed to determine whether the person can use a reduced-choice format via (identifying items in order of magnitude (test on size discrimination between blocks), using a scale with a concrete reference test on size discrimination and matching between blocks and steps, and using a scale with an abstract reference (test on discrimination between facial expressions). Once the four phases are correctly overcome, the PWI-PS is administered using the 0–10 scale or the faces scale to explore the degree of happiness in relation to seven life domains: standard of living, personal health, achievement in life, personal relationships, personal safety, feeling part of the community, and future security. Overall happiness is evaluated with an additional item.

The evaluation of the child is done through the help of an interviewer, who has to avoid influencing on the child's responses, but in any case by another person (being it parents, careers, or other people) on behalf of the child. In the manual it is even recommended the test to be developed without the presence of the parents in order to avoid distractions. They also highlight that the test is thought to be completed within 10–20 min, although there is no time limit to do it.

The data obtained using this instrument tend to be analyzed by taking the average score obtained for the seven items, which then constitutes an overall measurement for the PWI-SC. The item referring to happiness with life as a whole is not included in the index and is therefore analyzed independently.

The manual for this index explains that the score obtained from the PWI-PS, when converted to a scale of 0–100, may be contrasted with normative data for the adult population. For the latter, a majority of responses are expected to fall within the 70–80 % interval when the study is conducted in a western country or around 10 % lower for a non-western population (PWI-SC, Cummins & Lau, 2005a). Given that normative data were taken from studies conducted with adults, there is not sufficient evidence that they are comparable with those of preschool children.

Using the PWI-PS is coherent with the idea of considering children as active subjects when

defining their own well-being and brings to defend that the better information about their own well-being come from their experiences and evaluations (Fattore et al., 2007; Casas, 2010; Fernandes, Mendes, & Teixeira, 2012).

## Cross-References

- ▶ [Child Well-Being](#)
- ▶ [Community Well-Being Index](#)
- ▶ [Personal Well-Being Index](#)
- ▶ [Personal Well-being Index: School Children](#)

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## Personal Well-being Index: School Children

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### Synonyms

[Adolescents personal well-being](#); [Adolescents' subjective well-being](#); [Children's personal well-being](#); [Children's subjective well-being](#)

### Definition

The Personal Well-being Index: School children (PWI-SC) is a unidimensional and multi-item instrument developed by Cummins and Lau (3rd edition: 2005) for measuring personal well-being in school-aged children and adolescents. It uses an 11-point bipolar scale and is designed for self-administration. This instrument comprises seven items corresponding to satisfaction with the following life domains: standard of living, health, life achievements, personal relationships, personal safety, community connectedness, and future security. These seven domains are theoretically embedded as representing the first-level deconstruction of the global question “*How satisfied are you with your life as a whole?*”

### Description

The end of the 1990s saw increased insistence on the need to consider children as active subjects in

defining their own well-being. This idea has gradually gained more acceptance, and children are now being considered the best informants of their own well-being (Fattore, Mason & Watson, 2007; Casas, 2011).

According to Ben-Arieh (2008), interest in children's and adolescents' well-being is due to the following factors: children's rights being acknowledged as human rights (United Nations Convention on Children's Rights, 1989); the new sociology of childhood, which understands childhood as a life stage in itself; the ecological model of human development; new methodologies in childhood research; and finally, a desire among politicians to improve the results of interventions that affect the lives of children and adolescents.

Despite this interest, there are still very few instruments that have been designed to specifically evaluate the personal well-being of children and adolescents. The school children (children and adolescents) and preschool version of the Personal Well-being Index (Cummins & Lau, 2005b, 3rd edition) are a couple of examples.

The *Personal Well-being Index: School children* (PWI-SC, Cummins & Lau, 2005a) was developed on the basis of the *Personal Well-being Index* (PWI-A, 4th edition) originally designed for adults (Cummins, Eckersley, Pallant, Van Vugt, & Misajon, 2003) and the *Comprehensive Quality of Life Scale – School version* (Cummins, 1997). This latter instrument, produced prior to the PWI-A, was designed to measure subjective quality of life. However, the authors of the instrument themselves questioned its psychometric properties and recommended it be substituted by the PWI-SC (Cummins & Lau, 2005a).

The PWI-SC evaluates well-being by directly asking children and adolescents the question “*How happy are you. . .*” with regard to the following domains: standard of living (“*How happy are you . . . about the things you have? Like the money you have and the things you own?*”), personal health (“*. . . with your health?*”), achievements in life (“*. . . with the things you want to be good at?*”), personal relationships (“*. . . about getting on with the people you know?*”), personal safety (“*. . . about how safe you feel?*”), feeling

part of the community (“... *about doing things away from your home?*”), and future security (“... *about what may happen to you later on in your life?*”).

These seven items are accompanied by another question referring to their happiness with life when considered globally (“*How happy are you with your life as a whole?*”).

Evaluations of each of the items described above are given on a scale on which responses range from *very sad* (score of 0) to *very happy* (score of 10), with the mid-position also labelled (score of 5) as *not happy or sad*.

Significant differences exist between the PWI version for adults (PWI-A) and the PWI-SC. This is due to the desire to increase children and adolescents’ understanding of the instrument. Specifically, simpler terminology is used in the schoolchildren’s version, questions are more concrete, and the term *happiness* is used for children and adolescents’ responses rather than *satisfaction*. For example, the PWI-A item *How satisfied are you with your future security?* has been reworded to *How happy are you about what may happen to you later on in your life?*

It is argued that the adjective *happy* is less abstract and more comprehensible for school-aged children and adolescents (Cummins & Lau, 2005a). The authors justify the adaptation of the PWI-A by arguing that although the two constructs (satisfaction and happiness) are not exact equivalents, very similar data have been obtained to date (Cummins & Lau, 2005a).

The data obtained using this instrument tend to be analyzed by taking the average score obtained for the seven items, which then constitutes an overall measurement for the PWI-SC. The item referring to happiness with life as a whole is not included in the index and is therefore analyzed independently.

The manual for this index explains that the score obtained from the PWI-SC, when converted to a scale of 0–100, may be contrasted with normative data for the adult population. For the latter, a majority of responses are expected to fall within the 70–80 % interval when the study is conducted in a western country or around 10 % lower for a non-western population (PWI-SC,

Cummins & Lau, 2005a). Given that normative data were taken from studies conducted with adults, there is not sufficient evidence that they are comparable with those of children and adolescents.

In the manual, the authors also specify the importance of checking children and adolescents’ responses and excluding those cases in which they have given constantly extreme scores for the seven items (of 0 or 10), as this may represent insufficient understanding on the part of respondents. More research is required in order to verify whether extreme responses (particularly scores of 10) reflect a lack of understanding or a truly high satisfaction with the domains, even higher than that of the adult population.

A common way of verifying whether the data gathered with the instrument in a given sample contribute to explaining overall happiness with life is to perform a regression on each item over the variable happiness (Cummins et al., 2003).

Empirical research using the PWI-SC supports it as a valid and reliable instrument for measuring the subjective well-being of young people (Tomy, Fuller, & Cummins, 2011). However, it must be borne in mind that the PWI-SC has been used in very few publications to date, and more research is therefore required to determine the strengths of this instrument.

One example of its use is the study conducted by Tomy and Cummins (2010) on a sample of 351 Australian students aged 12–20 who present an average PWI-SC score of 74.7 (SD = 1.1). The authors state that the overall well-being score is similar to the reference values for the Australian adult population, with the exception of some domains such as *happiness with achievements in life*, which is significantly lower, and *happiness with feeling part of the community*, significantly higher. They point out that older children (16 year olds) score significantly lower on personal well-being compared to younger children. By gender, they observe that personal well-being is higher among girls than boys.

In another study carried out by Tomy, Norrish and Cummins (2011) on 519 young Australians aged 12–19, participants obtained an average well-being score of 75.03, SD = 15.14,

satisfaction with “safety” and “relationships” being the two domains of happiness most highly valued on the PWI-SC and “future security” least. They also state that all happiness domains included in the PWI-SC, with the exception of *feeling part of the community*, significantly contribute to explaining young people’s happiness with their life overall.

In a study conducted on Catalan children aged between 10 and 12 (Vaqué, González & Casas, 2009) using an adapted version of the PWI-SC on a sample of  $N = 371$ , higher levels of personal well-being are observed than those proposed as normative values for the Australian adult population (mean PWI-SC = 85.9,  $SD = 1.06$ ). Using a variation of the PWI-A, this has also been observed in a sample of Catalan children in the first year of secondary education (mostly aged 11 and 12) (mean = 88.07), and even higher scores are found in a representative sample of Spanish children (mean = 89.58) (Casas et al., 2012).

To date, the PWI-SC has been translated into Cantonese (Cummins & Lau, 2005c), Portuguese (Azevedo, 2005), Argentinian Spanish (Tonon, 2009), and Catalan (Vaqué et al., 2009). More research must still be done using the PWI-SC as an instrument for evaluating personal well-being in the child and adolescent population so as to obtain comparative data on levels of well-being among children and adolescents from other countries and cultures.

## Cross-References

- ▶ [Child and Youth Well-Being Index \(CWI\)](#)
- ▶ [Community Well-Being Index](#)
- ▶ [Personal Well-Being Index](#)

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## Personality and Quality of Life in Middle-Aged Women

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### Synonyms

[Personality, female gender and qol](#); [Trait-state associations in women's well-being](#)

### Definition

This entry is about the link between personality and ► [quality of life](#) among middle-aged women while also considering other important mediating factors.

### Description

Reports of lower levels of quality of life among women serve as an incentive for trying to identify how different factors interact in explaining their quality of life. One of the most significant factors affecting quality of life among women seems to be personality, often described in terms of the ► [Big Five model of personality](#) (neuroticism, extraversion, openness, agreeability, conscientiousness) (McCrae & Costa, 1999). It has been proposed that personality functions as an “affective reserve,” which people can use to keep their well-being at an optimal level (Weiss, Bates, & Luciano, 2008). McCrae and Costa (1991)

proposed that personality has temperamental, experiential, and instrumental effects on well-being factors, such as quality of life. For example, people who are extrovert tend to have a jovial and high-spirited temperament, which positively affects well-being, whereas the temperament of persons higher in neuroticism is characterized by negative moods and negatively affects well-being. McCrae and Costa further illustrated that the personality trait of openness makes people imaginative and exploring, which gives them a richness of experiences, in turn having a positive effect on well-being. Instrumental effects are created by agreeableness and conscientiousness. Agreeableness makes people warm and generous and has an indirect, instrumental effect by creating conditions that promote well-being. Persons who are conscientious tend to be highly motivated and effectively strive to achieve valued personal goals, which in turn may increase their well-being.

Empirical research has confirmed many of the aforementioned theoretical assumptions. Neuroticism has been shown to be a negative factor (Kitamura et al., 2002; Penedo et al., 2003; van Straten, Cuijpers, van Zuuren, Smits, & Donker, 2007) and extraversion and conscientiousness to be positive factors for a good quality of life among women (Penedo et al., 2003; van Straten et al., 2007). A study based on student samples of both genders recognized neuroticism and extraversion as the most influential personality factors (Schimmack et al., 2004). The authors speculated that both neuroticism and extraversion have a strong influence on the hedonic aspect of subjective well-being, and their findings confirmed this theoretical assumption.

Besides personality, other factors need to be considered as well. It is acknowledged that people's well-being and quality of life are related to their involvement in everyday activities (Eklund & Leufstadius, 2007; Erlandsson & Eklund, 2003a; Law, Steinwender, & Leclair, 1998). Activity is a pressing issue when focusing on quality of life in middle-aged women, who tend to be involved in a variety of everyday activities, such as remunerative work, taking care of home, children, and older relatives, while also spending time on leisure and fitness activities (Erlandsson & Eklund, 2003b).

Erlandsson and Eklund (2003a, b) studied working, healthy women with preschool children and found complex patterns of daily activities. Particularly interruptions and unexpected activities were causes of such complex patterns. Interestingly, the more complexity reflected in the women's pattern of activities, the greater the risk for decreased well-being. Other studies have shown that a balance between the different activities of everyday life and being engaged in meaningful daily occupations was associated with ► [life satisfaction](#) (Håkansson, Lissner, Björkelund, & Sonn, 2009) and that being physically active was positively related to quality of life (Daley et al., 2007). Leading an active life with meaningful and valuable daily activities, but without stressful events and numerous interruptions, can thus be seen as part of a healthy lifestyle and may mediate the relationship between personality and women's quality of life. Perceived health may be another such mediator. Moreover, it has repeatedly been shown that depression is related to quality of life, not least among women (Conde, Pinto-Neto, Santos-Sa, Costa-Paiva, & Martinez, 2006; Karakoyun-Celik et al., 2010; Norris et al., 2004). It has even been proposed that measures of depression and its antipode positive emotions are necessary and sufficient to predict life satisfaction from personality traits (Schimmack et al., 2004).

Thus, research clearly indicates that personality is an important factor for quality of life among middle-aged women but also that daily activities, perceived general health, and depressive state may be essential in understanding quality of life. Research has also shown that personality tends to be related to depressive mood (Kendler, Gatz, Gardner, & Pedersen, 2006), subjective health (Dijkstra & Barelds, 2009), and the way in which daily activities are perceived (Eklund & Bejerholm, 2007). Acknowledging these prior findings, an epidemiological study on middle-aged women was undertaken to test a hypothetical model proposing that personality factors would be related to the women's quality of life and that severity of depressive symptoms and the way in which everyday activity and general health were appraised would be mediating factors in such a model (Eklund, Backstrom, Lissner, Björkelund, & Sonn, 2010). A model with good fit to the data

was found, where two sets of indicators were found to influence the women's quality of life. One set consisted of extraversion and activity. Extraversion was found to be only indirectly related to quality of life, through a positive relation to activity which acted as a mediating variable and had a direct positive influence on quality of life. The other set of indicators concerned neuroticism, health, and depressive state. As with extraversion, the influence from neuroticism was indirect and went through depressive state, which had a negative effect on quality of life, and through perceived health, which had a positive effect. This modeling of quality of life among middle-aged women showed that the influence of several factors indeed needs to be considered and that studying only the relationship between personality and quality of life may be to simplify the issue. For example, models that exclude activity may find a direct relationship between extraversion and quality of life and those that exclude health may find a stronger relationship between depressive state and quality of life. Those scenarios, such as a strong link between depression and quality of life (Schimmack et al., 2004) and between neuroticism and quality of life (Kitamura et al., 2002; Penedo et al., 2003; van Straten et al., 2007), are in fact reflected in findings from previous studies.

Other factors may potentially influence the relationship between personality and quality of life in women. Research has shown that socioeconomic variables tend to explain a few percent of the variance in quality of life (Bingefors & Isacson, 2004) but also that they tend not to be significant in multivariate models (Ruggeri, Gater, Bisoffi, Barbui, & Tansella, 2002). In the general female middle-aged population, where many are working, work environment conditions should be of importance too. Being menopausal or not may also be a relevant factor in the relationship between personality and quality of life, by its proposed association with depression. However, research has shown that it is only during the transition to menopause that there is an increased risk of depression (Avis, Brambilla, McKinlay, & Vass, 1994; Freeman et al., 2004). Age may be seen as a proxy for menopause, and women aged 50 years,

likely to be in the perimenopausal phase, did not differ from 38-year-olds regarding the pattern of relationship between personality, quality of life, and mediating factors (Eklund et al., 2010).

The complex of relationships linking personality to quality of life probably differs between women and men, as indicated by research addressing some of the factors shown to be essential in the personality to quality of life relationship among women. For example, whereas Iverson and Thordarson could demonstrate a relationship between activity and depression among women, they could not identify such an association among men (Iverson & Thordarson, 2005). Other gender differences include more disease-related problem among women (Undén et al., 2008), in turn of importance for quality of life. Still, mainstream social and health factors cannot to any substantial extent explain the general finding that women rate their quality of life lower than men (Bingefors & Isacson, 2004; Gallicchio, Hoffman, & Helzlsouer, 2007).

To conclude, additional research is needed to shed light on women's quality of life. It should further address the roles of personality, depressive state, and perceived health but also less researched mediating factors, such as different aspects of activity and influences from the home and work environments.

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these scales to be interpretively and predictively of value. There are a broad number of personality assessment instruments that assess a diverse array of constructs. Many times such inventories reflect a particular theoretical model of personality, which provides a context for interpreting scores. There are three major ways that personality assessment is used. First, assessment is used as a means for making selection decisions. Personality assessment is used to *select* individuals for various jobs in many sectors, such as sales, law enforcement, and education. Second, tests can be used for *placement* purposes, identifying the ideal environment for individuals with specific personality configurations. Finally, personality inventories are used for [▶ personal growth](#) issues, helping individuals understand who they are and how their motivations come to impact their behaviors. Tests can be very helpful in promoting self-insight and personal awareness by providing a language for talking about themselves and a conceptual model for organizing this information (Piedmont, 2005).

## Cross-References

- ▶ [Five Factor Model of Personality](#)

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## Personality Assessment

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### Definition

Personality assessment is the use of instrumentation to capture salient motivational qualities of the individual. These measured constructs, ideally, are well validated allowing scores on

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## Personality Assessment Inventory

- ▶ [IPAT Depression Scale](#)

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## Personality Inventory, Revised NEO

- ▶ [Five Factor Model of Personality](#)

## Personality, an Overview

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### Definition

Personality is the psychological component of a person that remains from one situation to another. This includes both (1) core characteristics that everyone shares and (2) individual differences between people. Such individual differences can be studied at the macrolevel, through focusing on the broadest differences that characterize people, or at the microlevel, through focusing on specific idiosyncratic ways of viewing the world. Personality (a) directly impacts on well-being across different situations (the “*personality as predictor*” effect) and (b) interacts with situations to determine the impact of the event on well-being (the “*personality as buffer*” effect). Approaches to personality and well-being can be categorized according to whether they are focusing on core characteristics and macro - or microlevel individual differences and whether they are adopting a predictor or buffer approach. Nonpsychological components of a person (conventionally including abilities and intelligence) are not considered part of personality.

### Description

There are three basic positions on the *core characteristics* that compose personality and human nature: that people are naturally orientated toward (1) growth and constructive action (associated with humanistic theories, e.g., Horney, 1951; Rogers, 1951), (2) destruction and harming others (associated with Freudian theories,

e.g., Freud, 1923/1927), or (3) nothing at all, being “*tabula rasas*” (blank slates) that are totally shaped by their environment (associated with behaviorism, e.g., Skinner, 1969). These theories thus suggest completely different roles of personality as a predictor of well-being; acting in line with one’s core characteristics forms the essence of positive well-being in the humanistic position, would be disastrous in the destruction position, and would not be applicable to the *tabula rasa* position. Theories associated with the three basic positions focus heavily on the personality as buffer approach, specifying the precise environmental conditions under which the core characteristics influence thought, well-being, and behavior. Broadly, the humanistic position focuses on how harmful environments unfortunately stop the core growth tendencies from being realized (e.g., Rogers, 1957), the destruction position focuses on how the environment helpfully prevents the core characteristics from being disastrously expressed, and the *tabula rasa* position denies the existence of personality, with the environment totally determining well-being. The different expectations of the theories regarding the effect of personality as predictor (whether it leads to growth, destruction, or nothing) and buffer (whether the environment is helpful, harmful, or irrelevant) are the hallmarks of the grand theories of personality (Wood & Joseph, 2007). Such basic positions are highly relevant today as they suggest different actions in daily life, including social relationships, child rearing, education, and law, whether, for example, people should be empowered (humanism), controlled (Freudianism), or shaped (behaviorism). However, despite the continued importance of these positions and attempts to test between them (e.g., Sheldon, Arndt, & Houser-Marko, 2003), the positions are largely beyond scientific verification. Most empirical research has focused on measurable individual differences at the macro- or microlevel.

The *macrolevel* of personality focuses on the most substantial differences between people. The leading perspective is the ► [Five Factor Model](#). This perspective views personality as hierarchically organized, with people possessing and differing on the “big five” basic traits of

neuroticism, ► [extroversion](#), agreeableness, conscientiousness, and openness. Other more specific traits exist as a subpart of one of these (e.g., social outgoingness and energeticness are subparts of extroversion), lower down in the personality hierarchy. Conceptualizations that focus on a small number of broad and basic personality traits, such as the Five Factor Model, are commonly used to show how all of personality, widely defined, relates to ► [subjective well-being](#). Personality shows a degree of stability across situations and the life span (Srivastava, John, Gosling, & Potter, 2003), whilst also changing in meaningful ways following life events (changing on average about the same degree as income; Boyce, Wood, & Powdthavee, 2013). Each of the big five personality traits contributes to the various aspects of well-being via different mechanisms. The traits extroversion and neuroticism, for example, tend to have the strongest and most direct relationship with all components of well-being. These two traits generally capture temperament – the degree to which an individual experiences positive and negative affect throughout their life – and as such extroversion is most strongly related to positive affect ( $r = .33$ ) and neuroticism more strongly related to negative affect ( $r = -.33$ ) (Steel, Schmidt, & Shultz, 2008). The relationship to well-being of the remaining personality traits, however, is less clear and the relationship, if any, appears to be indirect. The relationship is indirect in the sense that certain personality traits naturally orientate individuals toward situations that are generally regarded as good for well-being. For example, agreeable individuals may tend to have better quality relationships, and conscientiousness may be useful for goal completion. The big five also act as buffers to life events supporting this indirect relationship. For example, the life satisfaction of conscientious people increases much more than unconscientious people following an increase in income (Boyce & Wood, [in press](#)), and similarly conscientious people lose over twice as much ► [life satisfaction](#) following unemployment (Boyce, Wood, & Brown, 2010). Further agreeable individuals tend to recover lost life satisfaction after becoming disabled, whereas disagreeable individuals

tend to reduce in their levels of life satisfaction over time (Boyce & Wood, 2011).

The *microlevel* of personality can be studied in two ways. First, it involves the more specific traits that exist below the big five in the Five Factor Model. Research has reliably shown that well-being is better predicted by (a) scales that measure 50 different personality traits that compose the big five than (b) scales that simply provide five measures, one for each of the big five domains (Paunonen, Haddock, Forsterling, & Keinonen, 2003). Specific traits also buffer the impact of life events. For example, experiencing more negative life events may or may not lead to increased suicidality depending on whether the person has such characteristics as perfectionism, agency, and hopelessness (Johnson, Wood, Gooding, & Tarrier, 2011). Second, the *microlevel* of personality involves individual ways of viewing the world. For example, two people can be helped in identical ways, but only one will feel grateful depending on their habitual way of interpreting other people's actions (Wood, Maltby, Stewart, Linley, & Joseph, 2008). In one sense, highly specific interpretive biases and beliefs are internal to each person, and while of relevance in the consulting room, such characteristics are not very amenable to scientific study. However, generally such beliefs can be categorized into general themes, as in the “attributional style” perspective (Peterson & Seligman, 1984). Depression and other forms of low well-being are characterized by attributing negative events to causes that are internal (due to me), stable (always going be around), and global (in that they will affect many more instances in life that this specific issue). Interpreting an argument with a partner as caused “because I am unlovable” is a classic example of this attributional style. Conversely, people with low well-being see positive events as external, unstable, and specific – like the compliment which is interrupted as “the stranger was just in a good mood.” In contrast, happy people make the opposite attributions in both cases, seeing negative events as external, unstable, and specific and positive events as specific, stable, and global. People's attribution style also buffers the impact

of ► [life events](#) – being, for example, the forth key personality characteristic that determines suicidal response (Johnson et al., 2011). Attributional style changes through therapy and naturally improves when a person's attributional style (Barnett & Gotlib, 1988).

### Conclusion

Understanding personality is critical to understanding well-being, both as a person's personality generally indicates their levels of well-being and as it determines reactions to positive and negative life events. These “*personality as predictor*” and “*personality as buffer*” effects are seen at every level at which personality is considered, whether core characteristics and macro- or microlevel individual differences.

### Cross-References

- [Extroversion](#)
- [Five Factor Model of Personality](#)
- [Gratitude](#)
- [Life Events](#)
- [Life Satisfaction](#)
- [Negative Affect](#)
- [Positive Affect](#)
- [Subjective Well-being](#)

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## Personality, Female Gender and QoL

► [Personality and Quality of Life in Middle-Aged Women](#)

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## Person-Environment Fit

► [Livability Theory](#)

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## Person-Environment Fit Model of Work Stress

► [Occupational Stress in a Multicultural Workplace](#)

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## Person-Environment Fit Theory

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### Synonyms

[Theoretical framework](#)

### Definition

The Person-environment (PE) fit refers to the relationship of compatibility or incompatibility that may exist between a person and the environment.

### Description

The PE fit theory has a long history that goes back to 1909 when Pearson first introduced the concept of “congruence” in vocational counseling (Sekiguci, 2004). Since then the model

has been further developed, improved, and expanded by many other scholars in order to accurately capture and explain how the interaction between personal characteristics and work environment influences each other. In the context of the new global economic trend, which influences the nature of work and work arrangements and its impact on individuals’ ► [well-being](#), the concept of PE fit has continued to be widely analyzed within the organizational and vocational behavior literature (Holland, 1985; Caplan, 1987; Tak, 2011). One of the prominent researchers in this field, Jeffrey R. Edwards, stated that the “P-E fit theory predicts that a perceived match between the person and environment is beneficial to mental and physical well-being, whereas a perceived mismatch signifies ► [stress](#), produces mental and physical strain (i.e., damage to well-being), and stimulates efforts to resolve P-E misfit” (p. 87).

The term “fit” refers to the interaction between the work personality of an individual and the work environment. If the interaction between the person and the environment is congruent, the outcomes of this interaction (i.e., ► [job satisfaction](#), commitment, and well-being) are positive. In the case of incompatibility between the two, the outcomes of the interaction will be negative, translating into job dissatisfaction, low commitment, and high levels of stress. However, the current PE fit research considers this correspondence between the characteristics of the person and the work environment as having a dynamic and reciprocal nature; in order to obtain fit, individuals have to actively respond and adapt to the changing requirements of the work environment, while components of the work environment have to adjust and transform in order to provide reward and satisfaction for individual needs (Tak, 2011; Yu, 2009). Thus, positive outcomes of PE fit may initiate and motivate changes in both individual self and work environment. For example, the individual may ask “do I have the skills and abilities to perform this type of job?” “am I willing to learn new skills for the job?” “is this job rewarding for me?” or “what can I do to feel good about my job?” The employer may ask “what do I want from this employee?” “how can I modify the work environment in order to accommodate and satisfy the needs of this employee?” or “how

I can obtain commitment and attract this employee for a longer period of time?” (Yu).

The fit between an individual and a workplace environment that matches personal characteristics, ► **values**, ► **abilities**, and interests is assumed to influence individual well-being and ► **quality of life**. When correspondence exists and an individual is happy and motivated by the job, a lower level of occupational stress will be perceived. Specifically, workers holding “good” jobs, which “fit” with their needs, interests, desires, backgrounds, and personality, are more likely to believe that their work has a positive effect on their ► **health** (Dawis & Lofquist, 1987; Lyness & Heilman, 2006; Ettner & Grzywacz, 2001). Consequently, these workers are more likely to feel good about themselves and their contribution in the workplace, to be less pressured by work, and to have more ability to participate in and enjoy family life. Most importantly, such individuals often report an overall feeling of satisfaction (i.e., job satisfaction, ► **marital satisfaction**, and ► **life satisfaction**). Alternately, a poor fit between individual abilities and work environment often reveals either a very demanding workplace environment or an individual not fully prepared to cope with the demanding situations at the work site; in turn, this lack of congruence will create strain and negatively impact the individual’s health and well-being (Elovainio et al., 2000; Fetter & Armstrong, 2010).

The expanded model of the PE fit may differentiate:

- (a) Two basic constructs: the objective-subjective person and environment and their interaction:
  - (a) Objective person and environment: the objective attributes of the person are the physically existent attributes, e.g., skills, abilities, goals, values, while the objective attributes of the environment refer to real physical, material, and social characteristics of the situation.
  - (b) Subjective person and environment: the subjective person refers to the perception and view of that particular person about the skills, goals, interests, and values. The subjective environment refers to individual’s perception of the actual environment or situation.

- (b) Two fundamental versions of the theory:

- (a) The fit between the work attributes of the person, e.g., goals, interests, preferences, and the supplies of the environment, e.g., effort-reward balance, recognition, job satisfaction
- (b) The fit between the person’s skills and abilities and the demands of the environment, e.g., commitment, flexibility, reliability, role expectations

Current PE fit research demonstrates that the “perceived” PE fit, which encompasses the fit between the subjective person and subjective environment, plays a very important role in facilitating the interaction between the actual/objective fit and the perceived outcomes (Caplan & Harrison, 1993; Edwards & Rothbard, 1999; Tak, 2011). In other words, the more positive and comfortable an individual feels within the workplace, the more competent and productive he/she becomes. For example, if an individual likes the work environment or work arrangements, perceptions of the overall objective environment will be altered in order to attain job satisfaction and well-being. Moreover, if PE fit is perceived, the worker will also attempt to alter the objective environment in order to respond to and fulfill his or her needs (i. e., negotiating new work arrangements such as flexible schedule, remote work arrangement, ► **telecommuting**) or to alter the objective self in order to respond to the work environment demands (i.e., upgrading or refreshing knowledge, learning new skills) (Resick et al., 2007).

## Summary

The PE Fit theory refers to the actual and perceived match between the person and environment. Good fit will lead to positive outcomes and overall well-being, while poor fit will result in high levels of stress, poor health, and ill-being. New trends in the PE fit research highlight that the relationship between person and environment should not be considered in isolation but should also take into consideration all stressors and factors that will have an influence on this relationship, e.g., family, societal expectations, ► **culture**,

ethnic background (Edwards & Rothbard, 1999; Gati, 1989; Yost & Lucas, 2002). Further, the relationship between the person and environment has a dynamic nature which calls for adjustment and fine-tuning from both sides.

## Cross-References

- ▶ [Abilities](#)
- ▶ [Health](#)
- ▶ [Job Satisfaction](#)
- ▶ [Life Satisfaction](#)
- ▶ [Marital Satisfaction](#)
- ▶ [Motivation](#)
- ▶ [Quality of Life](#)
- ▶ [Self-esteem](#)
- ▶ [Skills](#)
- ▶ [Stress](#)
- ▶ [Telecommuting](#)
- ▶ [Values](#)
- ▶ [Well-Being](#)

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## Person-Environment Model

- ▶ [Dementia and Self-Reported Purpose in Life](#)

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## Person-Job Fit, Transformational Leadership, and Job Performance

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## Synonyms

[Job performance and leadership](#); [Perceived demand-ability fit](#); [Perceived need-supply fit](#)

## Definition

Person-job fit (P-J fit) is defined as the match between employees' skills and the demands of a job. P-J fit includes two separate dimensions: the match between individuals' psychological needs and the facets associated with holding the job, such as money, resources, interpersonal relationships, achievement, and/or meaningful work (i.e., *perceived need-supply [N-S] fit*), or the match between the demands of a job and the abilities of a person (i.e., *perceived demand-ability [D-A] fit*) (Cable & DeRue, 2002; Edwards, 1991). Transformational leadership (TFL) includes four leaders' behavioral characteristics that can encourage followers to show high performance: (1) *idealized influence* (leaders behave in charismatic ways that cause followers to respect and admire them), (2) *inspirational motivation* (leaders inspire followers and provide them with an appealing vision), (3) *intellectual stimulation* (leaders help and lead followers to generate creative thinking and solve problems in new ways), and (4) *individual consideration* (leaders care about follower needs and listen to their concerns) (Bass, 1985). Job performance is defined as the value of the set of employee behaviors that positively contribute to organizational goal accomplishment (Colquitt, Wesson & LePine, 2009, p. 37). Both P-J fit and TFL can positively predict employees' job performance.

## Description

Over the past 10 years, TFL has become one of the most popular topics within the leadership literature (Bass & Avolio, 2000). Empirical studies documented that TFL positively predicts followers' job performance (Liao & Chuang, 2007; Judge & Piccolo, 2004; Walumbwa et al., 2004). In addition, a considerable amount of research has accumulated to clarify the *mediators* that explain the relationship between TFL and job performance, such as followers-leader relationship (e.g., leader-member exchange, trust in supervisors), follower positive or negative emotions, and follower motivations

(e.g., ► *self-efficacy*, intrinsic motivations) (see Chi & Pan, 2012, for a review). Although these studies assisted in clarifying how TFL predicts follower performance, one potential mediator aspect, *followers' perceived fit toward the job*, has received much less attention. As leaders might influence followers' judgment regarding their job through the use of verbal persuasion or communication (Shamir et al., 1993), Chi and Pan directly tested if TFL positively predicted follower task performance through changing followers' P-J fit (i.e., N-S fit and D-A fit).

The social information processing model (Salancik & Pfeffer, 1978) suggests that employees make judgments about the work environment based on information cues obtained from their social contexts and leaders occupy a powerful position in terms of influencing followers' assessments of their job. Based on the social information processing model, Chi and Pan (2012) argued that transformational leaders are more capable of reading followers' needs, providing relevant information to enhance followers' perceived importance of their work, and using positive verbal cues to activate the higher order needs of followers. By doing so, followers become more likely to perceive their job as meaningful (i.e., N-S job fit) and in turn exhibit positive work behaviors.

On the other hand, the developmental perspective of TFL (Avolio & Gibbons, 1988) suggests that transformational leaders assess the potential of individual followers in terms of their ability to meet the job requirements, as well as help individual followers to develop necessary skills to perform their job. According to the developmental perspective of TFL, Chi and Pan (2012) theorized that transformational leaders might activate follower D-A fit by:

1. Displaying individualized consideration (e.g., coaching, counseling, and paying personal attention to followers). These behaviors increase followers' motivation to improve their skills to meet the job requirements.
2. Transformational leaders also use intellectual stimulation to enable individual followers to challenge assumptions, try new methods, and acquire new knowledge and skills.

3. Setting high performance goal expectations and showing confidence in followers' abilities to achieve the goals.

Taken together, Chi and Pan proposed two hypotheses to explore the mediating roles of N-S fit and D-A fit in the TFL-job performance relationship:

Hypothesis 1. Followers' perceived N-S job fit mediates the positive relationship between individual-level transformational leadership and follower task performance.

Hypothesis 2. Followers' perceived D-A job fit mediates the positive relationship between individual-level transformational leadership and follower task performance.

Using 85 leaders and 343 followers from 85 Taiwan bank branches as the sample, Chi and Pan (2012) found that TFL positively predicts follower-perceived N-S and D-A job fit, which in turn positively predicts follower job performance. Their findings provide several theoretical implications for the leadership and fit literature. First, Chi and Pan have directly tested the assertion that "transformational leaders are capable of changing followers' perceptions of their jobs." Specifically, when leaders display TFL behaviors toward individual followers, their followers tend to perceive their jobs as a good match for their needs and also tend to feel confident that they possess the necessary abilities to meet the job requirements (i.e., N-S and D-A job fit). These in turn positively predict task performance. Second, past fit studies have mainly focused on the three types of antecedents of perceived P-J fit: (1) job search-related, (2) selection-related, and (3) individual difference-related antecedents. Chi and Pan indicated that leadership behavior (i.e., TFL) is another important antecedent for P-J fit.

The findings of the TFL and fit literature also offer several practical implications for enhancing the well-being of employees. First, organizations can design a series of human resource (HR) practices to increase supervisor/manager TFL. For example, as supervisors with high extraversion and agreeableness are more likely to display TFL (Judge & Bono, 2000), organizations should consider supervisors' extraversion and

agreeableness when selecting the leaders. In addition, organizations should design leadership courses that offer training in leadership skills and abilities, such as role plays on TFL styles or identifying role models that are consistent with the domains of TFL; these will help training participants to develop TFL-related skills and abilities (Barling et al., 1996).

Second, since followers' perceived N-S job fit and D-A job fit positively predict their job performance, it would be useful for organizations to use questionnaires or surveys to regularly evaluate employees' P-J fit (Cable & DeRue, 2002). On the one hand, if most employees perceive that their needs do not match the current offerings provided by the organizations, organizations should conduct employee opinion surveys to better understand employees' thoughts in order to improve HR practices (e.g., compensation and benefit packages, training and development programs, or flexible work hours). Therefore, organizations can enhance the congruence between employees' needs and the supplies associated with holding the job, enhancing employees' well-being at work. (Cable & DeRue, 2002). On the other hand, when employees perceive that their abilities do not match the job demands (i.e., low D-A job fit), organizations should assess the training needs and provide necessary training courses to enhance employees' knowledge, skills, and abilities to meet job demands. Finally, organizations should constantly check and update their selection tools to ensure that they can successfully select employees with necessary knowledge, skills, and abilities (Chang et al., 2010).

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## Persons with AIDS

- ▶ [Spanish Social Service Recipients](#)

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## Persons with Drug Dependences

- ▶ [Spanish Social Service Recipients](#)

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## Persons with HIV

- ▶ [Spanish Social Service Recipients](#)

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## Persons with Intellectual Disability

- ▶ [Spanish Social Service Recipients](#)

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## Persons with Mental Health Problems

- ▶ [Spanish Social Service Recipients](#)

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## Persons with Physical Disabilities

- ▶ [Spanish Social Service Recipients](#)

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## Perspectives of Social Agents

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### Synonyms

[Agency perspective](#); [Social actors' perspectives](#); [Stakeholders' perspective](#)

### Definition

A concrete social reality may be the object of different perceptions and evaluations by the

subjects observing it, whether they are mere external observers or are actually participating in the social dynamics observed. When observers are immersed in the same social reality, they can often be divided into categories according to their interests, characteristics, functions, or other traits. The concept of social agents is used when referring to different subgroups or categories of people who actively or passively participate in a social reality and do so in the pursuit of specific aims for each subgroup, even though these objectives may be shared. For example, increasing *children's well-being* may be an objective shared by parents, teachers, pediatricians, and children themselves. However, it is likely that the same objectives and means of achieving them may be understood very differently by each of these four groups of social agents involved in the same municipal or regional program.

## Description

One of the most controversial aspects of collecting data using *articulated* objective and subjective indicators first arose with evidence that the two types of indicators might not coincide or may even paint the opposite picture. For example, healthcare experts may decide that a given hospital is functioning excellently (on the basis of agreed *objective* indicators), while the hospital's users are mostly reporting they are unsatisfied (on the basis of a subjective technique, i.e., a questionnaire). The initial temptation is to ask "Who is best able to evaluate this social reality?" "Who is right?" (Casas, 2010).

In the history of quality of life studies, it took a few years to realize that the supposedly superior objectivity of the experts in their manner of measuring complex social realities does not lead to *the unique truth* or to being *more right* than the users. Each social agent simply observes reality from different perspectives or perceives different facets of the same reality (in fact, they may perceive *different realities*) – regardless of the data collection technique used (objective or subjective, quantitative or qualitative). The scientifically relevant question is not *who is right* but rather *why do*

**Perspectives of Social Agents, Table 1** The perspectives of experts and citizens/users of services (Glatzer & Mohr, 1987)

		Perceptions and evaluations of life conditions	
		Positive	Negative
<i>Objective</i> life conditions	Positive	<i>Well-being</i> (progress, satisfaction, good life, quality of services, quality of life, etc.)	<i>Dissonance</i> (discrepancy, disagreement, perceptive or attributional bias, etc.)
	Negative	<i>Adaptation</i> (conformity, passiveness, alienation, etc.)	<i>Deprivation</i> (social problems, social needs, inadaptation, marginalization, iniquity, social exclusion, etc.)

*different social agents perceive the same reality differently?* Glatzer and Mohr (1987) illustrated a simple didactic way of *indicating* the existence of four *different realities* with a  $2 \times 2$  table (Table 1). Social realities are, of course, usually much more complex than a  $2 \times 2$  table.

Some years on, lessons from these old debates on quality of life have been learned, with the conclusion that to understand a complex social reality, the perspectives of *all* social agents involved should be considered.

Historically, this principle already existed in the classic approaches of Lewin's participatory action research (1946, 1947).

In order to properly understand a social reality, it is necessary to have not only *objective* data but also information provided by each of the social agents involved. Paradoxically, if only one group of social agents is consulted, a clearly defined reality may appear, whereas if various groups of social agents are consulted, the disagreement between them may lead to the appearance of fuzzy social phenomena. It will be necessary to turn to complexity theories in order to understand these phenomena (González, Coenders, & Casas, 2008). Human social dynamics are often complex phenomena.

The fact of not having taken into account the perspective of all of the social agents involved

has had significant consequences for the evolution of the human and social sciences in some fields and particularly that of childhood and adolescence. Children's perceptions and evaluations have often been researched by asking the mother, considering her the best key informant, or sometimes a teacher or other professional. In fact, this was research into *attributions adults award children or adolescents' viewpoints*.

Only at the end of the twentieth century were the huge gaps in our knowledge regarding *children and adolescents' viewpoints* on many issues affecting their lives first recognized (Ben-Arieh, 2008). Debates on the lack of data have led to the realization of the need to construct more subjective indicator systems for child and adolescent well-being in order to have systematic and comparable data on an international level.

In fact, when data was collected for the first time on some issues (e.g., overall life satisfaction, satisfaction with life domains, aspirational values, preferences for activities, and interpersonal relationships), a large number of studies provided *unexpected* results that were not included in the researchers' initial hypotheses due to their prior ignorance of the issue (Casas, 2010).

## Discussion

Social well-being and quality of life in a given population depend on the perceptions and evaluations displayed by the different groups of actors or social agents involved. When all of the social agents coincide in evaluating a reality in the same way, this evaluation will be perceived socially as *the truth* regarding said reality.

Often, however, the groups of people involved in a reality do not have coinciding perceptions and evaluations of it. The case of majority and minority groups has been studied in-depth in social psychology (Moscovici, 1979; Moscovici, Mugny, & Van Avermaet, 1985; Tajfel, 1982; Turner, 1981). The scientific researcher has at times fallen into the trap of adopting the position of the group that seems to make more *objective* analyses of reality, without realizing that different perceptions and evaluations actually *form part of that same reality* and that the viewpoint of a single group of social agents is not the entire reality.

Many examples of different viewpoints can be found in intergenerational relationships, particularly between parents and children and adults and adolescents: what are known as extreme sports are often perceived by parents as a risk to children's physical integrity, and given the fact that physical integrity must be a high priority, certain of these practices have to be prohibited. By contrast, many adolescents consider it very important *to live on the edge* and have intense experiences and that limiting these practices derives from adults' obsession with controlling them and limiting their freedom, labeling them as irresponsible when they are actually very responsible. In these types of situation, the position of one side or another can be taken, or it may be acknowledged that the social reality known as *relations between adults and adolescents* may comprise these types of tensions generated by different perceptions and evaluations of the same issue.

Many examples may be found of discrepancies in perception or evaluation between providers and users of a service and between *experts* in a social matter and the main actors in it. For example, when asking which most important needs are not met among elderly people living in a certain place (e.g., a city), experts tend to prioritize more serious needs (e.g., the availability of places in homes for the elderly with health problems), whereas elderly people tend to highlight needs which affect many people, even though they are not so serious (e.g., the need for more outdoor recreational areas) (Casas et al., 2001). Social needs, like quality of life, are fuzzy social realities.

Although studying different social agents' viewpoints makes research more expensive and can make interpreting results more complex, in an epistemological sense it represents an essential step toward a greater understanding of many social situations and dynamics. Fuzzy theories in particular, and more generally all complexity theories (González et al., 2008), have opened new possibilities for studying and understanding many social phenomena which have traditionally been researched in a biased way by taking into account only some viewpoints and not those of all of the social agents involved.

## Cross-References

- ▶ [Age Discrimination](#)
- ▶ [Complexity Theories](#)
- ▶ [Parent-Child Relationship\(s\)](#)

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## Peru Income and Expenditure Survey

- ▶ [Consumption and Subjective Well-Being in Peru](#)

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## Pet Therapy

- ▶ [Pets and Quality of Life](#)

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## Pets and Quality of Life

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## Synonyms

[Human-animal bond](#); [Pet therapy](#)

## Definition

A pet is generally thought of as any domesticated or tamed animal that is kept in a home and cared for affectionately.

## Description

Over the past three decades, researchers from disciplines including psychology, sociology, counseling, nursing, medicine, and business management have focused on the degree to which interaction with a pet can affect such factors as pet owner ▶ [quality of life](#), ▶ [happiness](#), ▶ [life satisfaction](#), depression, and health status. Exploration of the numerous facets of the human-animal bond has been the basis for past and current research in this area (Olmert, 2009). This field is referred to in the following terms: human-animal bond, human-animal interaction, anthrozoology, pet therapy, animal-assisted therapy, and animal-assisted activities. A comprehensive bibliography (with abstracts) of more than 1,500 citations in this area is freely available at <http://www.anthrozoology.org>. The database allows subject searching using Boolean logic.

In part, due to the numerous and diverse research methodologies and population samples studied in this field, there are not any definitive conclusions about the efficacy of pet animals as therapeutic agents. The literature contains many reports of positive findings, as well as others that indicate pets have no effect on ▶ [health](#) and ▶ [well-being](#). The following summary provides

a selected overview of some of the questions and research approaches that have produced *positive* findings regarding the human-animal bond. It should be noted that recent media reports have magnified and distorted some research findings. Researchers in this field are careful not to overstate their conclusions and emphasize that pets cannot replace medical care and the roles of family and friends.

According to the Humane Society of the United States, there are at least 78 million pet dogs and 86 million pet cats in the United States, which has the largest overall number of dogs, followed by Brazil with 30 million and China with 23 million. Statistics Canada reports at least half of all households in Canada have at least one pet, totaling eight million cats and dogs. In the United Kingdom, there are at least 20 million pet cats and dogs, while France, Germany, and Italy each have at least eight million dogs. Considering the expense and responsibility associated with having a pet, it is reasonable to consider why pet ownership endures and what benefits may be associated with having a pet.

### **Pets and Human Physical Health**

#### **Survey Research**

Two frequently cited studies about the health benefits of pets reported that owning a pet was a significant predictor of a patient's 1-year survival after a heart attack (Friedmann, Katcher, Lynch, & Thomas, 1980; Friedmann & Thomas, 1995). Specifically, Friedmann and her colleagues showed that high ► **social support** and pet ownership were associated with better survival and that the effects were independent of the physiological severity of the heart attack, demographic characteristics of the patient, and psychosocial factors. More recently, a study focused on the association between pet ownership and ► **health behavior** and reported that pet ownership was a significant predictor of adherence to a 12-week ► **cardiac rehabilitation** program (Herrald, Tomaka, & Medina, 2006).

Cross-sectional surveys in Australia (Headey, 1999), Great Britain (Serpell, 1991), and the United States (Siegel, 1990) have demonstrated

significant health benefits to owners. Relative to nonowners, the pet owners in these surveys made significantly fewer visits to doctors and had better self-reported physical and psychological health.

Next, longitudinal surveys were developed to address the possibility that healthy people are the ones likely to *acquire* pets. A representative sample of 10,000 people in Germany responded to a health survey twice, with a 5-year period between surveys. Participants who had pets at the beginning of the survey, or who acquired them over the subsequent 5 years, made 10 % fewer visits to doctors than did people without pets. Similar results were reported in a smaller Australian longitudinal survey. National representative samples in these surveys enabled creation of theoretical models of potential savings. Such projections rely on the assumption that if people with pets did not own pets, they would need to use health services more often. In Australia, where more than half of households own a dog or cat or both, the projected saving is approximately five billion dollars, or 7 % of national health expenditure. In Germany, where the rate of pet ownership is about 35 %, the savings are estimated at seven billion euros. An especially revealing study about pets was conducted in China. Because until 1992 pets were prohibited and then suddenly allowed, the conditions for a scientific survey were perfect. A sample of about 3,000 women (half owned dogs and half did not) were questioned about lifestyle issues, ► **exercise**, and health. Relative to nonowners, dog owners engaged in 36 % more exercise, had 46 % fewer nights of poor sleep, had 50 % fewer doctor visits, and missed work 50 % fewer times (Headey, Na, & Zheng, 2008).

#### **Experimental Research**

**Blood Pressure Responses to Stress** It is well known that having close friends and confidants can contribute to better health and a longer life, but to date, there has not been a definitive explanation of how or why social affiliation and ► **social support** make this contribution. Given that pet owners readily describe their pets as close friends or members of their

families, social support is a sensible theoretical framework for studying how pets affect people.

The buffering hypothesis of social support posits that a high level of social support can act as a buffer to the negative effects of ► **stress**. Experimental studies have tested this hypothesis and considered how the presence of a pet versus that of a human friend or spouse can influence blood pressure changes during a stressful situation. Relative to the support of other people, pets are associated with calmness and significantly lower blood pressure responses to stress. In a randomized clinical trial, non pet owners in a stressful profession (stockbrokers) were assigned to either adopt a pet (dog or cat) or remain without a pet. All participants had drug-controlled hypertension, and among pet owners, there were significantly lower blood pressure responses to stress than among those in the group without pets (Allen, Shykoff, & Izzo, 2001). Collectively, these studies demonstrate support for pets as sources of social support and for the buffering hypothesis of social support. Participants in this research consistently described their pets as very important in their lives and emphasized that they believed their dogs and cats contributed to a calm atmosphere and a connection to nature that was otherwise absent in their lives. The accepting, nonjudgmental characteristics of pets were often cited as quite different from the assessments of other people, even close friends, spouses, and relatives. For a summary of this area of research, see Allen (2003).

**Heart Rate Variability** Heart rate variability (HRV) is an indicator of autonomic nervous system arousal. Higher HRV is associated with increased parasympathetic nervous system arousal, decreased sympathetic nervous system arousal, and lower cardiac mortality. In a study focused on elderly people and dog walking, participants wore ambulatory monitors that recorded HRV while they walked, both with and without dogs (Motooka, Koike, Yokoyama, & Kennedy, 2006). HRV was significantly higher when walking with a dog than when walking alone. In contrast to the blood pressure studies,

which focused on responses to experimental stress, this research expanded the setting to responses of people in their natural environment. These findings suggest that including HRV in the design of future human-animal bond research will be important.

**Stress Hormones** Considerable research documents that people with close social networks have lower levels of the stress hormone cortisol as well as more robust immune systems. The hormone oxytocin is released in response to close human interaction (as between a mother and her child) and functions to lower cortisol levels. Human-animal bond studies have also focused on endocrine variables related to the release of oxytocin. In one study (Odendaal & Meintjes, 2003), when oxytocin levels in blood were measured in both humans and dogs, a reciprocal response was reported. That is, oxytocin levels in both people and dogs increased after their interaction. In this study, blood pressure also diminished as oxytocin levels increased. Another investigation (Miller, et al.) found that, after interaction with a dog, oxytocin levels in blood rose in women, but not in men. Together these studies suggest that human-dog interaction is associated with oxytocin release into the circulation system and the brain. Other related research reported that a dog's gaze at and touch by its owner increased the owner's urine oxytocin level during the interaction (Nagasawa, Kikusui, Onaka, & Ohta, 2009). Although cortisol levels can be measured in blood, urine, or saliva, scientific controversy exists regarding methods of oxytocin measurement, with most scientists favoring measurement only in blood.

### **Pets and Human Mental Health**

Loneliness, Depression, Life Satisfaction, Happiness, and Coping

Since pets are often described as friends, studies have focused on the degree to which pet owners report loneliness and depression. Recent research concluded that dog ownership, but not cat ownership, was beneficial for the loneliness levels of individuals living alone with high levels of human social support (Duvall

Antonacopoulos & Pychyl, 2010). An explanation for this may be that walking a dog provides exercise and increased levels of ► [physical activity](#) are associated with mental health benefits. This study also found that pet owners with low social support and high attachment to their pets were more lonely and depressed than pet owners who were less attached to their pets. This result provides an excellent illustration of the complexity of research about the human-animal bond and emphasizes how difficult it is to generalize findings to a variety of populations, age groups, and life circumstances. For example, an earlier study found that elderly widows and widowers with low social support and high attachment to their pets were *less* depressed than their counterparts with low pet attachment. A possible explanation for this is that the *pet* provides social support and acts as a buffer to the deleterious effects of grief and loss. This suggests that pet ownership alone is not associated with health benefits but that the quality of the relationship with the pet makes an important contribution to the effect of having a pet. A meta-analysis of studies about pets and owner depression concluded that animal-assisted therapy (AAT) was associated with a reduction in symptoms of depression.

Many investigations about how AAT is related to mental health have included a focus on people who are elderly, living in a variety of settings ranging from their own homes to long-term care facilities. For example, AAT improved quality of life and life satisfaction among elderly people experiencing significant life transitions. This group also reported decreased blood pressure, heart rate, and depression (Steed & Smith, 2002). Pets also have been documented as helping their owners in times of mourning. A meta-analysis focused on AAT and depression concluded that AAT was associated with a decreased number of depressive symptoms. Because people are so close to their pets, however, when a pet dies, therapy for depression may be required. Fine (2010) provides an overview of foundations and guidelines for AAT.

Overall, a large number of studies have concluded that pet animals act as social catalysts.

This has been reported among psychiatric patients of all ages in all types of therapeutic settings: people living with AIDS, people undergoing treatment for cancer, college students, and children and adults in community settings. In such studies, pet ownership has been positively associated with social interactions, helping behavior, ► [civic engagement](#), and a ► [sense of community](#).

#### Assistance Dogs

Although service dogs who assist people with disabilities are not pets, they represent an important element of the human-animal bond. Such dogs are trained to perform specific tasks, but they also provide companionship, increased independence, enhanced ► [self-esteem](#), increased ► [happiness](#), and decreased depression. Although service dogs for people with physical disabilities are well-appreciated and afforded privileges by the federal Americans with Disabilities Act (ADA), psychiatric service dogs and emotional support dogs are less understood by the public.

A psychiatric service dog is a specific type of service dog trained to assist in a psychiatric disability such as post-traumatic stress disorder or schizophrenia. The dog's function is not to provide emotional support but rather to perform tasks that enable the person to function in ordinary ways people without disabilities take for granted. For example, dogs can be trained to interrupt and stop repetitive or injurious behaviors by the person with the disability. Such dogs also remind people to take medications and provide physical support if a person becomes disoriented or dizzy.

In contrast, an emotional support dog belongs to a person who has an emotional or psychological disability. Only a licensed medical professional can determine that the person has a disability and that presence of the dog is necessary for the person's mental health. When properly documented, landlords and airlines must make reasonable accommodations for people with emotional support dogs. Unlike service dogs, emotional support dogs are not granted unlimited access to public areas and facilities. People with emotional support dogs emphasize

that their dogs make it possible for them to do things such as go out in public, maintain a job, manage their depression, and overcome fear of traveling.

### Discussion

People usually acquire pets not because they are seeking improved health but because they like animals, enjoy being near them, and believe they add to overall quality of life. While the studies included here illustrate positive physical and mental health outcomes associated with pets, other studies have not reported the same results. Because of the diversity of disciplines and methodologies engaged in human-animal research, replication of findings has not occurred. While some researchers are concerned with a broad topic such as depression, others may be focused only on a specific type of geriatric population with a certain illness. This makes generalization to a more heterogeneous population problematic.

More than half of pet owners say they confide in their pets. Clearly, there is the perception that pets understand, sympathize, and offer comfort. Unlike human social support, pets do not volunteer their opinions or solutions to problems. This may be what makes the human-animal bond so different from the bonds formed with close friends and family members.

Additional research with rigorous scientific design is needed to increase our understanding of the human-animal bond. Studies need to identify populations that are likely to benefit or not benefit from interaction with a pet and to determine if a *pet effect* is transitory or enduring. Finally, the underlying mechanism through which bonding with a pet may enhance quality of life must be fully addressed. For a summary and commentary on the current state of research exploring human-animal interaction and human health, see McCardle et al. (2011).

Ongoing research is focused on expanding many of the topics described above. For example, current studies are exploring how pets can assist psychiatric patients undergoing ECT (electroconvulsive therapy), how walking a dog is

related to cardiac health among a variety of ethnic and age groups, the degree to which pets buffer chronic and acute stress associated with rheumatoid arthritis, and the role of pets in reducing stress among caregivers of people with Alzheimer's disease.

### Cross-References

- ▶ [Cardiac Rehabilitation](#)
- ▶ [Civic Engagement](#)
- ▶ [Disability](#)
- ▶ [Exercise](#)
- ▶ [Friendship and Happiness](#)
- ▶ [Happiness](#)
- ▶ [Health Status Measurement](#)
- ▶ [Life Satisfaction Judgments](#)
- ▶ [Nature Relatedness and Subjective Well-Being](#)
- ▶ [Negative Affect](#)
- ▶ [Physical Activity](#)
- ▶ [Physical Quality of Life](#)
- ▶ [Psychiatric Disorders](#)
- ▶ [Quality of Life](#)
- ▶ [Self-esteem](#)
- ▶ [Sleep](#)
- ▶ [Sleep, an Overview](#)
- ▶ [Social Support](#)
- ▶ [Stress](#)
- ▶ [Well-Being and Ill-Being: Names and Naming](#)
- ▶ [Widowhood](#)

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## Pfeffer Functional Activities Questionnaire

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### Synonyms

FAQ; Functional activities questionnaire; PFAQ

### Definition

The Functional Activities Questionnaire (FAQ) is a screening diagnostic tool directed at evaluating independence in activities of daily living (ADL). It was designed to be used in population-based studies on mildly senile dementia and normal aging.

### Description

The FAQ is a commonly used social function scale measuring the current level of performance of ten daily tasks (see [Table 1](#)) that may be impaired by dementia, such as handling personal finance, shopping alone, remembering arrangements, using transport, or preparing a meal (Pfeffer, Kurosaki, Harrah, Chance, & Filos, 1982). It was intended to cover universal skills among older people (McDowell, 2006), and it should be independent of socioeconomic status, educational level, and intelligence of patients (Pfeffer et al., 1981). Some overlap with activities, and descriptions of the Lawton Instrumental Activities of Daily Living scale were accepted (Lawton IADL scale) (Lawton & Brody, 1969).

The FAQ instrument was evaluated by Pfeffer and colleagues (Pfeffer et al., 1981) in the context of a study of 195 adults between the ages of 61 and 91, living in a stable retirement community of 22,000 people. The study exclusion criteria were severe senile dementia of the Alzheimer type or

## PFAQ

► [Pfeffer Functional Activities Questionnaire](#)

**Pfeffer Functional Activities Questionnaire, Table 1** Summary of the FAQ scale

Activities	Dependent	Requires assistance	Has difficulty but does it by him/herself or never did it and would have difficulty now	Normal or never did it but could do it by him/herself
Writing checks, paying bills, and keeping financial records	3	2	1	0
Assembling tax records, business affairs, or papers	3	2	1	0
Shopping alone for clothes, household necessities, and groceries	3	2	1	0
Playing a game of skill, working on a hobby	3	2	1	0
Heating water, making a cup of coffee, turning off the stove	3	2	1	0
Preparing a balanced meal	3	2	1	0
Keeping track of current events	3	2	1	0
Paying attention to understand, discuss TV, book, magazine	3	2	1	0
Remembering appointments, family occasions, holidays, medications	3	2	1	0
Traveling out of the neighborhood, driving, arranging to take buses	3	2	1	0

Source: adapted from Pfeffer et al. (1982)

dementia of other known causes. All the participants completed a standardized medical history questionnaire, three cognitive tests, and a self-report depression symptom scale developed by the Center for Epidemiologic Studies Depression Scale (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). Each participant was examined by both a nurse with extensive training in neurology and an experienced neurologist (Pfeffer et al., 1982).

In this initial evaluation, the total reliability for all the FAQ items was higher than 0.80, its correlation with their estimates on the Lawton IADL scale scored 0.72 (Pfeffer et al., 1982), and the inter-rater reliability between the reviewing and examining neurologist was excellent ( $r = 0.97$ ).

The FAQ instrument is not self-administered, but it requires an informant. The instrument must be answered by a relative who knows and has observed the patient, such as a spouse or

child, a caregiver, or a friend. For each of the ten activities in the questionnaire, the informant must classify the performance of the patient as dependent (score 3), requiring assistance (score 2), having difficulty but doing it by him/herself (score 1), or independent or normal (score 0). Two additional choices are added for activities not normally performed by the person. In these cases, the informant must specify if the patient is capable of undertaking the activity if required (score 1), or if he/she would have difficulties or would be unable to perform it (score 0). In contrast to other IADL instruments, FAQ scale levels are defined mostly in terms of social function rather than physical capacities (McDowell, 2006). The total score is the simple sum of the individual item scores, ranging from zero to 30, and the higher the score, the higher the level of inability to perform the described tasks. The completion of the questionnaire takes around 10 min.

FAQ has shown to be a consistently accurate instrument. In further studies, the Pfeffer FAQ has shown to be good, even better than the Lawton IADL scale, to discriminate between demented and non-demented older people, and between mildly demented and non-demented (Juva et al., 1997). Furthermore, the instrument has shown to be useful in the assessment of patients with cognitive deterioration at the initial stages (Rios et al., 2001).

In a systematic review and meta-analysis, IADL scales in general (PFAQ, Dementia Scale, and Lawton IADL scale) showed to be reasonably accurate to screen dementia, especially among subjects with more advanced deterioration levels (Castilla-Rilo et al., 2007). A review done by the US Preventive Services Task Force (U.S. Preventive Services Task Force, 2005) specifically concluded for the FAQ instrument that it can detect dementia with a sensitivity and specificity similar to those of the mini-mental state examination (MMSE), although the former assesses functional limitations rather than cognitive impairment which the latter does.

A Chilean study validated a combination of the FAQ and the MMSE as a screening test with good sensitivity and specificity for the diagnosis of dementia. Sensitivity for the MMSE was 93.6 % (95 % CI 70.6–99.7 %), and specificity was 46.1 % (95 % CI 34.7–57.8 %) for a cutoff point of 21/22. The FAQ instrument mainly added specificity to the screening (70.7 %; 95 % CI 58.9–80.3 %), with a sensitivity of 89.2 % (95 % CI 70.6–99.7 %). The use of both instruments resulted in a sensitivity of 94.4 % (95 % CI 58.9–80.3 %) and a specificity of 83.3 % (95 % CI 72.3–90.7 %) (Quiroga, Albala, & Klaasen, 2004).

The FAQ is appropriate to be used for research; clinical settings, such as acute and primary care; rehabilitation; and also at home, although some authors have pointed out the fact that this instrument includes activities that are inappropriate outside the type of sociocultural social setting (i.e., Western industrialized countries) in which it was developed (Mathuranath, George, Cherian, Mathew, & Sarma, 2005).

Summarizing, the FAQ is an accurate and reliable instrument to screen the independent

performance of daily tasks among older adults. Like other functional instruments, the FAQ offers the advantages of adaptability of various types of settings and patients, acceptability by subjects, easy administration, and in some cases cross-cultural portability (U.S. Preventive Services Task Force, 2005). The instrument is widely used in assessing the functional status in studies of dementia with a good validity, apparently superior to those obtained by the Lawton IADL scale (McDowell, 2006). The main limitations of this instrument might be that some patients do not have a caregiver or a lay informant to answer the items included in the scale and also that some functions are not tested.

## Cross-References

- ▶ [Activities of Daily Living \(ADL\)](#)
- ▶ [Cognitive Function](#)

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## PGI

- ▶ [Patient Generated Index](#)

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## PGWB

- ▶ [Psychological General Well-Being Index \(PGWB\)](#)

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## PGWB-6 Items

- ▶ [Psychological General Well-Being Index \(PGWB\)](#)

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## PGWBI

- ▶ [Psychological General Well-Being Index \(PGWB\)](#)

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## Philanthropy

- ▶ [Charitable Donations](#)

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## Philosophical Pragmatism

- ▶ [Pragmatism](#)

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## Phobias in Children

- ▶ [Childhood Anxiety](#)

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## Photography

- ▶ [Arts and Quality of Life](#)

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## Physical Activity

- ▶ [Exercise](#)

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## Physical and Social Environment

- ▶ [Housing and Aging](#)

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## Physical Assessment

- ▶ [Physical Functioning \(PF\)](#)

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## Physical Care of Children

- ▶ [Parental Time and Child Well-Being](#)

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## Physical Environment

- ▶ [Built Environment](#)

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## Physical Exertion

- ▶ [Exercise](#)

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## Physical Function

- ▶ [Physical Functioning \(PF\)](#)

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## Physical Functioning (PF)

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### Synonyms

[Physical assessment](#); [Physical function](#); [Physical performance](#)

### Definition

The physical function domain is theoretically composed of four subdomains, which are conceptually interrelated but distinct, such as mobility related to the lower extremities, dexterity related to the upper extremities, axial or central related to neck and back functions, and complex activities which involve more than one subdomain are related to instrumental activities of daily living. In practice, the subdomain assignment may, sometimes, be arbitrary, since many tasks involve more than one part of the body (Bruce et al., 2009).

### Description

The international classification of functioning, disability, and health (ICF) model (<http://www.who.int/bulletin/volumes/81/9/Woolf.pdf>), besides proposing a structure for the understanding of the

classification of functioning and disability associated with health conditions, also allows a more comprehensive description of individuals' health. Furthermore, the ICF prompts the use of a universal language that allows interdisciplinary communication regarding health-related issues. According to the ICF, functioning and disability can be described into three health components: *Body Functions and Structures, Activities, and Participation*. The *Body Function and Structure* component consists of physiological and/or psychological functions of body systems and their anatomical parts. The *Activity* component describes one's ability to execute a task or action in daily routines, and the *Participation* component is related to one's sociocultural life (Stucki, 2005).

Physical function, which could positively or negatively influence body functions and structures, activities, and social participation, is a key component of patient-reported outcomes (PRO) and health-related quality of life (HRQOL) assessment in any health setting (Stucki, 2005).

### Physical Functioning, Autonomy, and Independence

Functional limitations, measured through standardized observations of physical functioning or patient-reported functions, have been recognized as important rehabilitation outcomes, as well as important means to predict future disabilities (Hirsch, Buzková, Robbins, Patel, & Newman, 2012; Bean, Iveczky, Kiely, LaRose, & Jette, 2011; Onder et al., 2005).

Independence is usually measured in terms of functional ability in performing basic activities of daily living (BADL), such as bathing, dressing, and going to the toilet, and instrumental activities of daily living (IADL), such as shopping, cooking, housework, and handling finances (Seidel, Brayne, & Jagger, 2011).

Poor physical performance has been associated with high risks of disability and poor quality of life in people with musculoskeletal disorders. Musculoskeletal conditions cause more functional limitations in the adult population, than any other group of disorders. They are major causes of years lived with disabilities in all continents and economies (<http://www.who.int/>

[bulletin/volumes/81/9/Woolf.pdf](#)) and in older adults (Bean et al., 2011). For this reason, screening adults for functional limitations has been advocated as a “vital sign,” useful in many clinical settings (Bean et al., 2011; Seidel et al., 2011; Guralnik et al., 2000).

### Measurement of Physical Functioning

The increase of the patient-centered concept in health-care policy, individualized outcome tools which are important to deliver interventions, to make health-care decisions, and to estimate the efficacy and costs of care. Several patient-specific self-assessment instruments, either self-administered or interview-based, have been developed for patients with musculoskeletal disorders (Barten, Pisters, Huisman, Takken, & Veenhof, 2012).

Barten et al. (2012) conducted a meta-analysis of 23 studies related to diverse patient-specific self-assessment instruments, to measure physical functions in patients with musculoskeletal disorders and to evaluate the descriptive properties and the psychometric qualities of these instruments. They identified that some instruments only assess impaired activities and rank them with respect to their severity (Patient-Specific Functional Scale – PSFS; Neck Disability Index; Disabilities of the Arm, Shoulder, and Hand Questionnaire; MACTAR Questionnaire; McMaster-Toronto Arthritis Patient Preference Disability Questionnaire; and the Canadian Occupational Performance Measure – COPM) and the frequency and importance of the performance on the impaired activities (the COPM, the Western Ontario and McMaster Universities Osteoarthritis Index – WOMAC function subscale, and the patient-specific version of the Disabilities of the Arm, Shoulder, and Hand Questionnaire). One of the most used instruments is the PSFS, which has at least nine reported versions. Although all these instruments are designated as PSFS, the scoring method and mode of administration vary between the measurement tools.

Although there are many choices of instruments to assess physical functioning, it is important to reliably and meaningfully use tools and to

confirm the psychometric quality of patient-specific instruments measuring physical functions in patients with musculoskeletal disorders, which could be recommended for clinical use (French, Fitzpatrick, & Gerald, 2011).

Summaries of published literature, which include recommendations regarding options for documenting functional improvements in occupational health-care settings (<http://www.Lni.wa.gov/ClaimsIns/Providers/Treatment/IICAC/>), have been proposed. An algorithm of instrument utilization was proposed based upon the follow-up outcomes, either improvements or worsening of symptoms of pain and disability. This algorithm suggests the use of PSFS, regional- or condition-oriented scales, and psychosocial scales.

### Self-Reported Vs. Performance-Based Assessments of Physical Functioning

It is possible to assess physical functioning by means of performance-based measures of function, which can be highly standardized to provide a measure of a person’s functional capacities, in contrast to patient-reported measures of function, which can cover a much broader array of functions relevant to a person’s daily life (Seidel et al., 2011).

There are data to suggest that some discordance must be expected between self-report and objective measures, since both provide different types of information. Self-reports encompass subjective factors and assess perceived functioning or experienced difficulties, whereas objective measures assess functional capacities in test situations (Seidel et al., 2011; Bean et al., 2011).

Even in self-report instruments, there are possibilities of assessing physical functioning from a predefined list of activities or from open questions. The advantage of the application of predefined lists is the possibility for comparisons within and between different populations and settings. Furthermore, changes over time can be either indicated in disabilities with potential for improvements. However, the applications of predefined lists entail the risk of missing important activities, which would be revealed from open questions (Bean et al., 2011).

According to Seidel et al. (2011), performance-based measures provide information, which is not available from self-reports, such as with people with low levels of disabilities, but they offer little to the development of interventions for actual environments. Nonetheless, self-report instruments that provide some insight into the demands of the environment, such as those reporting difficulties, e.g., stooping/crouching/kneeling at baseline, were more likely to report disabilities at follow-up, suggesting that the need to bend down should be avoided during cooking, shopping, and housework. Objective measures offer little to the development of intervention strategies, whereas self-reports provide some insight into the demands of the environment, being more amenable to interventions, which were also reported by Barten et al. (2012).

### Conclusions

The physical function domain of quality of life is composed by the domains of mobility (lower limbs), dexterity (upper limbs), axial or central functions (neck and back), and complex activities related to IADL. Physical functions may positively or negatively influence body functions/structures, activities, and social participation.

The ICF model provides a theoretical framework for the management of physical functioning in the health contexts.

It is a key component of patient-reported outcome and HRQOL, as an important rehabilitation outcome and predictor of future disability.

One of the most used instruments is the PSFS which has at least nine reported versions. Although all these instruments are recognized as "PSFS," the scoring methods and modes of administration vary between the measurement tools.

It is possible to assess physical functioning by means of performance-based and/or patient-reported measures of function. Each method has advantages and disadvantages.

- Health-care professionals should choose a measure, method, and mode of administration to collect information regarding physical functioning, based upon their clinical and/or research needs.

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## Physical Performance

- ▶ [Physical Functioning \(PF\)](#)

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## Physical Planning

- ▶ [Land-Use Planning](#)
- ▶ [Planning, Spatial](#)

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## Physical QOL

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### Synonyms

[Physical quality of life](#); [PQOL](#)

### Definition

With deference to a recent definition of quality of life (Constanza et al., 2007), physical quality of life (PQOL) can be defined as the extent to which objective physical human states are fulfilled in relation to personal or group perceptions of subjective ▶ [physical well-being](#).

### Description

PQOL literature has focussed on measures of PQOL with little independent conceptual discussion of its contextual nature as a construct. In the late 1970s, Morris (1978) developed the ▶ [Physical Quality of Life Index \(PQOLI\)](#) for the Overseas Development Council as an indicator of the distribution of social benefits and therefore national well-being. The goal of this instrument was to provide an alternative to ▶ [Gross National Product \(GNP\)](#) as a comparative indicator of the

▶ [quality of life \(QOL\)](#) across nations. The index is based on three objective measures: infant mortality rate, life expectancy, and literacy rate. Some research suggests that it may not have achieved its goal as an alternative to GNP (Larson & Wilford, 1979). The PQOLI has been supplanted by the ▶ [Human Development Index](#), which is now the widely used indicator for comparing QOL across nations ([United Nations Development Programme](#)).

The major focus on PQOL has been as a component of ▶ [health-related quality of life \(HRQOL\)](#). HRQOL research has typically been concerned with the risk of disease, recovery of QOL following disease or treatment of disease or other health problems, and coping with the progression of disease. The importance of PQOL as a health outcome derives from its possible direct influence on overall HRQOL and survival (Ashing-Giwa & Lim, 2010). Self-report instruments containing a PQOL component used to assess HRQOL include the World Health Organization quality of life instrument (WHOQOL-BREF), a general QOL measure, and the ▶ [SF-36 Health Survey](#), a generic health status measure.

Research on general population samples has found a number of variables influenced perceived PQOL. As may be expected with decreasing objective functionality and increasing incidence of morbidity, satisfaction with PQOL has been found to decrease with age (Brown & Roose, 2011; Hemingway, Nicholson, Stafford, Roberts, & Marmot, 1997). Income was also related to PQOL (Peterson, Lowe, Peterson, & Janz, 2006; Sallis et al., 2009), as was socioeconomic status independently of observed disease (Hemingway et al., 1997). Moreover, income was a moderator of the effect of active living on PQOL, with the largest effect of active living associated with low income (Peterson et al., 2006). PQOL was related to ▶ [physical activity](#) level (Brown et al., 2003). Low PQOL has been associated with metabolic syndrome in women (Lidfeldt et al., 2003). Some, but not all, studies have found a relationship between gender and PQOL. Hemmingway et al. (1997) found lower perceived PQOL in females.

## Cross-References

- ▶ [Gross National Product \(GNP\)](#)
- ▶ [Health Status Measurement](#)
- ▶ [Health-Related Quality of Life](#)
- ▶ [Human Development Index \(HDI\)](#)
- ▶ [Life Expectancy](#)
- ▶ [Moderators](#)
- ▶ [Physical Activity](#)
- ▶ [Physical Quality of Life Index \(PQLI\)](#)
- ▶ [Quality of Life](#)
- ▶ [SF-36](#)
- ▶ [Socioeconomic Status \(SES\)](#)

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## Physical Quality of Life

- ▶ [Physical QOL](#)

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## Physical Quality of Life

- ▶ [Physical Quality of Life Index \(PQLI\)](#)

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## Physical Quality of Life Among Breast Cancer Survivors

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## Definition

Health-Related Quality of Life (HRQOL) is a multidimensional theoretical framework for explaining the physical, personal or familial, emotional, social, and functional impact of disease or injury (Cella & Tulsky, 1993). HRQOL is an important outcome in cancer research, because it can be used to inform prognosis, patient monitoring, clinical decision making, treatment, symptom management, and supportive care interventions (Perry, Kowalski, & Chang, 2007).

## Description

### Significance

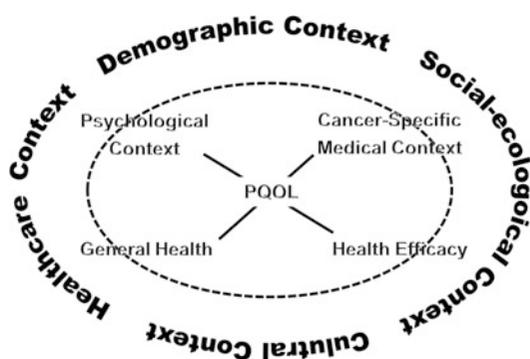
Preventing physical morbidity and addressing the physical sequelae of cancer and its treatments are increasingly becoming a significant component of health outcomes research and global healthcare delivery systems.

### Definition

Health-Related Quality of Life (HRQOL) is a multidimensional theoretical framework for explaining the physical, personal or familial, emotional, social, and functional impact of disease or injury (Cella & Tulsky, 1993). HRQOL is an important outcome in cancer research, because it can be used to inform prognosis, patient monitoring, clinical decision making, treatment, symptom management, and supportive care interventions (Perry et al. 2007).

**Physical quality of life (PQOL)** is one of the most important components of HRQOL and health outcomes because it may directly influence the overall HRQOL and survival of cancer patients (Gupta, Granick, Grutsch, & Lis, 2007). PQOL is defined as a physically focused, comprehensive construct assessing physical well-being and physical functioning including energy, side effects, overall physical conditions, general health perception, and pain.

For breast cancer survivors, PQOL is often affected by a variety of factors including the survivors' medical characteristics, such as the cancer and its treatments, and other comorbidities; psychological functioning; socio-ecological contexts; healthcare system factors; and demographic characteristics. The impact of these factors may vary by ethnicity, socioeconomic status (e.g., education, income), and personal (e.g., mental health) characteristics. Given the contribution of nonmedical factors, the Contextual Model of HRQOL (Ashing-Giwa, 2005) was developed to better understand and assess these dimensions. Thus, the Contextual Model was constructed to explain the relationships among the individual- and systemic-level contexts influencing HRQOL including PQOL, considering ethnic and cultural



**Physical Quality of Life Among Breast Cancer Survivors, Fig. 1** The contextual model of PQOL (Ashing-Giwa & Lim, 2008)

backgrounds. The Contextual Model guided the analyses to test the utility and applicability of the PQOL model. Though the traditional HRQOL concept is a multifarious framework, it fell short in relevance to the inclusion of survivors' lived experiences. Therefore, the Contextual Model is a newly developed model that infuses cultural and socio-ecological contexts into the HRQOL and PQOL frameworks. These findings advance our knowledge and conceptualization of how psychological well-being, socio-ecology, and ethnicity influence PQOL and overall HRQOL.

### The Contextual Model of HRQOL

The traditional HRQOL framework follows a predominantly individual-centered paradigm that does not adequately address the broader contextual domains of HRQOL (e.g., culture, healthcare system, socio-ecology) (Ashing-Giwa, 2005). Given increasing attention to the cultural and socio-ecological influences on HRQOL (Institute of Medicine, 2002; Janz et al., 2009), we evaluated studies aimed at unifying the theoretical model that assesses the contextual milieu to explain PQOL.

*The adapted Contextual Model of PQOL* presented below (see Fig. 1) includes cultural and socio-ecological dimensions and provides a useful conceptual framework for understanding and assessing health outcomes and may be particularly applicable in population-based studies (Ashing-Giwa, 2005). This model was developed

by quantitative and qualitative outcomes research that includes ethnically and linguistically diverse population-based samples (Ashing-Giwa, Tejero, Kim, Padilla, & Hellemann, 2007). In the Contextual Model of PQOL, PQOL is shaped by two components: individual-level and systemic-level factors. Individual-level factors consist of (1) medical factors (i.e., cancer diagnosis and treatment, quality of care), (2) general health (i.e., comorbidity), (3) psychological functioning (i.e., depression), and (4) health practices including exercise and nutrition. Systemic-level factors include (1) the socio-ecological context (i.e., social support, living situation), (2) healthcare system context (i.e., access, surveillance, and survivorship care), (3) cultural context (i.e., spirituality, meaning), and (4) demographic information (i.e., education, income). This model also assumes the mediating effects of individual-level factors on the relationship between systemic-level factors and PQOL outcomes (Ashing-Giwa & Lim, 2008), such that systemic-level factors such as the socio-ecological factor or healthcare system may have a positive effect on individual-level factors (i.e., improved psychological well-being) which then may improve PQOL. This Contextual Model of PQOL promises broader application and has been used as a framework to more comprehensively investigate other survivorship outcomes including functional and role strain (Ashing-Giwa & Lim, 2008).

### Factors Influencing PQOL

#### Individual-Level Factors: Medical Factors and Psychological Well-Being

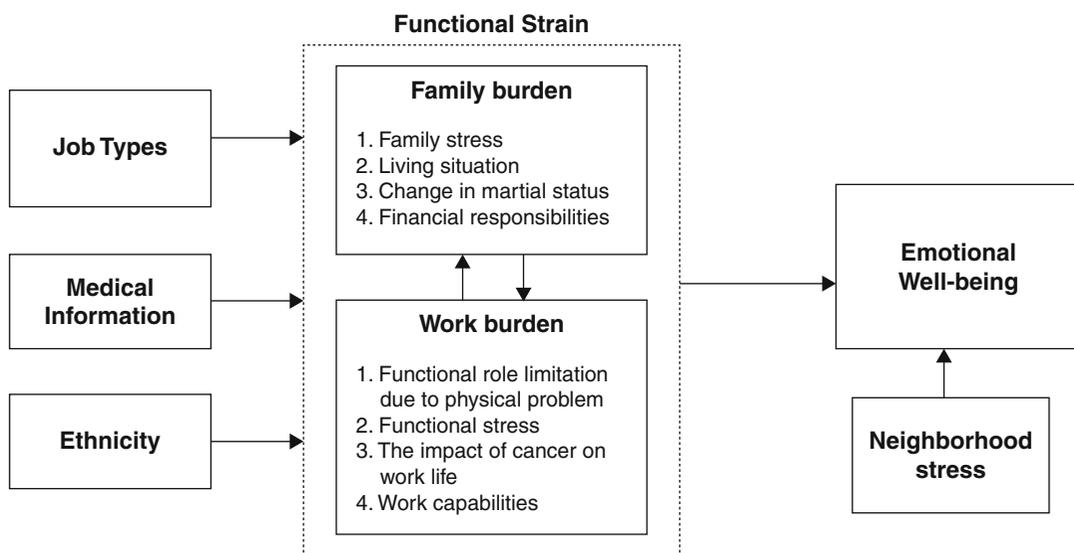
Physical outcomes are generally related to the concerns resulting from disease-related treatments and general body concerns (Ganz et al., 2002). Physical symptoms can be the most burdensome and are among the most persistent sequelae of cancer and its treatments. It has been documented that medical factors are associated with differential physical outcomes and PQOL. For example, women with early cancer stage at diagnosis have reported better PQOL than women diagnosed at a late stage (Janz et al., 2009). In addition, side effects – such as

nausea, hair loss, skin changes, lymphedema, and ovarian failure – are associated with cancer treatment and have an enormous impact on PQOL (Ganz, 2006).

Research also found that physical and psychosocial functioning improved significantly after breast cancer treatment, independent of receipt of adjuvant chemotherapy. Yet, women who received chemotherapy experienced more severe and persistent physical symptoms that should be more effectively managed as part of survivorship care (Ganz, Kwan, Stanton, Bower, & Belin, 2011). Factors related to the *psychological well-being* of breast cancer survivors include uncertainty, depression, anxiety, decreased self-esteem, resilience, optimism, and body image. These factors are known to also be associated with PQOL (Mehnert, Berg, Henrich, & Herschbach, 2009). Among cancer survivors, fear of recurrence and lack of acceptance of the illness can compromise physical functioning (Warren, 2009). For some survivors, psychological distress including depression, anxiety, or fear can manifest into chronic and persistent stressors (Basen-Engquist, Hughes, Perkins, Shinn, & Taylor, 2008; Stanton, 2006) that deteriorate physical functioning and overall HRQOL. Additionally, several studies have documented that the impact of psychological well-being on PQOL is mediated through social support and spirituality (Ashing-Giwa, Kim, Singer, & Tejero, 2006; Lim, Yi, & Zebrack, 2008).

#### Systemic-Level Factors: The Socio-ecological and Healthcare System Contexts

The socio-ecological context includes life burden and social support and may also include *socioeconomic status* (SES) including income, education, and employment. *Life burden* refers to experiences and circumstances that are emotionally difficult to bear due to living situation, role or functional strain, neighborhood resources, and overall life stressors (Ashing-Giwa et al., 2007). One of Dr. Ashing-Giwa's study (Ashing-Giwa & Lim, 2010a) examining functional strain, as measured by family and work burden, demonstrated that “functional limitations due to physical problems” and “work



**Physical Quality of Life Among Breast Cancer Survivors, Fig. 2** The conceptual model: the impact of functional strain on emotional well-being. The functional strain measure comprises two components: family burden (family stress, living situation, change in marital status,

and financial responsibilities) and work burden (functional role limitation due to physical problem, functional stress, the impact of cancer on work life, and work capabilities) (Ashing-Giwa & Lim, 2010a)

capability” showed significant ethnic differences (see Fig. 2). European- and Asian-Americans endorsed fewer difficulties with their employment or other regular daily activities as a result of any physical problems. Latinas reported the lowest work capability level of all ethnic groups. Homemakers reported greater functional limitations with maintaining employment or other regular daily activities due to physical problems. Overall, survivors who reported less familial and work burden and experienced less functional limitations due to physical problems and endorsed a positive impact of breast cancer on job/career and work capability were more likely to report better emotional well-being regardless of ethnicity and job type.

It is well documented that income and education have independent and significant associations with overall HRQOL and PQOL (Ashing-Giwa & Lim, 2009; Campbell et al., 2009). Specifically, that lower SES is an identifiable risk factor for greater life burden and poorer health outcomes (Ashing-Giwa & Lim, 2009; Masi & Gehlert, 2009). This finding reflects the

importance of SES including income and education in predicting PQOL outcomes among breast cancer survivors regardless of ethnicity. Being employed has also been found to be associated with better PQOL and mental health QOL (Ashing-Giwa & Lim, 2010b).

The *healthcare system* context includes healthcare access and quality of care and the relationship between provider and patient. Research demonstrates that ethnic minorities may receive differential and inferior care with a lack in continuous, comprehensive, and state-of-the-art medical care (Institute of Medicine, 2002). Furthermore, they may experience difficulties in the relationship with their healthcare team because of cultural and linguistic differences in communication and medical practices (Ashing-Giwa, 2005). These challenges have a negative influence on PQOL and overall HRQOL outcomes.

### Demographic Information

Age, income, and education are important demographic factors that impact HRQOL, including

PQOL (Ashing-Giwa, 2005). For example, breast and cervical cancer survivors between 50 and 59 years of age in the lowest 25% HRQOL quartile were more likely to have low scores on PQOL items (Ashing-Giwa, Lim, & Gonzalez, 2010). The same study found that survivors who reported low income, low educational attainment, and Latina-Americans were more likely to score low on PQOL items.

### Cultural Context

The cultural context includes ethnicity, ethnic identity, and acculturation. In reference to ethnicity, several studies report that ethnic minority breast cancer survivors showed notably poorer outcomes in PQOL specifically, compared to European-American survivors (Ashing-Giwa et al., 2007; Janz et al., 2009). For example, a study among multiethnic breast cancer survivors found that Latina-Americans reported the lowest scores on HRQOL and its domains, including PQOL (Ashing-Giwa et al., 2007). Another study found that low acculturated Latinas reported the lowest HRQOL outcomes and that older ( $\geq 50$ ), less acculturated Latina-American breast cancer survivors reported the lowest PQOL compared to high acculturated Latina-Americans and European- and African-American breast cancer survivors (Janz et al., 2009).

Given that financial, linguistic, institutional, and social status factors limit access to and use of health services and impact patient satisfaction, facilitating the receipt of quality medical and supportive care may be particularly important for underserved populations (Buki et al., 2008; Lim et al., 2008). For example, Chinese immigrant breast cancer survivors may be at risk for greater distress compared with US-born Chinese and European-American breast cancer survivors because of cultural norms that make them less inclined to express their needs to physicians or challenge physicians when their needs are not met. More immigrant Chinese breast cancer survivors turned to traditional Chinese medicine (TCM) to find cures when their physical distress was not relieved compared to their US-born counterparts. This may be partially attributed to

US-born survivors' limited knowledge of TCM or the exclusion of TCM from regular healthcare plans (Wang et al., 2012).

### Lifestyle Changes and PQOL

Increasingly research is demonstrating the benefits of physical activity to survival and survivorship and PQOL. Physical activity may improve both physical and mental health by distracting survivors from daily stressors, increasing self-confidence and self-esteem, promoting social interactions, and improving body image. A study conducted by Dr. Ashing-Giwa on healthy behavior practices among a multiethnic sample of breast and cervical cancer survivors found that most breast cancer survivors reported adaptive lifestyle changes, in terms of diet, exercise, complementary medicine, and stress management (Ashing-Giwa et al., 2010). Overall, European-Americans were more likely to report positive lifestyle changes compared with Latina-Americans. However, in terms of diet, cervical cancer survivors were more likely than breast cancer survivors to report healthy food changes (e.g., increased fruit and vegetable consumption). However, once breast cancer survivors committed to changing their lifestyles, exercise was an important factor related to PQOL. HRQOL and PQOL items (i.e., energy, nausea, family needs, pain, and side effects) were significantly related to exercise initiation, indicating that breast cancer survivors who reported not exercising were more likely to endorse low PQOL. Indeed, exercise plays a pivotal role in physical and emotional recovery for breast cancer survivors and may help prolong life. Hence, it would be important to encourage breast cancer survivors to commit to regular exercise to improve PQOL and ultimately overall HRQOL (Ashing-Giwa et al., 2010).

### PQOL Among a Multiethnic Sample of Breast Cancer Survivors

The following section highlights the findings from a study that examined the utility and applicability of the PQOL model among a multiethnic cohort of breast cancer survivors based on the Contextual Model of HRQOL (Ashing-Giwa &

Lim, 2010b). Secondary data were used to investigate PQOL among 703 European-, African-, Latina-, and Asian-American women diagnosed with breast cancer. Participants were within 1–5 years of a breast cancer diagnosis and currently cancer-free. Female breast cancer survivors residing in Southern California were recruited from (1) the California Cancer Registry, (2) hospital cancer registries, and (3) community agencies and support groups. PQOL was defined as a physically focused, comprehensive construct assessing physical well-being and physical functioning including energy, side effects, overall physical conditions, general health perception, and pain. The scales used to comprehensively assess the PQOL were (1) physical well-being measured by the Functional Assessment of Cancer Therapy-Breast (FACT-B; 7-item;  $\alpha = 0.84$ ), (2) general health perception sub-domain from the RAND 36-item Health Survey (SF-36; 5-item;  $\alpha = 0.80$ ), and (3) pain sub-domain from the SF-36 (2-item;  $\alpha = 0.84$ ).

## Discussion

Attending to PQOL issues is at the center of survivorship concerns and the cancer clinical care community; yet this domain remains one of the most understudied areas of health outcomes. This entry focused on the utility and applicability of the PQOL model across four ethnic groups. In particular, we explored (1) how medical characteristics, psychological well-being, the socio-ecological context, healthcare system context, and demographic variables influence PQOL; (2) if psychological well-being mediates the link between the systemic-level construct and PQOL; and (3) if these relationships vary by ethnicity. Findings are as follows: (1) the direct impact of psychological well-being on PQOL was consistent among all ethnic groups; however, the relationships between the socio-ecological and healthcare system contexts with PQOL varied across ethnic groups; and (2) life burden indirectly influenced PQOL through psychological well-being for all ethnic groups. Our findings

may contribute to the literature by documenting previously under-explored relationships among the individual- and systemic-level contexts influencing PQOL based on the Contextual Model of HRQOL, considering the different ethnic and cultural backgrounds.

Increased knowledge about the different pathways influencing PQOL according to ethnicity needs to be considered to improve the medical and clinical accuracy of assessing, as well as the efficacy of interventions for improving PQOL and overall HRQOL for our increasingly diverse survivor population. Specifically, these findings document that psychological functioning directly affects PQOL and is influenced by socio-ecological and life burden. In addition, our findings revealed that SES and life burden factors were the most important socio-ecological and contextual determinants of PQOL. HRQOL research including studies examining physical outcomes can utilize a comprehensive and integrated conceptual approach that includes psychological, socio-ecological, and cultural aspects to deepen our understanding and advance the translational utility into clinical practice. Our previous and current findings support a broader contextual approach to examining and understanding psychological and physical well-being. Our study provides added support of the utility of the adapted Contextual Model of PQOL to more comprehensively explain physical and HRQOL outcomes and suggests the applicability of this model to other cancer sites and diseases.

In summary, PQOL is immersing as a critical domain for research, and clinical attention as cancer is increasingly becoming a chronic illness with treatments that often result in chronic and long-term physical sequelae. National reports on survivorship inform current guidelines that emphasize appropriate surveillance to monitor and screen for cancer and other illnesses heightened by the cancer and its treatment, follow-up care for symptom management and early assessment of other conditions, interventions to promote well-being and risk reduction, and prevention or healthy lifestyle practices to address physical conditions and enhance physical

functioning. Our challenge in the oncology community is to appropriately screen for high risk for poor physical outcomes in a timely manner and implement effective interventions to prevent symptom onset and/or alleviate the physical and quality of life distress.

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## Physical Quality of Life Index (PQLI)

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### Synonyms

[Comparative social development](#); [Physical quality of life](#); [Quality of life](#); [Social development](#); [Social progress](#)

### Definition

The Physical Quality of Life Index (PQLI) was one of the earliest attempts to measure national and international well-being using noneconomic social indicators. Though largely replaced by the United Nations Development Programme's Human Development Index (HDI), the conceptual process that led to the development of the PQLI is highly instructive concerning the methodological dilemmas that confronted social index builders in the 1960s and 1970s.

### Description

The *Physical Quality of Life Index* (PQLI) was developed in the mid-1970s by economist Morris David Morris (1979, Morris & McAlpin, 1982, Morris, 1996) and his colleagues at the US Overseas Development Council. Much like the United Nations Development Programme's (UNDP) *Human Development Index* (HDI), the PQLI draws on the average of three indicators to measure the quality of life of a country: the basic literacy rate, rate of infant mortality, and average years of life expectancy at age one. Both the PQLI and the Human Development Index (HDI), as well as the *Index of Social Progress* (ISP, WISP) developed by Estes (2010), emerged out of widespread dissatisfaction with the use of economic measures such as **gross national**

**progress** (GNP) and **gross domestic product** (GDP) as proxy variables for estimating more broad-based sociopolitical and economic development. Thus, the purpose of the PQLI was to enable researchers to rank countries not by income alone but rather by changes that occurred in real-life conditions. And, indeed, the PQLI produces very different results concerning changes in the world's social situation from those derived through economic analyses alone.

The three-item PQLI is calculated on a scale that ranges from 0 to 100: (1) the percentage of the population that is literate (literacy rate), (2) the rate of *indexed* infant mortality ((166—infant mortality) × 0.625), and (3) *indexed* years of average life expectancy ((life expectancy—42) × 2.7). Thus, the PQLI for a given country is a:  $f [(literacy\ rate) + (indexed\ infant\ mortality\ rate) + (indexed\ life\ expectation)]/3$ .

Today, the HDI (United Nations Development Programme (UNDP), 2010) has replaced the PQLI as the most widely used quantitative measure of national “well-being,” albeit both indexes are characterized by considerable conceptual overlap between rates of infant mortality and average years of life expectancy, a major weakness that has been corrected for by the UNDP's recently released *Human Poverty Index* (HPI).

### Cross-References

- ▶ [Human Development Index](#)
- ▶ [Index of Social Progress \(ISP\)](#)
- ▶ [Social Development](#)
- ▶ [Social Progress](#)

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## Physical Well-Being

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### Definition

Physical well-being consists of the ability to perform physical activities and carry out social roles that are not hindered by physical limitations and experiences of bodily pain, and biological health indicators.

### Description

► **Quality of life** has been established as a multifaceted concept and health is one of its contributory factors (Guyatt, Feeny, & Patrick, 1993). ► **Health** has been defined by the World Health Organization (WHO) as “a state of complete physical, mental and ► **social well-being** and not merely the absence of disease or infirmity” (WHO, 2007, p. 1). With such an encompassing definition of health, quality of life issues have increasingly gained importance in health practice and research.

The concept of health-related quality of life (HRQL) includes the dimensions of ► **physical function**, psychological function, social function, and health perceptions (Wilson & Cleary, 1995). These dimensions, in turn, guide the conceptualization of HRQL measurements. HRQL measures hold an important place in health practice, serving as considerations for information management and policy decisions (Guyatt et al., 1993).

The physical health component of HRQL has been widely used as a measure of physical well-being in different populations. In this context, physical health is not simply limited to fundamental determinants such as biological and physiological factors. Instead, measures of physical well-being also include measures of the ability to perform physical activities, problems in performing social roles as a result of physical limitations, experiences of bodily ► **pain**, and general health (Doll, Petersen, & Stewart-Brown, 2000). This conceptualization of physical well-being accounts for both social functioning and an individual's perceptions of their physical health status.

### Physical Well-Being and Physical Activity

As the concept of physical well-being has multiple components, a range of factors might also be expected to influence an individual's state of physical well-being. Recent research has offered evidence that physical activities and engagement in exercise exert influence on well-being. A systematic review of intervention studies has demonstrated that exercise and physical activities have positive effects on physical well-being, with individuals so engaged gaining desirable ► **health outcomes** (see Penedo & Dahn, 2005). Adherence to recommended levels of physical activity has been associated with improved HRQL, indicating that physical well-being is positively influenced by participation in physical activity. For instance, community-based physical activity and exercise programs have been found to promote enhanced well-being especially for older adults (Aranceta, Perez-Rodrigo, Gondra, & Orduna, 2001).

## Physical Well-Being in Different Population Groups

In children, physical well-being has been defined as the ability to be fully engaged in developmentally appropriate activities in a regular manner (Cole, 2006). Physical well-being in children takes into consideration growth and physical ► [development](#) and the ability of children to use their motor skills to engage in age-appropriate physical activities. Factors that are critical to children's physical well-being include nutrition, clean and safe environments, ► [health care](#), mental stimulation, and access to nurturing relationships (Curtis, Dooley, & Phipps, 2004).

In the elderly population, physiological changes associated with aging increase the risk of declining mental well-being, physical functioning, and independence (Clark et al., 2011). Specifically, the functional quality of hearing, vision, and memory and general physical health and fitness have been suggested to influence the physical well-being of the elderly (Tibblin, Tibblin, Peciva, Kullman, & Svardsudd, 1990). The ensuing functional decline implies that maintenance of the overall quality of life of the elderly would aim to optimize their existing functional capacities.

In ill populations, physical well-being tends to be determined by the ability to maintain functional independence. Nevertheless, physical well-being has also been characterized discretely for diagnostically different populations. The literature is rich with studies that examine the quality of life among individuals with chronic diseases, such as cancer. Research has focused particularly on ► [breast cancer](#) survivors, who have described physical well-being as including the management or relief of symptoms with pain having been found to have the most direct deleterious impact on the quality of life (Ferrell, Grant, Funk, Otis-Green, & Garcia, 1997). Described as a multidimensional phenomenon, chronic pain generates a widespread impact on all aspects of health, and physical well-being is taken to include the successful reduction of the experience of pain (Penny, Purves, Smith, Chambers, & Smith, 1999).

Among those with diabetes, the metabolic imbalance characteristic of the condition requires that effective glycemic control be an essential component in the definition of physical well-being (de Wit, Delemarre-van de Waal, Pouver, Gemke, & Snoek, 2007). ► [Obesity](#), which has been known to be associated with decreased quality of life particularly in the aspect of physical well-being (Doll et al., 2000), is also characterized by somatic symptoms and impairments which are logically measured as contributors to physical well-being.

## Summary

Physical well-being is a key element of an individual's overall quality of life. Conceptualized as a construct that consists of physical functioning, performance of social roles, absence of bodily pain, and biological health indicators, physical well-being has been most frequently measured as a component of one's health-related quality of life. Multiple factors contribute to physical well-being, and a substantial body of research has highlighted the positive influence of physical activity participation and exercise across different population groups. Definitions of physical well-being have also evolved to have distinct aspects for groups of well and chronically ill individuals.

## Cross-References

- [Breast Cancer](#)
- [Development](#)
- [Exercise](#)
- [Health](#)
- [Health Care](#)
- [Health Outcomes](#)
- [Health-Related Quality of Life \(HRQOL\)](#)
- [Mental Well-Being](#)
- [Pain](#)
- [Physical Function](#)
- [Quality of Life](#)
- [Social Functioning](#)
- [Social Well-Being](#)
- [Systemic Quality of Life Model \(SQOL\)](#)

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## Physiological Arousal

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### Definition

A state of physical and psychological responsiveness to sensory stimulation.

### Description

Physiological arousal (or reactivity) pertains to the physical and psychological excitation that occurs when one faces sensory stimulation. This arousal may stem from either positive (e.g., intimate contact with a romantic partner) or negative (e.g., fleeing a predator) experiences. Scientists who measure physiological arousal in connection with environmental and psychological stimuli practice ► [applied psychophysiology](#). In vertebrates, including humans, there are two main physiological arousal systems: the sympathetic nervous system (SNS) and the hypothalamic-pituitary-adrenal (HPA) axis.

The SNS is one of two branches of the autonomic nervous system (ANS). A key feature of the SNS is its ability to respond to a stimulus within seconds. Examples of SNS activity may include altered heart rate, digestion, respiration, salivation, perspiration, micturition (urination), pupil dilation, sexual arousal, metabolic processes (e.g., release of glucose from the liver), diversion of blood flow to the limbs, and release of the hormones epinephrine and norepinephrine (also known as adrenaline and noradrenaline) from the adrenal glands (Nelson, 2005; Sapolsky, 2002). SNS activity can be monitored using psychophysiological measures. As such, the SNS is associated with “fight or flight” responses. Fight or flight is a term commonly used to describe the pattern of physiological arousal that occurs when an animal is faced with a challenge or threat

(Cannon, 1915; Selye, 1982). Physiologically, organisms react to threats by triggering the SNS, priming an animal for taking an immediate, energy-consuming action in response to the situation. These processes are important as they enable the animal to prepare for any required fighting or fleeing. However, it is important to remember that situations which trigger the SNS are not always life-threatening. For example, in humans, the SNS may be activated by public speaking.

The hypothalamic-pituitary-adrenal (HPA) axis is another important system of physiological arousal and is implicated in ► [stress reactivity](#). Like the SNS, the HPA axis is an evolutionarily ancient system, which is very similar in all vertebrate animals. The HPA also has a significant connection to the immune system and is even thought to have evolved as an extension of that system – the immune system having adapted to ward off internal threats and the HPA axis being specialized for external threats (although infectious illness activates the HPA axis as well) (Maier & Watkins, 1998). In contrast with SNS activation occurring within seconds, the HPA axis requires more long-term stimulation – at least several minutes – and takes longer to react because hormones have to travel through the bloodstream. Overall, the HPA is important for several different types of physiological arousal: (1) to manage the anticipation of stressors or challenges to come, (2) to replenish energy used in fighting or fleeing, and (3) to manage the effects of chronic stress (Nelson, 2005).

Generally, events that require energy mobilization – whether associated with emotional arousal or not – activate the HPA axis. These stimuli may include “physiological” stressors or energetically costly events such as infectious illness, strenuous exercise, or waking in the morning as well as psychological stressors. While certain stressors are powerful enough to elicit a robust HPA axis response every time, other types of psychological stress are more variable. Therefore, it is important to examine the key factors that determine whether a given emotional stimulus will elicit an HPA axis response in

humans. John Mason (1968) identified the three characteristics of a situation that cause HPA axis responsivity in humans: novelty, unpredictability, and relative lack of control over the situation. Of course these characteristics are not entirely objective, and what matters is a person’s construal of the situation as novel (Mason, 1968; Lupien, Maheu, Tu, Fiocco, & Schramek, 2007). In addition to Mason’s earlier work, a more recent ► [meta-analysis](#) examined studies in which people were subjected to acute, psychological laboratory stressors. The meta-analysis revealed that social-evaluative judgment is a key determinant of cortisol increases (Dickerson & Kemeny, 2004). Therefore among psychological stressors, HPA axis activity seems most increased by situations in which other people are watching and judging one’s actions.

The HPA axis is triggered by hormonal signals traveling from the hypothalamus, a small structure in the base of the brain. One such hormonal signal is called corticotropin-releasing hormone, or CRH (also termed corticotropin-releasing factor or CRF). Neurons in the hypothalamus produce CRH after receiving signals indicative of a challenge or threat from emotion-related brain areas. CRH travels to the pituitary (a hormone control center connected to the hypothalamus) to cause production of adrenocorticotropic hormone (ACTH). ACTH is then released into the bloodstream and acts on the adrenal cortex to produce hormones called glucocorticoids (GCs). One GC is cortisol, which is the primary GC in primates, including humans. Another GC is the closely related hormone corticosterone, the primary GC in laboratory rodents. It is notable that the adrenal cortex, or outer portion of the adrenal gland, produces GCs, while the adrenal medulla, or inner section of the gland, produces epinephrine and norepinephrine (hormones resulting from SNS activation). One of GCs’ major functions is to make more energy available to tissues throughout the body. Examples of this function include the mobilization of glucose from the liver and stimulation of the breakdown of proteins and fats for readily available energy.

It is important to remember that many individual differences (e.g., sex or gender, early experience, and genetic factors) in humans and lab animals can lead to variability in SNS and HPA activation. For example, men are more physiologically responsive to laboratory psychological stressors than women, even though the opposite difference is found in lab rats (Kirschbaum, Klauer, Filipp, & Hellhammer, 1995; Kitay, 1961). Adverse early experience can also exert long-term effects on the HPA axis. Rats that experience severe stress early in life exhibit elevated HPA axis responses to stress as adults (Liu et al., 1997). In humans, physiological activation may be affected by construal of a situation. For example, one study involved injecting participants with pentagastrin, a substance known to induce panic attacks and HPA activation. Participants who thought they could control the pentagastrin infusion and who received more detailed information about expected symptoms showed significantly lower cortisol responses than participants who lacked the information or control (Abelson, Khan, Liberzon, Erickson, & Young, 2008). Another study examining the effects of perceived stress and burnout in teachers found that those reporting high stress and ► [burnout](#) showed a lower morning cortisol secretion (also known as the cortisol awakening response) compared to the pattern exhibited in those with low stress and low burnout (stressful life events; Pruessner, Hellhammer, & Kirschbaum, 1999). Therefore, psychological stress can impair HPA responsivity, which may prove physiologically costly when faced with an actual rather than a perceived threat.

The SNS and HPA are essential systems for life. While the SNS and HPA are effective tools for managing challenge and threat, when the systems become dysregulated, their outcomes can be harmful rather than helpful. For example, research in rats shows that significant early life stress exerts harmful effects on HPA function. Specifically, early life stress causes lasting impairment in GC's ability to exert negative feedback (Meaney, 2001). In other words, the

HPA has difficulty turning itself off once activated. This effect is also observed in people who experience long-term chronic stress and may be part of the mechanism contributing to various psychological disorders (Mental Health) (Miller, 2007). On the other hand, a certain amount of stress early in life can be beneficial. Karen Parker and colleagues' research revealed that monkeys exposed to moderate stress while young, compared to monkeys exposed to no stress, react better to stressors as adults (Parker, Buckmaster, Schatzberg, & Lyons, 2004). Therefore, the right amount of physiological arousal is beneficial during development and later in life.

## Cross-References

- [Applied Psychophysiology](#)
- [Burnout](#)
- [Meta-analysis](#)
- [Psychophysiological Measures](#)
- [Stress Reactivity](#)
- [Stressful Life Events](#)

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## Physiological Stress

- ▶ [Affluence, Stress, and Well-Being](#)

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## PIAAC

- ▶ [International Literacy Assessments](#)
- ▶ [PIAAC \(Latest Survey on Literacy\)](#)

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## PIAAC (Latest Survey on Literacy)

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### Synonyms

[International literacy measures](#); [Literacy and numeracy assessment](#); [PIAAC](#)

### Definition

PIAAC is an international assessment of the **foundation skills** of the adult population managed by the Organisation for Economic Co-operation and Development (OECD). Its aim is to provide information which supports the design, implementation, and evaluation of policies which foster the development and use of **competencies** to achieve **economic, social, and** ▶ [personal well-being](#).

### Description

PIAAC assesses the skills of adults of working age (i.e., adults aged between 16 and 65 years) in the domains of (reading) literacy, numeracy, and problem solving in technology-rich environments (Gal et al., 2009; Jones et al., 2009; Rouet et al., 2009).

Information is also collected regarding the use of a range of generic skills in work such as communication, interaction, and physical skills. A background questionnaire collects data regarding individual characteristics, social and linguistic background, education and training experience, labor force status and earned income, and some information regarding social participation and health.

PIAAC extends the work of previous international adult skills surveys – the International Adult Literacy Survey (OECD & Statistics Canada, 2000) and the Adult Literacy and Life Skills Survey (Statistics Canada & OECD, 2005) – in a number of ways. In particular, PIAAC has placed particular emphasis on ensuring the relevance of its measures to the digital world. The measurement of literacy incorporates the reading of digital texts, and the domain of problem solving in technology-rich environments is designed to assess the capacity of individuals to solve “information problems” – problems which exist because of or are solved through the use of ICTs. In addition, PIAAC will provide more information than has been available previously regarding the skills of poor readers as well as on the use of skills, particularly in work contexts (Sabatini and Bruce, 2009).

The skills assessed in PIAAC are conceived as **foundation skills** important for achieving a **successful life** and a **well-functioning society** (Rychen & Salganik, 2003). They are conceived as foundational for two main reasons.

First, the measured skills provide the base for the development of other higher-order cognitive skills as well as constituting a precondition for gaining access to and understanding of specific domains of knowledge. Being able to read, manage mathematical and numerical information, and solve problems is essential for the development of higher-order analytic and communication skills for example.

Second, the measured skills are foundational in terms of their **transversality**. These skills are relevant in an extremely broad range of contexts, from education through work to everyday life. In a society in which information in text format (whether print based or digital) is ubiquitous, a capacity to effectively read and react appropriately to text-based information is essential, whether in terms of understanding the user information on a packet of medicine or responding appropriately to a memo from a colleague or superior at work. Similarly, numerical skills are necessary to install shelving as part of a home renovation project or to complete a tax return.

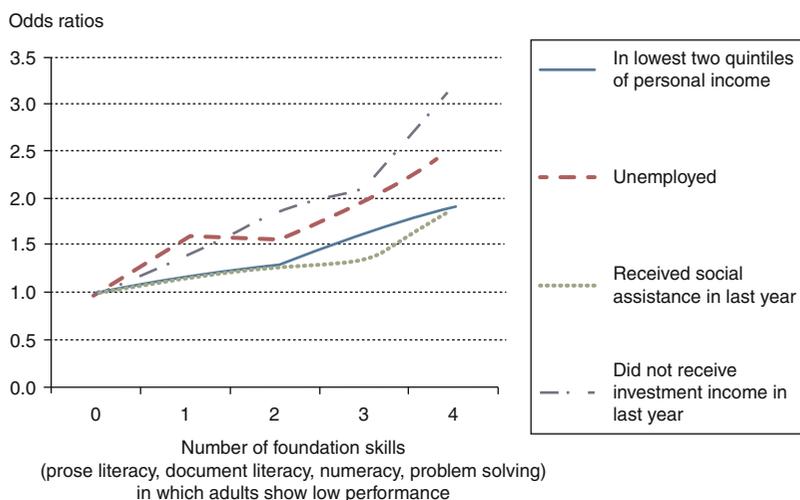
Two related features of the approach to measurement taken by PIAAC are also important to mention. First, the skills measured in PIAAC are conceived as purposeful social capacities which enable people to achieve things that matter to them and behave appropriately and effectively in diverse social settings. This relates to the work of Sen (1999) who defined **functioning** as what people can actually do. In other words, the foundation skills measured in PIAAC relate less to what people know than to what they can do.

The skills measured are conceived as involving a continuum of performance which involves the mastery of increasingly complex cognitive operations as well as responding appropriately to increasingly complex stimuli (texts, mathematical situations, or problem situations). In the domain of literacy, for example, at the lowest level of performance, a person would be expected to be able locate information in a short text in which there was little if any distracting information. At the highest level of performance, he or she would be expected to make inferences which may involve extratextual knowledge from dense and complex texts (Statistics Canada & OECD, 2005, p. 17). Higher performance indicates a higher level of skill within a particular skill domain in the sense that the individual has more flexibility and adaptability in applying the related know-how to increasingly complex tasks within that particular domain (Kirsch et al., 1998).

Operationally, PIAAC involves the administration of the assessment in the respondent’s home. The assessment is computer based (with a pencil and paper option for respondents with little or no familiarity with computers) and delivered on a laptop computer. A minimum of 4,500–5,000 adults will be surveyed in each participating country. Results from the first wave of PIAAC involving 25 countries will be available in October 2013.

## Discussion

The *Well-Being of Nations* (OECD, 2001) emphasized the role of ► **human capital**, defined as the bundle of knowledge, skills, competencies,



**PIAAC (Latest Survey on Literacy), Fig. 1** Foundation skills and economic disadvantage. Adjusted odds ratios (see note 1, 2) showing the likelihood of experiencing economic disadvantage, by number of foundation skills in which adults show low performance, adults aged 16–65. Notes: 1. Odds ratios reflect the relative likelihood of an event occurring for a particular group compared to a reference group. An odds ratio of 1 represents equal chances of an event occurring for a particular group vis-

à-vis the reference group. Coefficients with a value below 1 indicate that there is less chance of the event occurring for a particular group compared to the reference group, and coefficients greater than 1 represent increased chances. 2. Odds are adjusted for age, gender, education, parents' education and labor force, occupational, income, immigrant, and language status (Source: Adult Literacy and Lifeskills Survey, 2003–2007)

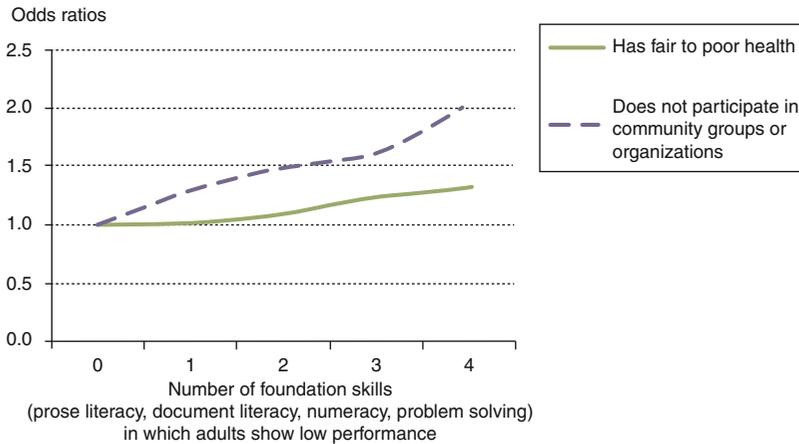
and attributes possessed by individuals, in facilitating the creation of **personal, social, and economic well-being**. Governments and other stakeholders have since become increasingly interested in assessing the skills of their adult populations in order to examine how well prepared they are to meet the challenges of living in modern knowledge-based societies.

Findings from previous adult skills surveys have demonstrated the link between foundation skills and a range of **economic** as well as **social outcomes**. As examples, Figs. 1 and 2 display a number of findings linking foundation skills to **economic and social disadvantage**:

- Adults with low proficiency in foundation skills are systematically overrepresented in the bottom end of the income distribution.
- The risk of being unemployed increases consistently with the number of foundation skills in which adults show low performance.
- Low performance in multiple domains is strongly linked to the likelihood of receiving social assistance.

- Adults with good proficiency in foundation skills are much more likely to earn income from investments on financial markets.
- Participation in community groups or organizations is strongly linked to the number of foundation skills in which adults show low performance.
- Adults who perform poorly in three or four foundation skills have an increased likelihood of reporting a poor health status.

The results shown in Figs. 1 and 2 are consistent across a wide range of countries, confirming that foundation skills have a profound relationship with economic and social disadvantage across a wide range of contexts and culturally based institutional frameworks. The relationships hold even after adjusting for educational attainment and other background variables, confirming that foundation skills are related to a range of outcomes independent of the level of qualifications. One reason for this is that direct measures provide a more up-to-date picture of an individual's skills because they reflect both the outcomes



**PIAAC (Latest Survey on Literacy), Fig. 2** Foundation skills and social disadvantage. Adjusted odds ratios (see note) showing the likelihood of experiencing social disadvantage, by number of foundation skills in which adults show low performance, adults aged 16–65. Note: Odds are

adjusted for age, gender, education, parents' education and labor force, occupational, income, immigrant, and language status (Source: Adult Literacy and Lifeskills Survey, 2003–2007)

of skill gain and skill loss over the lifespan as well as learning that occurred in multiple contexts.

The forthcoming data from PIAAC in 2013 will enable a much more detailed look at these relationships, and how they vary by sociodemographic groups, helping to draw out further insights relevant to designing and targeting interventions.

The role of foundation skills in helping to secure good economic and social outcomes is likely to strengthen as the shift to knowledge-based societies intensifies. Similar to the impact of the printing press, electricity, and the steam engine, general purpose technologies like information and communications technologies (ICTs) (i.e., the personal computer and the Internet) are considered to be pervasive and bring with them deep structural change (Aghion & Howitt, 1998). Continuing innovations and advances in the ICT sector, combined with other technological developments, are thought to be transforming modern economies and increasing the demand for foundation skills. Information and communications technologies (ICTs) continue to transform how people work, access media and public services, and interact with friends and family and how people seek and obtain information to solve problems, both at work and at home. Foundation skills

are thus likely to take on added significance as resources necessary for enabling productivity, obtaining a job, exercising rights and duties as citizens, and more generally for ensuring economic, social, and personal well-being.

## Cross-References

- ▶ [Literacy](#)
- ▶ [Literate Environment](#)

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## PIL

- ▶ [Purpose in Life Test](#)

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## Pilot Testing

- ▶ [Pretesting](#)

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## PIRLS

- ▶ [Progress in International Reading Literacy Study \(PIRLS\)](#)

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## Pittsburgh Sleep Quality Index

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## Synonyms

[Sleep quality and disturbance](#)

## Definition

▶ [Sleep](#) quality disturbances are experienced by over 30 % of the population at some time (Morin, LeBlanc, Daley, Gregoire, & Mérette, 2006; Morphy, Dunn, Lewis, Boardman, & Croft, 2007). Sleep disturbance complaints are important to diagnose so treatments can be initiated early. Furthermore, sleep difficulties may also be associated with a range of medical or ▶ [psychiatric disorders](#).

The Pittsburgh Sleep Quality Index (PSQI), developed by Buysse and colleagues (Buysse, Reynolds, Monk, Berman, & Kupfer, 1989), is a self-administered questionnaire that measures sleep quality and disturbance over a 1-month period. It is appropriate for use by adolescents as well as adults.

## Description

The PSQI was developed to give a reliable and valid sleep quality index that is easily interpretable by both clinicians and researchers. It also discriminates between “good” and “poor” sleepers.

The PSQI comprises 19 self-rated items as well as a further five items rated by a bed partner. The first 19 questions are used to initially compute component scores and then an overall score. The global score ranges between 0 and 21. The seven clinically derived component scores include subjective sleep quality, sleep latency, sleep duration, sleep efficiency, sleep disturbance, use of sleep medication, and daytime dysfunction. The five items answered by the bed partner relate to sleep disturbances such as the presence of loud snoring or leg twitching, but are not used in the overall score.

## Reliability and Validity

Reliability and validity of the PSQI have been examined in different populations including good sleepers, patients with sleep disorders, insomniacs, and medical and psychiatric patients.

## Reliability

### ► Internal Consistency

Global PSQI reliability coefficients (Cronbach's  $\alpha$ ) have ranged from 0.80 to 0.83, and the component coefficients ranged from 0.35 to 0.78 (Buysse et al., 1989; Carpenter & Andrykowski, 1998).

### Test-Retest

► **Test-retest reliability** has been evaluated in a variety of populations (Backhaus, Junghanns, Broocks, Reimann, & Hohagen, 2002; Buysse et al., 1989; Carpenter & Andrykowski, 1998; Gentili, Weiner, Kuchibhatla, & Edinger, 1995; Knuston, Rathouz, Yan, Liu, & Lauderdale, 2006) and over different time periods. Global PSQI reliability coefficients have ranged from  $r = 0.68$  to  $r = 0.87$  and component scores from  $r = 0.45$  to  $r = 0.88$ .

## Validity

Global PSQI scores have been shown to differ between groups with a PSQI score  $>5$  correctly identifying 88.5 % of all good and poor sleepers ( $\kappa = 0.75$ ,  $p < 0.001$ ) (Buysse et al., 1989). This represents a diagnostic sensitivity of 89.6 % and specificity of 86.5 % in distinguishing good and poor sleepers (Buysse et al.).

When administered to patients with medical disorders, the PSQI correlated moderately to highly with constructs related to sleep difficulties but poorly with unrelated constructs such as nausea (Carpenter & Andrykowski, 1998). Furthermore, in this population, the PSQI differentiated between good and poor sleepers with mean PSQI scores  $>5$ , indicating the presence of sleeping difficulties.

The PSQI has been shown to be correlated to subjective measures of sleep (sleep diary) and some other self-report psychological symptoms (Buysee et al., 1991, 2008), but not objective measures such as polysomnography (Buysee et al., 1991, 1989, 2008; Buysse, Reynolds, Monk, Berman, & Kupfer, 2000) and wrist actigraphy (Grandner, Kripke, Yoon, & Youngstedt, 2006). It has been suggested that the PSQI is a measure of habitual sleep, whereas

objective measurements reflect a particular night's sleep (Buysee et al., 1991). Furthermore, PSQI appears to reflect general dissatisfaction with sleep rather than a specific sleep disorder (Buysee et al., 2008; Grandner et al., 2006).

## Discussion

The PSQI is a useful tool for the clinician and researcher. It provides an index of overall sleep quality. It can be used as an initial assessment and as a comparative measure. It differentiates between "good" and "poor" sleepers with PSQI  $>5$  generally being used as the cutoff score for poor sleepers.

However, as the PSQI has not been shown to reflect corresponding polysomnographic findings, it should not be used as a screening tool nor to provide accurate clinical diagnoses of sleep disorders.

## Cross-References

- [Epworth Sleepiness Scale](#)
- [Sleep and Well-Being](#)

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## Place Attachment

- ▶ [Sense of Place](#)

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## Place Bonding

- ▶ [Place-Related Measures](#)

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## Place Dependence

- ▶ [Place-Related Measures](#)

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## Place Identity

- ▶ [Place-Related Measures](#)
- ▶ [Sense of Place](#)

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## Place Meaning

- ▶ [Sense of Place](#)

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## Place Randomized Trial

- ▶ [Cluster Randomized Trial](#)

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## Place-Based Development

- ▶ [City Competitiveness and Quality of Life](#)

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## Place-Related Measures

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## Synonyms

[Insidedness](#); [Place bonding](#); [Place dependence](#);  
[Place identity](#); [Rootedness](#); [Sense of place](#)

## Definition

Humans' emotional ties to the physical world that is grounded in (a) spatially situated social ties, (b) the extent to which the environment facilitates specific needs, and (c) the degree to which their personal identities are rooted in the environment

## Description

The concept of place attachment focuses on the phenomenon of human-place bonding. While a number of terms have been used to describe

this phenomenon (e.g., sense of place, rootedness, insidedness), most conceptualizations have noted that affect, emotion, and feeling are central to the concept (Low & Altman, 1992). Low and Altman noted, however, that these emotional qualities are also accompanied by cognition (thought, knowledge, and belief) and practice (action and behavior). Thus, place attachment involves an interplay of affect and emotions, knowledge and beliefs, and behavior and action. This conceptualization stresses the interaction between humans and places. Several authors have captured this sentiment by noting that physical space becomes the object of ► **attachment** through our interactions with the setting. Place attachment often emerges as individuals get to know the setting and endow it with value (Milligan, 1998; Relph, 1976; Tuan, 1980).

In the leisure and environmental management literatures, a conceptualization and associated measures developed by Williams and Roggenbuck (1989) have been predominant. They suggested that humans' ties to the landscape and outdoor recreation settings, in particular, could be understood in terms of two components referred to as place identity (capturing elements of thought and emotion) and place dependence (capturing behavior). Drawing from the environmental psychology literature, they noted that place dependence referred to the importance individuals ascribe to a setting based on its features or conditions that support specific goals or desired activities (Schreyer, Jacob, & White, 1981; Stokols & Shumaker, 1981). This functional attachment is embodied in the area's physical characteristics. In the context of many recreational settings, users of specific resources can also be dependent on them because of their unique ability to facilitate desired experiences. Alternately, Williams and Roggenbuck suggested that place identity refers to the symbolic importance of a place as a repository for emotions and relationships that give meaning and purpose to life. This definition is an extension of the work of Proshansky (1978) who considered place identity in terms of the cognitive connection between the self and the physical environment. He defined place identity as "those

**Place-Related Measures, Table 1** Williams and Roggenbuck's (1989) place attachment scale

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**Place identity**

I feel like [this place] is a part of me

[This place] is very special to me

I identify strongly with [this place]

I am very attached to [this place]

Visiting [this place] says a lot about who I am

[This place] means a lot to me

**Place dependence**

I wouldn't substitute any other area/place for doing the types of things I do [here]

The things I do [here] I would enjoy just as much at another site (reverse coded)

Doing what I do [here] is more important to me than doing it in any other place

I get more satisfaction out of visiting [this place] than from visiting any other [place]

No other place can compare to [this area/place]

[This place] is the best place for what I like to do

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree

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dimensions of self that define the individual's personal identity in relation to the physical environment by means of a complex pattern of conscious and unconscious ideals, beliefs, preferences, feelings, values, goals, and behavioral tendencies and skills relevant to this environment" (p. 155). In this sense, settings offer individuals the opportunity to both express their identity as well as to affirm their identity.

Thus, in the context of many recreation settings, a place can be valued by an individual because it is a "good" place to undertake a particular activity, or it can be valuable because it is seen as "special" for emotional and symbolic reasons, or both (Moore & Graefe, 1994). Moore and Graefe used the example of a hiker in the White Mountains of New England who might be attached to the setting because it provides the steep, rugged trails he or she prefers, whereas another person might be equally attached to the same area because of nostalgic memories about early trips with his or her family. Williams and Roggenbuck's (1989) original scale (short version) is displayed in **Table 1** below.

More recently, several extensions of Williams and Roggenbuck's scale have appeared in the

literature. This work has added additional dimensions to Williams and Roggenbuck conceptualization aimed at capturing other ways people bond to the physical landscape. For example, Jorgensen and Stedman (2001) suggested that place attachment can be considered an attitudinal construct consisting of three components: affect, cognition, and behavioral intention. It should be noted that Jorgensen and Stedman used the term “► [sense of place](#)” to describe the phenomenon of human-place bonding. Consistent with Low and Altman (1992), however, the term “place attachment” is used here. Jorgensen and Stedman also termed their affective attachment dimensions “place attachment.” In their conceptualization, affect referred to “emotional responses or activity in the sympathetic nervous system” (p. 237). The cognitive component was represented by “beliefs, knowledge structures, percepts, and thoughts” (p. 237) related to the attitude object. Finally, the conative component (i.e., behavioral intention) consisted of “reports of behavioral intentions and behavioral commitments, but not actual behavior” (p. 237). This tripartite conceptualization aligns with Low and Altman’s (1992) review of the place attachment literature where they suggested that “place attachment involves an interplay of affect and emotions, knowledge and beliefs, and behaviors and actions in reference to a place” (p. 5). Jorgensen and Stedman’s measure was a slight extension of Williams and Roggenbuck’s (1989) scale. The distinction lies in the separation of identity-related indicators from indicators capturing individuals’ emotional attachments to the landscape. This separation resulted in an additional dimension measuring affective place attachment. They also suggested that place identity was reflective individuals’ cognitive ties to place and place dependence was consistent with individuals’ conative place bonds. Jorgensen and Stedman’s scale is displayed in [Table 2](#) below.

Last, Kyle, Mowen, and Tarrant (2004) and Kyle, Graefe, and Manning (2005) extended both Williams and Roggenbuck’s (1989) and Jorgensen and Stedman’s (2001) work by adding another dimension they referred to as “social

**Place-Related Measures, Table 2** Jorgensen and Stedman’s (2001) place attachment scale

<b>Place identity</b>
Everything about my lake property is a reflection of me
My lake property says very little about who I am
I feel that I can really be myself at my lake property
My lake property reflects the type of person I am
<b>Affective attachment</b>
I feel relaxed when I’m at my lake property
I feel happiest when I’m at my lake property
My lake property is my favorite place to be
I really miss my lake property when I’m away from it for too long
<b>Place dependence</b>
My lake property is the best place for doing the things that I enjoy most
For doing the things that I enjoy most, no other place can compare to my lake property
My lake property is not a good place to do the things I most like to do
As far as I am concerned, there are better places to be than at my lake property (reverse coded)
My lake property is the best place for doing the things that I enjoy most
Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree

bonding.” Citing work from the environmental psychology literature, they noted the importance of social ties that bind people to place (e.g., Hidalgo & Hernández, 2001; Low & Altman, 1992; Mesch & Manor, 1998). Kyle and colleagues noted that if meaningful social relationships occur and are maintained in specific settings, then it should also be likely that these settings share some of this meaning given that they provide the context for these relationships and shared experiences. Kyle et al. measures of social bonding are displayed in [Table 3](#).

While the above discussion of place attachment measures is far from exhaustive, it does reflect the most dominant perspectives within the leisure literature and, to some extent, the literature within environmental psychology. While subtle variations continue to appear in the literature (cf., Halpenny, 2006; Raymond, Brown, & Weber, 2010), these typically reflect contextual variation in the setting of interest. Nonetheless, most measures capture the three broad elements noted by Low and Altman (1992):

**Place-Related Measures, Table 3** Kyle and colleagues' social bonding scale

**Social bonding**

I have a lot of fond memories of past experiences with family and friends at [place]

The time spent at [place] lakes allows me to bond with my family and friends

I associate special people in my life with the [place]

Visiting [place] allows me to spend time with my family and friends

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly agree

emotion, thought, and behavior. The issue of context, however, remains challenging. There lies a tension between developing indicators that are sensitive to the uniqueness of the setting of interest while also attempting to generalize findings beyond the specific context. Clearly, the role of theory becomes paramount for addressing this issue. If individual measures, developed with sensitivity to the unique physical attributes that comprise the setting, conform to the tenets of specific theories, then theory will allow the research to transcend the specific context and offer propositions about populations' attachment to place across a variety of spatial contexts. Given that work on place attachment has been informed by a number of theories with differing disciplinary origins, the form of place measures will remain heterogeneous. The challenge for place researchers remains to commensurate these perspectives and work toward identification of commonalities and perhaps a shared vernacular.

**Cross-References**

- ▶ [Attachment](#)
- ▶ [Sense of Place](#)

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**Planetary Well-Being**

- ▶ [Ecological Well-Being](#)



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## Planned Comparisons

- ▶ [Pairwise Comparisons](#)

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## Planned Development

- ▶ [Design, an Overview](#)

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## Planned Parenthood

- ▶ [Birth Control](#)

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## Planning, an Overview

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### Synonyms

[City planning](#); [Regional planning](#); [Urban planning](#)

### Definition

A good definition of planning is hard to find. It is a profession, a concept, and a way of acting. Planning can be individual but as a profession is almost done in concert among a group of similarly directed people. It comes before building and involves design and organization of the physical arrangement, built environment, and land use of a given area (Campbell & Fainstein, 2003). It involves consideration of infrastructure, needs, and resources, including funding, time, and energy. Planning is working toward the deliberate improvement of the spatial

organization and design of human settlement and human movement. The phrase “working toward” implies an ongoing process.

### Description

A human enterprise of thoughtful and deliberate activity directed toward the accomplishment of an end in a rational and incremental way (Hall, 1996). It is used in the sense of urban, metropolitan, rural, and transportation, among other forms of spatial form and infrastructure. The concept of planning is opposed to the random or chaotic. It implies a scientific, engineering, quantified approach to problems, directed toward solutions to problems (Levy, 1988). Thus, problem identification is a key prerequisite to planning. Components of plans typically include objectives, options, pros and cons, recommendations, scheduling, calendaring, and lists of required resources. Project management is a specific subset of planning, which is more nuts and bolts and sequentially directed within a narrower sphere.

Although original research may be conducted, it is always intended for incorporation into a conceptual framework informing workable practices. The word deliberate implies a rational analysis built upon empirical data, although this may include recognition of the limits of human reason and disagreements over fundamental values (Hall & Tewdwr-Jones, 2011). All successful planning considers area character and local identity and respects heritage, pedestrians, traffic, utilities, and natural and human-made hazards. It has to do with improving, making things better on the ground. So it includes values. Planning includes the process of discovering these values, whether through ethical reflection or through interactions with the particular public relevant to the improvement in question. Inherent to this discovery process is the job of working toward resolution of conflicts which have always arisen over differing visions of values.

The word improvement is inherently future oriented, which does not preclude restoring or building upon traditions of the past. It does necessitate working for a future that is better than

the present, rather than maintaining the present conditions into the future.

Much planning is built upon geography, and thus many planning activities relate in some way to the spatial relationships between people and places (Fainstein, 2000). The word organization references the analysis of spatial data, whether economic, political, sociological, or environmental, and how the data will affect the human use of space, things, and energy. Among other factors, the spatial distribution of socioeconomic and racial/ethnic/cultural differences among a population will figure into the overall analysis.

Planners engage with the human experience, as well as the material reality, of constructed space. Planning is distinct from architecture, landscape architecture, and other design fields in that it only functions on scales larger than places of exclusively private ownership and use (Derived in part from Daniel Nairn. *Defining planning*. Accessed January 21, 2011, from <http://discoveringurbanism.blogspot.com/>).

Planning can involve establishing standards. It is governed by social structure; demographics; existing infrastructure; level of development of productive forces, science, and culture; natural and climatic conditions; human capital; and an area's characteristics (Levy, 1988). Urban planning encompasses a complex network of socioeconomic, civil engineering, architectural and decorative, and sanitation problems. Planning can be oriented toward the elaboration and implementation of projects based on a logical framework, which is useful for embedding a specific project in a wider development frame and defining its major elements. It can involve analysis of problems and potentials (including objective problems and problems and potentials perceived by stakeholders); development of goals, improvement priorities, and alternatives (requiring intensive communication and active stakeholder participation); specification of an improvement program and its main activities (based on priorities defined with the stakeholders); assessment of possible impacts of the improvement program; and definition and detailed specification of key projects and their implementation. Planning is used to manage

growth and re-create areas. Planners sometimes find themselves between public stakeholders and decision makers.

In the last three decades of the twentieth century, the American urban planning profession assumed new roles in the fields of environmental planning and protection; community-based housing and economic development; and the implementation of regional and statewide programs for the management of metropolitan growth. City planners in America were engaged in five major areas of activity: (1) preparation, revision, and implementation of comprehensive master plans, zoning ordinances, subdivision regulations, and capital-improvement programs; (2) review of environmental impacts of contemplated development and initiation of policies and courses of action to protect and preserve the natural environment; (3) urban redevelopment planning in older communities for rehabilitation of salvageable sections and conservation of neighborhoods of good quality; (4) quantitative modeling of transportation demand and land use patterns, often with the technology of Geographic Information Systems; (5) implementation of state and regional growth management programs. (City Planning. *Gale encyclopedia of US history*. Accessed January 21, 2011, from <http://www.answers.com/topic/city-planning>)

In contrast to traditional planning, which concentrated on improving the physical aspects of buildings and streets, modern city planning is increasingly concerned with the social and economic aspects of city living. The process of city planning is a highly complex, step-by-step procedure, usually involving a series of surveys and studies, development of a land-use plan and transportation plan, preparation of a budget, and approval of a unified master plan by various agencies or legislative bodies. City planners are usually part of an urban planning board or governmental agency that must take into account the characteristics and long-range welfare of the people of a particular urban community—their employment opportunities, income levels, need for transportation, schools, shopping areas, hospitals, parks and recreational facilities. They must face the problems of traffic, congestion, and pollution; they must also consider the availability of police, fire, and sanitation services, the limitations posed by zoning and other regulations, and the problems of funding. In recent years, residents of many communities have demanded greater participation in the planning of their own neighborhoods, and some planners have worked closely with community groups during various stages of the planning process. (City Planning. *Columbia encyclopedia*. Accessed January 21, 2011, from <http://www.answers.com/topic/city-planning>)

The military is one of the foremost exponents of planning and creates contingency plans for troublesome events, crises, and places. The military as a specific staff position of “plans and operations.”

Planning can be distinguished from policy and from implementation.

The idea of planning by governmental bodies has taken on a sinister edge to some archconservatives, survivalists, and libertarians, who feel that any plans formed by a government restrict their freedom and are part of a large conspiracy to enslave them. Thus, planning and freedom are made to appear to be a dichotomy.

A major component of the city and metropolitan planning profession today is public involvement and participation. Questions arise as to the allegiance of planners to their governmental leadership, to the people, or to amorphous concepts like the environment or posterity. How does the planner steer between them and deal successfully with the multitudinous stakeholders?

The planning profession has become professionalized, with certifications, examinations, professional organizations, annual meetings, and magazines. One such organization is the American Planning Association.

Planning encompasses hope and positivism, in the sense that no one plans to accomplish failure. However, plans can fail, as in the military saying that no plan survives encounter with the enemy. Plans can be made to combat the chance of failure as in “Plan for the worse and hope for the best.”

## Cross-References

- ▶ [Environmental Impact Assessment](#)
- ▶ [Social Impact Assessment](#)
- ▶ [Sustainability](#)

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## Planning, Spatial

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## Synonyms

[City planning](#); [Environmental planning](#); [Local planning](#); [Physical planning](#); [Regional planning](#); [Town and country planning](#); [Urban planning](#)

## Definition

Spatial planning is one of a number of terms (e.g., land-use planning, physical planning, urban planning, town and country planning, regional planning) commonly used to cover public policy intervention related to the ordering and regulation of land use in an efficient, sustainable and ethical way. There are numerous academic- and practice-based definitions of spatial planning and these are, to some extent, context specific, varying between different countries and jurisdictions. A common feature is that spatial planning is usually seen as a broad concept, integrating the spatial aspects and consequences of a wide range of economic, social, and environmental factors at different spatial scales. In (Cullingworth & Nadin, 2006b) a spatial planning approach is defined as establishing better coordination on territorial impacts: horizontally across different sectors, vertically among different levels of jurisdiction, and geographically across administrative boundaries.

## Description

Spatial planning is one of a number of terms (e.g., land-use planning, physical planning, urban planning, town and country planning, regional planning) commonly used to cover public policy intervention related to the ordering and regulation of land use in an efficient, sustainable and ethical way. There are numerous academic- and practice-based definitions of spatial planning and these are, to some extent, context specific, varying between different countries and jurisdictions. A common feature is that spatial planning is usually seen as a broad concept, integrating the spatial aspects and consequences of a wide range of economic, social, and environmental factors at different spatial scales. This contrasts with a narrower emphasis on physical land use and development associated with the term “land-use planning” and/or more spatially defined concepts such as regional, local, or neighborhood planning.

The term spatial planning is particularly associated within a Northwest European context, being largely inspired and promoted by developments in the arena of supranational planning within the European Union, particularly via the *European Spatial Development Perspective (ESDP)* (European Commission (EC), 1999), as well as planning practices in some other European countries. Indeed the term is a direct translation or close approximation of Dutch (*ruimtelijke ordening*) and German (*raumplanung*) planning terminologies (Cullingworth & Nadin, 2006a; Tewdwr-Jones & Williams, 2001). One of the earliest definitions of spatial planning emerged from the European Regional/Spatial Planning Charter – the so-called Torremolinos Charter adopted in 1984 by the European Conference of Ministers responsible for Regional Planning (CEMAT: Conference of European Ministers of *Amenagement du Territoire*) which stated that (Conference of European Ministers of *Amenagement du Territoire* (CEMAT), 1984) “... regional/spatial planning gives geographical expression to the economic, social, cultural and ecological policies of society. It is at the same time a scientific discipline, an administrative technique and a policy

developed as an interdisciplinary and comprehensive approach directed towards a balanced regional development and the physical organisation of space according to an overall strategy.”

The subsequent *EU Compendium of Spatial Planning Systems and Policies* (Commission of the European Communities (CEC), 1997) develops this further, explaining that “... *spatial planning embraces measures to coordinate the spatial impacts of other sectoral policies, to achieve a more even distribution of economic development between regions than would otherwise be created by market forces, and to regulate the conversion of land and property uses...*” while the European Spatial Planning Observation Network (ESPON) sets out the aim of the spatial planning approach as “... *to create a more ‘rational’ territorial organisation of land uses and the linkages between them* (Dimitriou & Thompson, 2007).”

Thus, in Cullingworth & Nadin (2006b), the spatial planning approach is summarized as “... *establishing better co-ordination on territorial impacts: horizontally across different sectors, vertically among different levels of jurisdiction, and geographically across administrative boundaries...*” The *European Spatial Development Perspective (ESDP)* (European Commission (EC), 1999) promotes the introduction of a spatial planning approach to EU member states.

In the UK, the spatial planning approach is often contrasted with the narrower emphasis on physical land use and development that had characterized English statutory planning processes in the 1980s and early 1990s. In essence (Cullingworth & Nadin, 2006b) “... *physical land use planning describes government action to regulate development and land uses in pursuit of agreed objectives...*” while “... *spatial planning in the European sense is more centrally concerned with the problem of coordination or integration of the spatial dimension of sectoral policies through a territorially based strategy.*” The UK government itself highlighted this spatial planning approach in subsequent national planning policy statements (Office of the Deputy Prime Minister (ODPM), 2004, 2005) which state that “... *the new system of regional spatial strategies and local development documents*

	Land use plan	Spatial plan
Purpose	A collection of performance criteria and decision rules for the regulation of land use and development in the planning system.	The proactive organisation and coordination of the spatial impacts of sector decisions to achieve shared outcomes.
Form	A comprehensive set of policies relating to land use for the whole administrative area; designation of areas and sites for development purposes and protection	Identifying critical spatial development issues, long term goals, and key areas of change making use of spatial visualisations; Principles and major land allocations that will guide and integrate sector decisions and development control/management.
Process	Confrontation of ideas instigated through consultation on draft plans informed by broad planning principles and political negotiation. Statutory and other consultees using the process to protect and promote their interests	Mutual learning, driven by an understanding of the critical spatial development trends and drivers, and informed by the debate on alternatives in collaborative political processes. Stakeholders gaining ownership of the plan and using it to achieve their own and mutual goals
Ownership and policy community	A document of the planning authority speaking to other professional planners at national and regional levels and in the development industry.	A corporate document of the local authority in shared ownership with external stakeholders: who have an interest in the development of the area.
Procedural safeguards	Final outcomes determined through adversarial debate.	Final outcomes determined by inquisitorial investigation of the overall coherence and soundness of the plan.
Methods	Mapping of constraints and collection of sectoral policy demands; bargaining and negotiation with key players and checking of proposals through SEA.	Analysis of spatial development trends, drivers and implications, including market demands and needs; generation of alternatives and options assisted by SEA.
Delivery and implementation	Directs change and controls investment activity in land use through prescriptive regulation whilst mitigating local externalities through conditions and planning agreements.	Seeks to influence decisions in other sectors by building joint ownership of the strategy and employing a range of incentives and other mechanisms including land use regulation and planning agreements.

**Planning, Spatial, Fig. 1** Comparison of “ideal type” land-use plan and spatial plan (Source: Adapted from Nadin (2006a, b, 2007))

should take a spatial planning approach. *Spatial planning goes beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programmes which influence the nature of places and how they can function*" (Office of the Deputy Prime Minister (ODPM), 2005) and that "... *Local planning authorities should adopt a spatial planning approach to local development frameworks to ensure the most efficient use of land by balancing competing demands. ... As such, the approach should not just be concerned with the physical aspects of location and land use but also economic, social and environmental matters. ...*" (Office of the Deputy Prime Minister (ODPM), 2004).

This more coordinated focus on places and place-making was taken up by the professional body for planning in the UK, the Royal Town Planning Institute (RTPI), in its *New Vision for Planning* (Royal Town Planning Institute (RTPI), 2001) which advocated that planning systems should be:

*Spatial*: dealing with the unique needs and characteristics of places

*Sustainable*: looking at the short-, medium- and long-term issues

*Integrative*: in terms of the knowledge, objectives and actions involved

*Inclusive*: recognizing the wide range of people involved in planning.

Royal Town Planning Institute (RTPI), (2001), quoted in Davoudi and Strange (2009).

Some of the key characteristics of spatial planning as compared to land-use planning (Fig. 1) were set out in (Nadin, 2006a, b, 2007), although the author acknowledges that the practices of land-use planning and spatial planning are presented as "ideal types" and, in reality, most planning systems and plans "... will be a combination of these ideal types..." (Nadin, 2006b).

## Cross-References

► [Land-Use Planning](#)

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## Plants and Well-Being

► [Gardens and Well-Being](#)

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## Plato

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## Synonyms

[Pleasure theories in Plato](#)

## Birth, Education, Work History, and Main Contributions

According to Kahn (1998, p. 43), “Plato [427–347 BCE] and Socrates [469–399 BCE] have been described as a double star [by Shorey, 1933] which the most powerful telescope will never succeed in resolving.” According to Diogenes Laertius (2000, p. 281), at the age of twenty, Plato attended a lecture by Socrates and thereafter became a student and a scholar in the latter’s Academy in Athens. Assuming there is some truth in this story, Plato might have been exposed to Socrates for 7 or 8 years, as much as a young student might be exposed to a famous and charismatic old teacher. Since Socrates did not write anything and Plato did not write anything in his own name but featured Socrates as the primary speaker-protagonist in most of his dialogues, it is impossible to determine exactly who said what, first and when, and what each man believed that the other did or did not believe.

Socrates is reported by Diogenes Laertius (2000, pp. 149–163) to have been the son of a sculptor and a midwife, a pupil of Anaxagoras of Clazomenae (c. 500–428 BCE), a soldier who displayed courage in battle, and a man who made a “regular habit” of dancing because he thought “that such exercise helped to keep the body in good condition.” Kahn (1998, p. 48) called him “the founder of classical Greek moral theory” on the grounds that he reconciled “two central themes of the Greek moral tradition,” namely, “virtue” (ARETE) and “► [happiness](#)”

(► [EUDAIMONIA](#)). ARETE connoted excellence in practically any sense, e.g., a knife, horse, lute, or human being could display ARETE, each in its own relatively unique way. EUDAIMONIA, which is literally “favored by the DAIMONES (near-gods or gods)” is usually translated as “happiness,” but it connotes something closer to what people nowadays would call well-being rather than happiness. Today, in common parlance, “happiness” is very close to a perhaps extended feeling of pleasure. Because the English “happiness” is linguistically more versatile than “well-being,” translators typically prefer the former, for example, we can talk about happy people, happy lives, and happy gardening but not well-being people, lives, and gardening. Nevertheless, modern readers should remember that our “well-being” is closer to the Greeks’ “happiness” than to our “pleasure.” As we will show below, the Greek words for pleasure and pain were also central to philosophical discourse about a good life. Moral philosophers working in the eudaimonist tradition (e.g., Socrates, Plato, and ► [Aristotle](#)) agreed that people should reflect on their lives as a whole, discover what is most important or valuable (i.e., life’s final end or TELOS), and plan and live their lives to achieve that end. According to Kahn (1998, p. 37), the notion of TELOS first appeared in Plato’s dialogues and was more fully developed by Aristotle.

As reported in the Apology (Plato, 1914), Socrates was, unfortunately, condemned to death by an Athenian court for allegedly corrupting young people by persuading them to reject theological explanations in favor of naturalistic explanations of natural phenomena and by teaching them how “to make the worse case the better” along the lines of Protagoras and other Sophists. He correctly denied the truth of both charges, but that did not change the court’s verdict. Diogenes Laertius (2000, pp. 277) claimed that Plato was the son of a mere “citizen of Athens” on his father’s side but was a descendent of Solon and beyond him of the god Poseidon on his mother’s side. In fact, this biographer went so far as to assert on the authority of Plato’s nephew, Speusippus, that Plato’s real father was not

Ariston, the Athenian citizen, but Apollo himself. Like the father of Jesus in the Gospel according to Matthew (which was written about 400 years after Plato's death), Ariston left his wife "unmolested" until after Plato was born. Such fantastic legends attest to the fact that Plato was recognized as quite extraordinary by his contemporaries and successors. Indeed, the historical Socrates, if accurately portrayed in the *Apology* (Plato, 1914, pp. 107–109), seems to have believed that he was commanded by a god at Delphi to spend his life in philosophy, examining himself and others, and making people "ashamed to care for the acquisition of wealth and for reputation and honor, when [they] neither care nor take thought for wisdom and truth and the perfection of [their souls]."

► **Democritus** of Abdera (c. 460–370 BCE) believed that there was a natural connection between human well-being and experienced pleasures and pains. Generally speaking, he believed that whatever was experienced as pleasant was life-enhancing and whatever was experienced as painful was life-destroying. Thus, a good life could be obtained by following nature's guides to human well-being. Every eudaimonist had to address this widely held and not entirely unreasonable position, and Socrates and Plato certainly provided some penetrating analyses. However, neither man was able to produce a single coherent theory of ► **pleasure**. In fact, according to Annas (1993, p. 138), "many scholars hold that...[there are]...five different theories of pleasure" in the five Platonic dialogues in which pleasure is explicitly investigated. On some view of the nature of theories, this might be true. Nevertheless, most of the evidence from all the dialogues indicates that on any theoretical view of pleasure, neither Plato nor Socrates regarded the pursuit of pleasure or a life of pleasure as a human being's final end, that is, neither man was a hedonist. Since a life of pleasure was and apparently still is regarded by many people as an attractive aim for life as a whole, it is worthwhile to examine Plato's investigations of this option. Our review will follow the lead of the ancients and Annas in treating the Platonic corpus as a whole rather than as a developed sequence of ideas. In the end, it

will be clear why "Plato's thoughts about pleasure have always been recognized as various, and as hard to make consistent" (Annas, 1993, p. 5). It will also be clear that Plato was a creative genius of the highest order.

Of all Plato's discussions of the relationship of pleasure to our final end, that in the *Protagoras* comes nearest to endorsing ► **hedonism**. The relevant passages are notoriously controversial. The view of the majority of scholars is that in those passages Plato was only doing what any good philosopher would do, namely, presenting a theory for consideration as fully and faithfully as possible, regardless of his or her commitment to it.

In this dialogue, Socrates began by getting the Sophist Protagoras to admit "that some pleasant things are not good, and also that some painful things are not bad and some are, while a third class of them are indifferent – neither bad nor good" (Plato, 1924, pp. 223–225). This in itself is hardly an auspicious beginning for someone aiming to establish the reasonableness of hedonism as a theory of the good life. The two philosophers then agreed that "most people" think that "while a man often has knowledge in him, he is not governed by it, but by something else – now by passion, now by pleasure, now by pain, at times by love, and often by fear" (p. 227). They decided to show that the commonly held idea of "being overcome by pleasure" (AKRASIA) was "erroneous." This would be a strange undertaking for a hedonist, since such people believe that pleasure is precisely the final end that is supposed to triumph over all others.

Pursuing more deeply the idea of "being overcome by pleasure," Socrates claimed that allegedly pleasant but bad things like certain "food or drink or sexual acts" are not regarded as bad in virtue of the pleasure they produce. Pleasure, delight, or enjoyment themselves are uniformly good in themselves. Rather, such things are regarded as bad only if:

"...later on they cause diseases and poverty, and have many more such ills...[and] in causing diseases they cause pains...And in causing poverty they cause pains...[In short,] the only reason why these things are evil is that they end at last in pains,

and deprive us of other pleasures...[Similarly, such painful things as] physical training, military service, and medical treatment conducted by cautery, incision, drugs, or starvation...are good...because later on they result in health and good bodily condition, the deliverance of cities, dominion over others, and wealth...[things which] end at last in pleasures and relief and riddance of pain.” (Plato, 1924, pp. 229–233)

Notice, first, that the goods and ills listed in the quotation are the classic, common sense bodily, and external ones, for example, health and wealth versus disease and poverty. There is no mention of the cardinal virtues, justice, courage, temperance, or wisdom. Second, the common sense goods are supposed to be pursued for the equally common sense purposes of getting pleasure and avoiding pain. Most importantly, Socrates has led his listeners to the conclusion that if the pleasurable is good and the painful is bad or evil, then AKRASIA would imply, for example, that “a man does evil, knowing it to be evil and not having to do it, because he is overcome by the good” (p. 237), or what is equally absurd, a man does what is painful, knowing it to be painful and not having to do it, because he is overcome by what is pleasant, that is, in the interest of or forced by pleasure he knowingly chooses pain. So, the doctrine of AKRASIA had to be rejected.

Among pleasures and pains, at this point in this dialogue, Socrates thought that variations could only be assessed “when the one is greater and the other smaller, or when there are more on one side and fewer on the other” (Plato, 1924, p. 237). So, for example, weighing pleasures and pains, one would naturally prefer greater and/or more pleasures to smaller and/or fewer pleasures and the latter to pains of any size or numbers. He did not suggest that people should calculate what we now call “discount rates” according to which the proverbial bird in hand might be worth more than two or more in the bush, but he did observe that regarding “size,” “thickness and number,” and “sounds,” things appear “greater when near and smaller when distant” (p. 239). To address this problem, he recommended precise measurement. In language that would have warmed the hearts of hedonists from Bentham (1789) to Kahneman (1999) (not to mention

number-crunching ► social indicators researchers), he wrote:

“Now if our welfare consisted in doing and choosing things of large dimensions, and avoiding and not doing those of small, what would be our salvation in life? Would it be the art of measurement [METRITIKI TECHNE], or the power of appearance? Is it not the latter that leads us astray...and many a time causes us to take things topsy-turvy... whereas the art of measurement would have made this appearance ineffective, and by showing us the truth would have brought our soul into the repose of abiding by the truth, and so would have saved our life. Would men acknowledge, in view of all this, that the art which saves our life is measurement... [indeed, not merely measurement but] knowledge [EPISTEME] of measurement,... the salvation of our life depends on making a right choice of pleasure and pain - of the more and the fewer, the greater and the smaller, and the nearer and the remoter - is it not evident...” (Plato, 1924, pp. 239–241)

Of course, there is nothing here about applying measurement to produce the greatest net pleasure, happiness, or good for the greatest number as in the utilitarians Bentham (1789) and Mill (1863), but a clearer defense of hedonism could not have been made. Granting all of the above, Socrates was able to show that it is not pleasure that leads people astray, but:

“...that it is from defect of knowledge that men err, when they do err, in their choice of pleasures and pains - that is, in the choice of good and evil; and from defect not merely of knowledge but of the knowledge...of measurement. And surely...the erring act committed without knowledge is done through ignorance. Accordingly ‘to be overcome by pleasure’ means just this - ignorance in the highest degree....Then surely.... no one willingly goes after evil or what he thinks to be evil; it is not in human nature, apparently, to do so - to wish to go after what one thinks to be evil in preference to the good; and when compelled to choose one of two evils, nobody will choose the greater when he may the lesser.” (Plato, 1924, pp. 243–247)

In Plato’s *Gorgias* (Plato, 1925a), there are at least four arguments against the view that the good or happy life (i.e., well-being) for a human being is identical to a pleasurable life or, briefly, that pleasure is the final end (TELOS). First, Socrates suggested an analogy between the satisfaction of human needs producing experienced pleasure and filling an empty jar with water.

Insofar as one's needs are not met, one experiences pain, which is removed as one's needs are met. Call this the "needs satisfaction theory of pleasure." It is a primitive ancestor of Maslow's (1954) well-developed theory. Using this theory of the source if not the nature of pleasure, Socrates claimed that aiming at a life of pleasure would be like aiming at a life forever filling a "leaky jar." Since one of his acceptability criteria for a good life was self-sufficiency or near-self-sufficiency for individuals and communities, positing a final end that was inherently dependent on continuous replenishment was obviously unacceptable (Plato, 1925a, pp. 415–419). Self-sufficiency or near-self-sufficiency is a highly regarded trait going all the way back to Homer's heroes. Clearly, the needs satisfaction theory of pleasure and the self-sufficiency criterion of acceptability for a good life were incompatible. As we will see below, alternative theories of pleasure were introduced in other dialogues.

Second, Socrates asserted that because it is possible to experience pleasure and pain at the same time (e.g., as the pain of being thirsty is removed by the pleasure of drinking) but "it is impossible to be badly off, or to fare ill, at the same time as one is faring well," it follows that "enjoyment is not faring well, nor is feeling pain faring ill, so that the pleasant is found to be different from the good" (Plato, 1925a, pp. 429–431). Third, he claimed that because "the foolish and the wise, and the cowardly and the brave, feel pain and enjoyment about equally" but only "the wise and brave [are] good, and the cowards and fools bad," there must be a difference between feeling enjoyment and being good as well as feeling pain and being bad and, therefore, a difference between a life of pleasure and a good life (Plato, 1925a, pp. 435–439).

A fourth argument in the *Gorgias* began with the assumption that "bodies," "figures," "colors," "music," "laws, and observances" are said to be "fair...either in view of their use for some particular purpose that each may serve, or in respect of some pleasure arising...[from them, i.e., either because they are] beneficial or pleasant or both" (Plato, 1925a, pp. 353–355). Next, Socrates asserted that if something is fair, it is good, "for

that is either pleasant or beneficial" (p. 363). Finally, then, observing that it is not pleasant "to be medically treated....But it is beneficial" (p. 369), it follows immediately that things in general and life as a whole in particular may be fair, good, and beneficial but not pleasant. So, a good life cannot be identical to a pleasant life.

In the *Philebus* (Plato, 1925b), Socrates and the young Protarchus, who was trying to decide whether or not he should be a hedonist, agreed that they should examine "the greatest things" rather than the smallest. Accordingly, they proceeded to investigate those pleasures "which are considered most extreme and intense." The theory implicit in the assumption that the greatest pleasures "gratify the greatest desires" is simply the theory that pleasure is produced by the satisfaction of desires or wants, that is, pleasurable affect is the effect of people getting what they desire or want. Call this the "desire satisfaction theory of pleasure." It is an ancestor of Lewin, et al. (1944) ► [aspiration theory](#). Since it is unlikely that anyone would imagine that a life of "riotous living" leading to "madness" and "depravity of soul and body" could be the final end, highest good, and best life for a human, it is unlikely that anyone holding this theory would be attracted to hedonism.

Besides, the needs and desire satisfaction theories of pleasure, in the *Philebus* Socrates apparently accepts a slightly different theory (with roots extending at least to Pythagoras) based on harmony, which we may call the "harmony theory of pleasure." Without attempting to unravel all the metaphysical niceties and definitions suggested in the text, the basic ideas are that:

"...when, in us living beings, harmony is broken up, a disruption of nature and a generation of pain also take place at the same time...But if harmony is recomposed and returns to its own nature, then I say that pleasure is generated...[So, for examples, hunger is] a kind of breaking up and a pain...And eating, which is a filling up again, is a pleasure... Then, too, the unnatural dissolution and disintegration we experience through heat are a pain, but the natural restoration and cooling are a pleasure." (Plato, 1925b, pp. 271–273)

Along the lines of a fairly common distinction between a ► [fool's paradise](#) and real paradise, in

the Philebus, Plato distinguished “real pleasures” from “false pleasures.” Just as some people have opinions “not based upon realities,” although the opinions themselves are real enough, Socrates said that “pleasure and pain stand in the same relation to realities.”

“True pleasures” later turn out to be identical to “pure,” “unmixed,” and “real pleasures.” Clearly, then, we have here a fourth theory of the origin and nature of pleasures, for these “true pleasures” do not involve meeting needs, satisfying desires, or reconstituting harmonies. Rather they are, for example, the direct products of things that are naturally “absolutely” beautiful eliciting natural feelings of pleasure, joy, or delight. Call this the “true pleasures theory” to distinguish it from the other three. Socrates believed that “true pleasures” are ontologically distinct from others, since they “are in no way subject to comparison with the pleasures of scratching,” i.e., they are not supposed to be comparable to the pleasures arising either from meeting needs, satisfying desires, or reconstituting harmonies.

After thoroughly destroying hedonism as a plausible account of our final end or the good life for human beings and inconsistently making the case for a life of wisdom, Plato tried to construct a positive view that would meet his criterion of self-sufficiency. He avowed, first, that it was absurd “to say that there is nothing good in the body or many other things, but only in the soul, and that in the soul the only good is pleasure, and that courage and self-restraint and understanding and all the other good things of the soul are nothing of the sort” (Plato, 1925b, p. 357). That is, he accepted the traditional, common sense view that there are goods of the body (e.g., health), external goods (e.g., wealth), and goods of the soul (e.g., wisdom).

Finally, then, Socrates concluded that the ► [good life](#) sought must involve some sort of “mixture” or combination of elements. Into the “mixture,” he was forced to include not only theoretical knowledge of immutable reality but also practical knowledge (e.g., about “building houses”), “perfect knowledge of our individual selves,” “truth,” “true and pure pleasures...and

also those which are united with health and self-restraint, and...all those which are handmaids of virtue in general” (Plato, 1925b, pp. 379–387).

He thought that a mixture containing all the right elements but lacking an appropriate “measure and proportion” of each one would be “in truth no compound, but an uncompounded jumble” (p. 389). Accordingly, he asserted that:

“...the power of the good has taken refuge in the nature of the beautiful; for measure and proportion are everywhere identified with beauty and virtue... Then if we cannot catch the good with the aid of one idea, let us run it down with three - beauty, proportion and truth, and let us say that these, considered as one, may more properly than all other components of the mixture be regarded as the cause, and that through the goodness of these the mixture itself has been made good.” (Plato, 1925b, pp. 389–391)

The sense in which the three elements “beauty, proportion, and truth” could properly “be regarded as the cause” of the total set of elements required for a good life (i.e., the total “mixture” or “compound”) is not entirely clear. Plato seems to have assumed that this subset of elements was in some way uniquely constitutive and/or determinant of the whole set. In any case, it seems fair to say that the total “mixture” or “compound” of elements of “the good” or of a good life, of which the three-element subset could be “regarded as the cause,” is as close to a complete account of “the good” or of a good life as Plato ever produced.

The central questions of Plato’s major work, the Republic, are concerned with the nature of the best sort of life to live, the good life, “the life that for each of us would make living most worth while” (Plato, 1992, p. 71), and, more precisely, whether “the life of the just man is more profitable” than that of the unjust man (p. 83) or “whether it is also true that the just have a better life than the unjust and are happier” (p. 101). As the central questions are phrased, it is clear that the aim is to discover the most advantageous sort of life for individuals from the point of view of their own self-interest. Insofar as the specific question became that of the relation between living “the life of the just man” and living the life most advantageous from the point of view of

one's own self-interest, the problem became profoundly moral and difficult. The problem became moral because "the life of the just man" implied some concern for others, a concern that as conventionally understood might be not only beyond but also directly opposed to one's own self-interest. The problem of reconciling such concerns (for others and self) was undoubtedly at least as difficult in the fourth century BCE as it is now.

To address the basic problem and noticing that "there is the justice [DIKAIOSUNE] of a single man and also the justice of a whole city," Plato's Socrates adopted the strategy of examining "the larger thing" in the interest of understanding "the smaller" (Plato, 1992, p. 43). Plato's ideal cities were populated with relatively unidimensional people. Applying the general principle that "one man is naturally fitted for one task," he imagined finally three broad classes of people in the ideal city, namely, a class of "producers" consisting of "money-lovers," a class of "guardians" consisting of "honor-lovers," and a class of "rulers" consisting of "wisdom-lovers" (philosophers), selected from the cream of the "guardians." Reflecting on the virtues of courage, moderation, wisdom, and justice, Socrates concluded that in the ideal city, as they have "heard many people say and have often said" themselves, "justice is doing one's own work and not meddling with what isn't one's own" (Plato, 1992, p. 108). Accordingly, if justice in "the larger" city is similar to justice in "the smaller" human soul, one ought to find structures and functions in the latter similar to those in the former, that is, one ought to find that souls have three parts with three distinct functions, with justice in the soul similar to justice in the city.

On the analogy of the nature of justice in the city given the city's structure and functions, he concluded that justice in the human soul must occur when "each part is doing its own work" and the rational part is allowed to rule, "since it is really wise and exercises foresight on behalf of the whole soul, and for the spirited part to obey and be its ally" (p. 117). Justice in the city and in the human soul is the great harmonizer, bringing disparate parts together so that they become "entirely one, moderate, and harmonious," and

injustice is "a kind of civil war between the three parts" (p. 119).

Insofar as justice in the city and the soul is supposed to function in the same way to produce harmony and reduce discord, justice in each place and the interests of individuals and communities are mutually supportive. A well-ordered city led by wisdom-loving rulers supported by honor-loving and money-loving citizens who know their place and appropriately play out their roles is the perfect sort of city for individuals with similarly well-ordered souls to flourish. Individuals with well-ordered souls whose spirit and appetites are led by reason will be at peace with themselves and will, therefore, be inclined to contribute to the common good, recognizing it as essential for their own well-being. In Book 6 of the Republic, Socrates lamented the fact that because there were no cities with constitutions "suitable for philosophers," anyone with a "philosophic nature" had it "perverted and altered," but if someone with the appropriate nature "were to find the best constitution, as it is itself the best, it would be clear that it is really divine and that other natures and ways of life are merely human" (Plato, 1992, p. 171). Thus, such is the interdependent relationship between an ideal city and an ideal individual that it is impossible for the latter to exist apart from the former. This is about as much of a reconciliation between the interests of any individual and the public interest, self and other, as one could hope to have.

Besides imagining that human souls had three distinct parts with distinct functions, Socrates believed that the successful performance of the distinct functions yielded distinct kinds of pleasures. Citizens who know their place and appropriately play out their fairly rigidly prescribed and circumscribed roles are supposed to get distinct kinds of pleasures. Call this the "class theory of pleasure." Since there was no clear distinction between human characteristics resulting from inheritance versus good upbringing and education, "class" is used here only to reflect the general sense of Plato's idea.

Summarizing the general case, he tried to make in the Republic for pursuing justice in one's own soul and city in terms of traditionally

accepted good by-products that would have been attractive to any Greek familiar with his work, Plato wrote:

“From every point of view, then, anyone who praises justice speaks truly, and anyone who praises injustice speaks falsely. Whether we look at the matter from the point of view of pleasure, good reputation, or advantage [or profit], a praiser of justice tells the truth, while one who condemns it has nothing sound to say and condemns without knowing what he is condemning...[Furthermore,] this is the original basis for the conventions about what is fine and what is shameful...Fine things are those that subordinate the beastlike parts of our nature to the human -or better, perhaps, to the divine; shameful ones are those that enslave the gentle to the savage.” (Plato, 1992, p. 261)

In brief, in these passages, Plato justified the pursuit of justice in terms of self-interest as his contemporaries, and perhaps ours, understood it. If one was unfamiliar with the rest of his work, one might think these passages were written by someone who regarded “pleasure, good reputation, or advantage” as capturing our final end or the best life for a human being, with “justice” as merely a significant means. In the presence of as much of his total corpus as we have seen here, however, one would have to conclude that, like “pleasure,” he regarded “good reputation” and “advantage” as mere “handmaids of virtue in general,” that is, things that served the interest of virtue, making it more attractive and easier to embrace. For Plato, our final end or best sort of life included a rich mixture of things hierarchically ordered with virtue in its various forms at the top.

In Book 5 of the Laws, the Stranger summarizes his case for living a virtuous and noble life in terms of a package of by-products similar to that offered by Plato’s Socrates in the Republic. Personal “advantage,” which usually implied material wealth, is not mentioned explicitly in the package, but “nobility” would have had the same implication.

“The temperate, brave, wise, and healthy lives are more pleasant than the cowardly, foolish, licentious and diseased. To sum up, the life of bodily and spiritual virtue, as compared with that of vice, is not only more pleasant, but also exceeds greatly in nobility, rectitude, virtue and good fame, so that

it causes the man who lives it to live ever so much more happily [EUDAIMONESTERON] than he who lives the opposite life.” (Plato, 1926a, p. 347)

The final end or best life as a whole for humans was a happy life, which in his eudaimonistic terms was virtuous in all its forms, healthy, noble, experienced as pleasant and justifiably famous. When all the features of the total package of goods constituting the good life are taken into account, it is a life that would still be attractive to people with fairly conventional values.

(Adapted from Michalos & Robinson, 2012.)

## Cross-References

- ▶ [Multiple Discrepancies Theory](#)
- ▶ [Protagoras](#)
- ▶ [Pythagoras](#)
- ▶ [Quality of Life, Two-Variable Theory](#)

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## Play Behavior

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### Synonyms

Amusement; Leisure; Ludic behavior; Recreation

### Definition

Play behavior is defined as enjoyable mental or physical activity, pursued for its own sake, freely chosen, separated from everyday experience, and in which the process is more significant to the player than the product.

### Description

When we play, we are engaged in the purest expression of our humanity, the truest expression of our individuality (Brown, 2009, p. 5).

### The Characteristics of Play

What is considered to be play depends on the individual's inner experience – a certain state of mind that signals to the individual that he or she can deal with reality in his or her own way and have fun in the process. There is no one behavior or thought or action or circumstance that is always play – and play can be anything that the player wants it to be. Given the challenge, complexity, and frustration with defining play, there are still certain characteristics that more often than not are included in its definition (Rubin, Fein, & Vandenberg, 1983). These are (a) positive affect (play is fun and enjoyable), (b) transformation of reality (play is a departure from everyday experience), (c) intrinsic motivation (play is initiated and pursued for the pleasure derived), (d) process over product orientation (the player's focus is on the activity itself and not on goals or outcomes), and (e) perceived freedom of choice (play is voluntary and freely chosen).

### Why Play Exists

The origins of playful behavior are said to date back some 65 million years, when evolutionary forces progressed to where mammals began to take the place of reptiles. This raises the question of why play has continued to exist for so long. It is a basic tenet of evolutionary psychology (i.e., natural selection) that only behaviors that contribute to survival continue, while those that are deleterious cease over time to exist. Yet play can appear to be a relatively worthless behavior, since it is a waste of time and energy that could be spent searching for food, watching for predators, or studying for LSAT exams. In the animal kingdom, play multiplies, rather than diminishes, with increasing brain complexity (Brown, 2009). Research has shown that animals that play a lot learn more quickly about their world, how to

navigate through it, and how to adapt to it – in essence, they are smarter. There is a strong connection between brain size and playfulness in mammals – across 15 species of mammals (ranging from dolphins to dogs), the species with bigger brains played much more than those with smaller brains. Since play is more prominent in advanced species, it thus must contribute in major ways to our development and to our lives.

### The Functions of Play

We are built to play and built through play (Brown, 2009, p. 5).

#### Brain Development

We grow from a single cell to possessing approximately 100 billion nerve cells (neurons) when we are born. After we are born, these neurons connect through synapses, creating neural pathways that carry information. In the first 3 years of life, the average child receives so much stimulation from his or her environment that the brain makes approximately one quadrillion synaptic connections. Nearly twice as many connections will be made than are needed – the connections that are used strengthen and survive, while those that are not used are replaced or disappear entirely. The more the baby engages with its environment, the more these pathways are strengthened. The majority of these synaptic connections develop during the first 3 years of life, although they continue to grow at a slower pace until the age of 10, at which point they become permanent. Those that are unused by this time will be eliminated.

Researchers have shown that when children play, they engage in a wide variety of activities that strengthen their neural network. Play is important in strengthening the developing child's neural network, in that it integrates a number of different kinds of activity. For example, a child who is engaged in make-believe play uses language, problem solving skills, developing social abilities, abstract (symbolic) thought, a range of emotions, and most of his or her senses. This multiplicity of types of involvement by the child

nurtures the largest number of synapses. As children grow and develop, their play interactions with their environment become richer and more complex and result in continually increasing stimulation and production of synaptic connections that enhance the development of their brain.

#### Cognitive Development

**Flexible Thinking and Problem Solving** The most contemporary view of the utility of play is that it exercises and expands human variability and flexibility (Sutton-Smith, 1997). We play because it allows us to keep up with a world of unpredictable changes. The world is changing at an accelerating rate, and it becomes impossible to know what it will be like 20 years from now and what skills and information will be most important to possess. The purpose of play is that it makes us flexible – mentally and behaviorally – so that we are capable of adapting to a rapidly evolving world. Play contributes to our creativity – it encourages us to make new connections from otherwise unrelated things, encouraging us to synthesize knowledge across different domains. Play fosters our divergent thinking ability and problem solving capacities through the wealth of time that children put into transforming objects and taking on different roles. By repeatedly generating different ideas in play episodes and thinking up and deciding on various courses of action, children are expanding our repertoire of the potential uses of objects that can be used later as tools to solve real world problems. Play acts as a safety net so that the consequences of our forays into adventurous thoughts or actions are negligible.

**Language and Literacy** Play has also been shown to relate to the acquisition of language and literacy: by babbling and the manipulation of sounds and words by infants and toddlers in play, they practice and perfect newly acquired language skills and increase their awareness of linguistic rules. In addition, the language that children use during their play is “decontextualized” – it conveys meaning independently of the context, such as when children pretend to use a cup as a spaceship or place a call to the pizza

delivery man for a quick order. In this way, children strengthen their representational skills which assist in later comprehending and producing decontextualized texts in later reading and writing lessons in school. This pretend play offers opportunities to experiment, practice, and conventionalize several forms of reading and writing which later serve to enhance their skills and knowledge of literacy well beyond these early years.

**Learning and Memory** There is evidence that learning and memory are more strongly situated in the brain and last longer when learned in play. The state of play is one in which attention is focused almost exclusively on the enjoyable play activity, and memory fixation has been shown to be strongly related to heightened attention and pleasant emotions. In addition, the finding that play involves multiple centers in the brain related to cognition and perception further supports this linkage. By strengthening connections between certain of these brain areas that might have been weakly connected previously, play enhances the retention of information and knowledge. A prime example of this is *Sesame Street*, the longest running children's show in the United States. The mixture of fantasy and reality, jokes and lessons, and parodies of popular culture has been shown to be a powerful strategy for learning and retention among even the youngest viewers.

#### Social Development

Play is intricately involved in the process of socializing children into becoming an active member of their culture. Children learn attitudes and skills necessary for cooperative play from their parents and their peers. Parents and peers also serve to shape play in ways that allow children to blend in with their culture by encouraging certain types of play preferences and patterns and discouraging others. At the same time, play is an important context in which children acquire social skills and social knowledge by observing others (e.g., parents, teachers, peers), which then are incorporated into, and practiced, in play. In addition, play has a key role by providing a context in which children can acquire important

social skills such as turn taking, sharing, cooperation, perspective taking, and the ability to read, interpret, and understand other people's nonverbal behaviors, perceptions, intentions, and emotions.

In play children must also be able to construct and vary the theme of the play activity together, and this joint planning is particularly important in games of group pretend with role enactments (called sociodramatic play). In order to be able to successfully engage in this type of play, children must first agree on who will adopt each role and on the make-believe identity of objects and actions. They must also make cooperative decisions about the sequencing of the story and the path it will take. The initial plans may be altered during the course of the play by consensus, and the child learns about give and take, how to cooperate with other children, and how sometimes it is necessary to defer one's own desires to the will of the majority (Elias & Berk, 2002).

Perspective taking is the ability to be able to see situations from other people's viewpoints. It involves understanding what other people see (visual perspective taking), think (cognitive perspective taking), and feel (affective perspective taking, or empathy), and play facilitates its acquisition and development (Creasey, Jarvis, & Berk, 1998). These abilities play an important role in the child's social and moral development and social competence. For example, children are better able to solve interpersonal problems if they accurately understand one another's thoughts, perceptions, and feelings. Altruistic behavior such as generosity is motivated by an understanding of the distress and joy other people experience when they are the recipient of a generous act.

#### Emotional Development

Playing is intimately related to the development and expansion of the child's sense of self as an autonomous and functioning person who is the master of his or her actions and can influence events that occur in the surrounding environment. Because play, by definition, is freely chosen and governed by the child's internal wishes, the child perceives a sense of power, strength, and supremacy. From this position of strength and perceived

mastery, the child is able to achieve empathy for others and to arrive at, exhibit, and internalize other positive behaviors as well (e.g., sharing, helping, altruism).

Coping is defined as the ability to think of things to resolve problematic situations or alleviate stress. Play has been shown to help children, and adults as well, deal with stress and invent effective coping strategies. Russ (1999) showed how play fosters the development of coping and resilience through its close interconnection with creativity. Both affective and cognitive components are intertwined in play, and this promotes coping and problem solving. Singer and Singer (1990) stated that children who show more imaginative play have a more developed affective system which enables an elaborate and richer warehouse of affect-laden memories and symbols. This collection of symbols and memories in turn fosters the child's divergent thinking ability which leads directly to an enhanced ability to cope with stress and solve problems. Strong coping skills are essential for the ultimate development of resilience because it is the resilient child that can beat the odds and succeed despite hardships related to abuse or poverty. Since research has found that coping skills can be demonstrably improved by play (Barnett, 1984), play is instrumental in the formation of resilient children and, later, adolescents and adults.

In addition to the development of coping skills and resilience, play contributes to the child's emotional development through the regulation of affect. Affect regulation reflects the child's inhibitory control, which is an important aspect of school readiness, and other necessary social and academic skills. Children who are unable to appropriately regulate their affect in different contexts ("disinhibited" children) are at risk for developing conduct disorders, attention deficit/hyperactivity disorder, and social exclusion or isolation.

### Contemporary Theories of Play

#### Psychoanalytic Theory of Play

Psychoanalytic theory of play was dominant through the first half of the twentieth century. It was based on the writings and observations of Sigmund Freud, who founded the psychoanalytic

movement. Freud (1961) believed that children have not fully formed the defense mechanisms that adults have whose purpose is to allow them to deal with conflict, anxiety, and traumatic events in their environment. Thus, they need a way to cope with such unpleasantness, and they do this through play. Play, according to this theory, is critical to children's emotional development because it serves a cathartic function – allowing children to eradicate these negative feelings associated with experiencing disturbing events. This cathartic function is accomplished by children in two ways: (a) by *role-switching*, in which the child employs imaginative play in order to switch roles from being the passive recipient of the traumatic experience to being in charge – the one who doles out the negative emotional events. By reversing roles, the child is able to transfer his or her negative emotions to a substitute object, such as a toy or doll; and (b) through *repetition*, the upsetting experience is repeated over and over in play, and in this way, the child minimizes his or her distress by breaking down the ordeal into smaller more manageable segments.

A number of studies have supported psychoanalytic theory of play. Some have observed children in a number of anxiety-inducing situations (e.g., children who are about to undergo surgery or those who have been the victim of abuse), and in all of these situations through play with objects and dolls that resemble the source of the trauma and anxiety, children appeared more calm and less agitated (for a review, see Schaefer & O'Connor, 1983). In a series of experimental studies (Barnett, 1984; Barnett & Storm, 1981), children who were upset (as shown by physiological and behavioral measures of distress and anxiety) were allowed to play either alone or with other children with a variety of toys while a third group listened to a story. Findings showed that the children in the play groups were significantly less anxious and upset than those who did not play.

#### Cognitive Theories of Play

Jean Piaget (1962) developed an innovative theory of how children develop cognitively, and

he linked each of his stages (and substages) to children's play, chronicling the changes in play forms and preferences that mirrored their progress through the stages. During the first stage (sensorimotor), covering the first 2 years of life, play is limited to what can be seen and touched, and children's enjoyment in play comes from sensory stimulation and repetitive actions. At about the age of 2, their thought processes develop over the next 5 years such that they are able to mentally represent objects in their mind – they no longer need the object to be physically present (preoperational stage). Their thinking is not linear, ordered, or logical, yet they can still imagine events and persons that are not presently with them, and that guides much of their imaginative play, constructive play, and imitative role play and role enactments. When they reach the age of about 7 years, they begin to develop their ability to think logically over the next 4–5 years, although their reasoning is limited to what is real and concrete (concrete operations). Their play becomes much more social and interactive, and their newfound logical abilities enable a great deal more play that is rule-governed, such as games with predetermined methods of moving through the game and set goals and paths to achieve prized outcomes. Piaget's final stage of development (formal operations) covers the age range of approximately 11–15 years, and the developing adolescent's thought becomes much more logical, abstract, and idealistic. Their world of play greatly expanded, as they now have the ability to imagine trips to fantastic and faraway places and to locate play in their mind as they enjoy manipulating concepts in unconventional ways reflecting their whims and imagining where their future might take them. Piaget believed that this final stage characterizes the cognitive abilities of adults, as well, and hence, an adolescent and an adult think qualitatively in the same way. In Piagetian theory, play is critically important for children's cognitive development because it helps children internalize their newly acquired skills and concepts and facilitates their movement toward the next stage of development.

Lev Vygotsky (1976) believed that play served several central roles in a child development. At the

first and most fundamental level, imaginative play is strongly linked to abstract thought and enables the child to think about meanings independently of the objects they represent. When children play imaginatively, they substitute pretend objects for real ones, and in this way, they are separating its meaning from the object. As a result, children become able to think about meanings independently of the objects that the meanings represent. A second crucial function is that play provides a context in which children learn, with some assistance (termed *scaffolding*). Vygotsky (1978) drew a distinction between two levels or types of development: actual development that represents the level at which the child is able to perform or function on his or her own and potential development that refers to the level at which the child can perform if he or she is assisted by other people. The *zone of proximal development* is Vygotsky's term for the distance between actual and potential development. If assistance is provided by an adult or by a more competent peer, the child will be able to engage in activities that he or she could not do alone. In turn, this will increase the child's knowledge and skills and move the child to a higher level of functional ability. Play is the natural context in which scaffolding occurs. A third play function is as a self-help tool that enhances the child's learning. Vygotsky stressed that when children play, they are able to create their own scaffolding and extend their capabilities in important areas as self-control, cooperation with peers and others, memory, language usage, and literacy by using speech to direct, control, and structure their play interactions. Play thus promotes development by serving as a scaffold within the child's own zone of proximal development, helping him or her to attain higher levels of functioning.

#### Arousal-Seeking Theory of Play

Ellis (1973) applied arousal-seeking models to define and explain play. Arousal-seeking models postulate a sensoristatic drive state that compels the people to maintain an optimal (moderate) state of arousal. This optimum level is considered the most natural and efficient operating state of the individual, and deviations from it in either direction (too much or too little arousal) are

aversive. Objects or settings that possess a low degree of uncertainty present no new information or stimulation to the individual, arousal falls to a suboptimal level, and the individual typically feels bored. In contrast, an object or setting that is too complex presents an information overload, and arousal becomes elevated to a supraoptimal level (usually resulting in feelings of anxiety). These models postulate that individuals are naturally driven to act to achieve and maintain the optimal arousal state. Ellis defined play as activities undertaken to increase a suboptimal level of arousal to bring it to the optimum range. This would take the form of adding something stimulating – new, complex, dissonant, surprising – to the immediate environment. Play is defined within the arousal-seeking theory as a process – the attempt to raise a low level of arousal to the moderate (optimal) range with the introduction of stimulating and uncertain things to do or think about.

### Cross-References

- ▶ [Altruism](#)
- ▶ [Anxiety](#)
- ▶ [Child Development](#)
- ▶ [Cognitive Abilities](#)
- ▶ [Early Adolescence](#)
- ▶ [Emotional Well-Being](#)
- ▶ [Homeostasis](#)
- ▶ [Intrinsic Motivation](#)
- ▶ [Learning](#)
- ▶ [Learning to Learn](#)
- ▶ [Leisure](#)
- ▶ [Literacy](#)
- ▶ [Positive Affect](#)
- ▶ [Recreation](#)
- ▶ [Resilience](#)
- ▶ [School Readiness](#)
- ▶ [Self-Esteem](#)
- ▶ [Social Competence](#)
- ▶ [Social Development](#)
- ▶ [Social Exclusion](#)
- ▶ [Social Interaction](#)
- ▶ [Stress](#)

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## Playful State of Mind

- ▶ [Humor](#)

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## Pleasantness

- ▶ [Pleasure\(s\)](#)

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## Pleasure

► [Positive Affect](#)

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## Pleasure Theories in Plato

► [Plato](#)

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## Pleasure(s)

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### Synonyms

[Delight\(s\)](#); [Hedonicity](#); [Joy\(s\)](#); [Pleasantness](#)

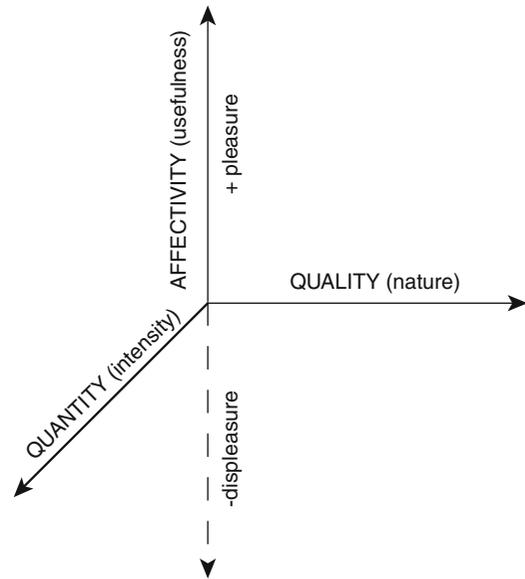
### Definition

As pleasure is a mental experience, any definition is bound to be tautological as in “term for an agreeable feeling,” for example. Displeasure, also mental, is the reverse.

Pleasure is any experience that we wish to prolong and displeasure any experience that we wish to stop.

### Description

Throughout the course of evolution, consciousness emerged from the animal brain as soon its anatomy and structure became complex enough (Teilhard de Chardin, 1965), that is, with reptiles (Cabanac, Cabanac, & Parent 2009). Consciousness, as it emerged, can be modeled as having three dimensions (Fig. 1). Quality identifies the nature of the virtual object present in mental space; intensity describes its magnitude; and hedonicity describes pleasure or displeasure

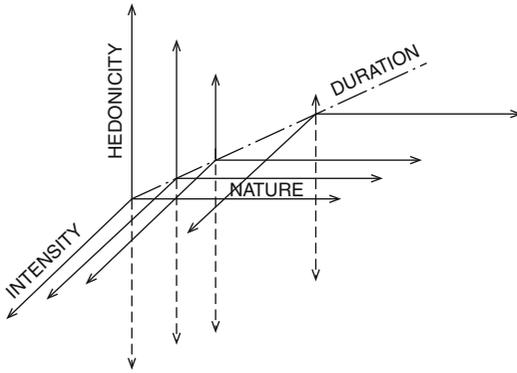


**Pleasure(s), Fig. 1** The three dimensions of consciousness

(Fig. 1). Neither quality nor intensity can be nil. On the other hand, hedonicity can be zero, positive (pleasure), or negative (displeasure). Not only sensation but any experience, any mental object, possesses these three dimensions, as has been demonstrated with curiosity (Perlovsky, Bonniot-Cabanac, & Cabanac, 2010), ► [anger](#) (Tamir, Mitchell, & Gros, 2008), memory (Cabanac & Bonniot-Cabanac, 2011; Vitterso, Overwien, & Martinsen, 2009), and social relationship (Dyrdal, Roysamb, Espen, Ragnhild, & Vittersø, 2011), for example.

A fourth dimension of consciousness is time (Fig. 2). There is an important difference in duration between positive and negative hedonicities: pleasure cannot last as it exists only to trigger a specific behavioural response and lasts only until that particular behaviour has been completed. On the other hand, displeasure can last indefinitely until a behavioural response suppresses its cause.

Indifference to ► [pain](#) is a rare syndrome that is usually congenital, but that can also be acquired after cephalic traumatism. In such cases, patients not only do not find painful stimuli unpleasant – indeed, they never complain from



**Pleasure(s), Fig. 2** Duration is the fourth dimension

stimuli that arouse pain in normal humans – but also they seem not to experience pleasure (Cabanac, Ramel, Duclaux, & Joli, 1969).

### Discussion

A given conscious experience can move up and down on the hedonic dimension. The name of such a change is *Alliesthesia*. It is positive when pleasure increases or displeasure decreases and negative in the reverse cases. Alliesthesia is easily experienced by hyperthermic or hypothermic people with sensations aroused from temperature stimuli and over a meal with taste and smell from alimentary or chemical stimuli but also occurs with tasteless water (Hubbard et al., 1984) and visual and auditory sensations (Brondel & Cabanac, 2007).

In all of the cases listed above, sensations resulting from stimulus activated sense organs, but as with other mental experiences, the avoidance of displeasure and the seeking of pleasure produced useful behavioural responses – where usefulness was judged from the point of view of survival and better physiological function – and improved mental function. It may be concluded, therefore, that hedonicity optimizes the behaviour either by seeking pleasure or by avoiding displeasure.

Thus, hedonicity is a force that triggers behaviour (Tamir, 2009) with a dialectic influence: pleasure is an aim that the conscious animal/human will tend to reach, and at the same time, it is an operant reward that occurs after the ad hoc behaviour.

When two or more motivations are present simultaneously and compete in the mind for access to the behavioural *final common path*, there is a need for a common currency in order to sort and rank emergencies (McFarland & Sibly, 1975). The hedonic dimension of consciousness, pleasure/displeasure, is that mental common currency. The outcome is determined by the algebraic sum of the various pleasures and displeasures produced by the various conflicting motivations. Because hedonicity is the common currency, it allows one to compare motivations and to resolve conflicting motivations – including social ones (Williams, 1979) and multiplicity of choices (Scheibehenne, 2008). In situations such as these, what is maximized is the tendency to make the algebraic sum of pleasures and displeasures positive (The Fifth Influence).

The absence of any hedonicity (indifference), where neither displeasure nor pleasure is experienced, is the state of *physiological comfort* in the case of sensory hedonicity, and ► [happiness](#) in the general case of mental experience.

Because hedonicity is the common currency, all the properties of sensory pleasure/displeasure recorded with sensations apply to all objects present in the mental space. Thus, unhappiness and/or discomfort, like displeasure, can sometimes last a whole lifetime, or at least as long as its cause is present and not cured. On the other hand, happiness is the general mental state that extends the sensory notion of comfort to all cognition. Sensory pleasure cannot last because to seek pleasure cures the problem that caused displeasure, but displeasure persists as long as its cause remains present. As pleasure is the common currency that allows one to compare various motivations for access to the behavioural response, the same must be true of *happiness* that is the state of quiet absence of any hedonicity.

### Conclusion

As Bentham beautifully stated three centuries ago:

Nature has placed mankind under the governance of two sovereign masters, pain and pleasure. It is for them alone to point out what we ought to do, as

well as to determine what we shall do....[They] govern us in all we do, in all we say, in all we think. (Bentham, 1789)

Bentham's conclusion linking hedonicity to the resulting useful behavioural responses was the fruit of mere introspection, yet psychophysical and behavioural methods allowed this wise intuition to eventually become science, as illustrated by the fact that hedonicity can be modeled mathematically (Ovsich, 1998).

The mere persistence of pleasure/displeasure over the geological times of evolution since reptiles (Cabanac et al., 2009) provides Darwinian evidence that demonstrates its usefulness through behavioural optimization. Clearly, hedonicity that is capable of moving the human brain, the most complex structure on the earth, and perhaps in the universe, deserves to be considered, together with the four forces identified by the physicists (gravitational, electromagnetic, strong, and weak nuclear) as the fifth force of the universe (Cabanac, 2010).

## Cross-References

► [Plato](#)

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## Pleasure, Engagement, Meaning, and Happiness

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## Synonyms

“Full life”; [Orientations to happiness](#)

## Definition

► *Pleasure* is frequently aligned with hedonic accounts of ► *happiness* where the primary aim is to maximize positive states and to minimize pain. Typically, pleasure is derived from positive stimulation of the senses such as through vibrant music, fine food, and sensual touch.

*Engagement* emerged from the work on “► *flow*” states (Csikszentmihalyi, 1990) and refers to being completely immersed in an activity such that one loses track of all other aspects not directly associated with the activity. That is, during an engaged (flow) state, there is no sense of time, attention is intensely focused on the activity, and self-consciousness is greatly diminished. One typically feels invigorated after experiencing flow.

Definitions of *meaning* focus on eudaimonic qualities such as living in accordance with one’s personal values and strengths and having clear and directed goals which align with these. The affective component of meaning is described as the satisfaction and fulfillment that is experienced when these goals are being targeted and achieved. Meaning often involves transcendence and serving a higher purpose.

## Description

### Conceptual Frameworks

Given the importance of each of pleasure, engagement, and meaning for happiness, scholars have developed conceptual frameworks that integrate these core aspects of happiness. The most salient example is the orientations to happiness (OTH) framework (Peterson, Park, & Seligman, 2005; Seligman, 2002). This perspective postulates that there are three primary and distinct pathways to happiness, namely, pleasure, engagement, and meaning, and that individuals need to incorporate all three happiness orientations into their everyday life if they are to live what they call the “full life.”

According to the OTH framework, the *pleasant life* is comprised of a high frequency of enjoyable experiences and minimal frequency of negative

experiences. The *engaged (good) life* involves participating in activities that enable one to become fully immersed in life activities such as employment and relating with others. The *meaningful life* is characterized by the undertaking of activities that contribute to the greater good, such as parenting, helping others or community services, and typically meaningful experiences drawn on personal strengths and talents. Broadly speaking, the OTH framework integrates a range of previously disparate theoretical perspectives, namely, eudaimonia, flow, and hedonia.

### The Relationship Between Pleasure, Engagement, and Meaning with Happiness

Pleasure, engagement, and meaning have each been associated with happiness, or its scientific synonym, ► *subjective well-being*. Several studies have found that pleasure or ► *positive affect* is positively related to well-being and indicators of success in a number of significant life domains such as health, relationships, and work (see Lyubormirsky, King, & Diener, 2005). Likewise being engaged in major life activities such as work has been shown to have beneficial effects on ► *life satisfaction* and depressive symptoms (Hakanen & Schaufeli, 2012). In addition, a meaningful life has been related to numerous mental health outcomes such as enhanced well-being (Zika & Chamberlain, 1992) and decreased psychopathology (Debats, van der Lubbe, & Wezeman, 1993). Consistent with such findings, purpose in life constitutes an essential dimension of Ryff’s (1989) construct of psychological well-being. The relationship between meaning and happiness is, however, complex in that growth and life challenge often associated with increased meaning do not always result in constant happiness (Vella-Brodrick, Park, & Peterson, 2009) but may be better associated with enduring happiness (Ryff, 1989).

### Measures of Pleasure, Engagement, and Meaning

Although there are numerous measures which focus on the assessment of positive affect, engagement/flow states, or life meaning, a single measure inclusive of all three aspects

was not available until the development of the orientations to happiness scale by Peterson, Park, and Seligman (2005). This is an 18-item self-report measure which assesses the contributions of pleasure, engagement, and meaning orientations to happiness in the one scale. Evaluations of its psychometric properties have demonstrated that it has high ► [internal consistency](#) and ► [test-retest reliability](#) and has strong support for its construct, convergent, discriminant, and ► [criterion validity](#) (see Peterson et al., 2005). The scale has also been translated into other languages such as German (e.g., Ruch et al., 2010) and Chinese (e.g., Chan, 2012).

The development of a scale to assess OTH has enabled a broader approach to the measurement of subjective well-being and has subsequently stimulated further interest and empirical work in examining happiness. The scale has also minimized the divide between hedonic and eudaimonic approaches by incorporating the two perspectives in the one scale.

### **Empirical Findings Relating to Pleasure, Engagement, and Meaning**

According to the OTH perspective, there may be different ways to achieve happiness. One of the first studies to examine the relative importance of these three factors to life satisfaction was undertaken by Peterson et al. (2005). In their study, they verified that the three OTH are distinct predictors of life satisfaction and that they each make unique contributions to the prediction of subjective well-being. Such findings have been consistent across a range of samples from different countries including Australia (Vella-Brodrick et al., 2009), in-service Chinese teachers in Hong Kong (Chan, 2012), and participants from Switzerland (Peterson, Ruch, Beerman, Park, & Seligman, 2007). See also Park, Peterson, and Ruch (2009) for information on their study examining OTH across 27 nations. These findings align with the assertion that a full life is one that embeds pleasurable experiences, includes activities that are engaging, and enables life purpose and meaning to be derived from life activities and experiences. However, across these aforementioned studies, engagement and meaning were

found to be the best predictors of subjective well-being (most often operationalized as life satisfaction), with pleasure resulting in a significantly smaller contribution. Vella-Brodrick et al. (2009) extended their focus beyond life satisfaction and positive affect to also include negative affect while also controlling for the Big 5 personality factors. They found that OTH differentially predicted these outcomes. For example, for the Australian sample, engagement predicted satisfaction with life, engagement and meaning predicted positive affect, and meaning predicted ► [negative affect](#).

A study with 13,565 participants by Schueller and Seligman (2010) correlated pleasure, engagement, and meaning with both subjective (life satisfaction, positive affect, and general happiness) and objective indicators of well-being (educational and occupational achievements). They found that all three OTH were positively correlated with subjective well-being, but only engagement and meaning were positively correlated with objective indicators of well-being, with pleasure being negatively correlated. In Peterson et al.'s (2007) study examining character strengths, OTH, and life satisfaction, it was found that those who were high on character strengths that were positively correlated with life satisfaction (► [love](#), hope, curiosity, and zest) also reported high scores on pleasure, engagement, and meaning (representing the full life). This provides further support for the role of all three OTH in fostering well-being. Collectively, the aforementioned studies suggest that a life full of pleasure and without engagement and meaning would not foster a satisfying life, thus raising into question the limitations of relying solely on the pleasurable life for attaining well-being.

### **Limitations and Challenges of the OTH Framework**

One of the limitations of the OTH perspective is the emphasis on categorizing experiences as pleasurable, engaging, or meaningful when in reality many activities may involve a combination of OTH experiences. For example, eating a delicious meal may be pleasurable, but it may

also hold considerable meaning in that a loved one may have cooked it for a special occasion. It is also possible that the company present during the meal was engaging and entertaining. Hence, particular experiences or events may reflect all three OTH. Clearly, more work is needed in exploring the various interaction effects of the three orientations and how these influence happiness.

On a similar note, others have also called into question the role of balance when considering OTH (Sirgy & Wu, 2009). It has been posited by Seligman (2002) that there are different pathways to achieving happiness; however, it is questionable whether reliance on one distinct pathway would foster a sufficient level of happiness. In light of the aforementioned findings on OTH as predictors of subjective well-being, this concern seems especially relevant to the pleasure orientation. Sirgy and Wu have argued that a balance of ► **basic needs** and growth needs across different life domains is essential for well-being.

Another challenge is to develop interventions for enhancing pleasure, engagement, and meaning. This endeavor has become pronounced in recent years, particularly with the inception of ► **positive psychology** which is a scientific discipline of study devoted to examining what makes life worth living and how humans can flourish (Seligman & Csikszentmihalyi, 2000).

### Methods of Increasing Happiness Using Pleasure, Engagement, and Meaning

Although many studies have focused on increasing happiness in terms of positive affect, or meaning or engagement, seldom do they focus on examining all three happiness orientations together. A study by Giannopoulos and Vella-Brodrick (2011) focused on the concept of OTH in the development of a positive intervention. Their aim was to examine whether particular OTH dispositions influenced the efficacy of a gratitude intervention which was based on Seligman, Steen, Park, and Peterson's (2005) *three good things* intervention which was previously shown to enhance happiness. This intervention was adapted to four different interventions: (1) three pleasurable things, (2) three

engaging things, (3) three meaningful things, and (4) one each of pleasurable, engaging, and meaningful things (combination OTH). It was hypothesized that consistent with the notion of person-activity fit, participants assigned to interventions matching their dominant OTH would benefit most from the intervention. It was also expected that those in the combination group would experience the greatest gains in well-being from pre- to post-interventions compared to all other intervention and control groups.

Contrary to predictions, those assigned to activities which differed from their dominant OTH derived the greatest well-being benefits particularly if their dominant OTH was pleasure or engagement, and they were assigned to the meaning intervention. This is consistent with the notion that the full life is synonymous with sufficiently high levels of pleasure, engagement, and meaning and that pleasure plays a less important role for well-being. By being exposed to differing orientations to their preferred one, participants were provided with opportunities to foster a more balanced OTH profile and one which builds meaning. Again, this is consistent with the full and ► **balanced life**. A possible explanation for why the combination activity was not particularly effective is that there may have been insufficient depth and coverage on each orientation to provide a significant improvement in the three OTH.

### An Expanded Model of Happiness

More recently, other conceptual frameworks have emerged which incorporate pleasure, engagement, and meaning but which also include additional factors. PERMA (Seligman, 2011) is one such framework which refers to pleasure, engagement, relationships, meaning, and accomplishment. The additional components of relationships and accomplishment refer to having quality relationships which are highly supportive and enjoyable and attaining goals that align with core values, respectively. Although there is considerable research to support the importance of the two additional components for well-being, the model is yet to be fully validated and contrasted with the original three dimension model.

Others like Ryff (1989) and Ryan and Deci (2001) have remained focused on eudaimonic factors claiming that happiness which is operationalized as positive affect and cognitions, is a by-product of psychological or eudaimonic well-being and is based on acquiring meaning, intrinsic goals, growth, and authenticity. Irrespective of one's position on this contention, there is considerable evidence now that the combination of pleasure, engagement, and meaning and most especially the eudaimonic aspects of these, are essential for the experience of more enduring forms of happiness. Now more work is needed on developing positive interventions that extend on the work of Giannopoulos and Vella-Brodrick (2011) so that OTH as both a state and a trait are examined and the optimal amount of each orientation and the addition of others (such as accomplishment and relationships) is better understood. Unraveling individual difference factors and mechanisms underlying the efficacy of OTH interventions will provide the insight needed for people to make deliberate attempts to live the full life.

## Cross-References

- ▶ [Eudaimonic Well-Being](#)
- ▶ [Flow Scales](#)
- ▶ [Happiness Measures](#)
- ▶ [Well-Being, Philosophical Theories of](#)

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## Pleasure, Sexual

- ▶ [Components of Optimal Sexual Experiences](#)
- ▶ [Lessons About Optimal Sexual Experiences from Remarkable Lovers](#)
- ▶ [Personal Contributions to Optimal Sexual Experiences](#)
- ▶ [Relational Contributions to Optimal Sexual Experiences](#)
- ▶ [Sexual Satisfaction, Self-Esteem, and Assertiveness](#)
- ▶ [Women's Sexual Satisfaction Predictors](#)

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## Pluralism

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### Definition

Pluralism as a political-scientific theory sees societies as composed of a number of interest groups in competition with one another. As a normative political-theoretical viewpoint, it prescribes that people should be able to pursue their own goods in their own ways.

### Description

Pluralism refers to two approaches to political theory and practice: power-political Pluralism and value pluralism. As a political-scientific school, power-political Pluralism (usually capitalized in this use) was the dominant orientation in US political science from the 1950s to the 1970s, and it still attracts a fair number of adherents, most recently among specialists in international relations. Among its best-known proponents are David Truman (1951) and Robert Dahl (1956). The theory is mainly descriptive: any society is a constellation of groups of people with shared interests, typically

in conflict with other groups each using whatever power it commands to advance its interests. The main prescription of pluralism is to urge government to facilitate peace among competing interest groups.

In identifying interests, pluralists avoid appeal to objective interests in favor of confining politics to the immediately motivating subjective interests people recognize themselves as having. By contrast, objective interests are ones attributed to people whether or not they know they have them or whether they would continue to pursue them if they knew what is best for them. The picture of a society as composed of people with diverse subjective interests is what these theorists have in common with pluralism in the second sense. However, the interests focused on by the value pluralists are unlike those that occupy the power-political Pluralists in being mainly value infused. They are the religious and moral values that give people a sense of what constitutes a good life.

John Stuart Mill is sometimes credited with first articulating value pluralism in his defense of individual liberty. "The only ▶ [freedom](#) which deserves the name," he maintained, "is that of pursuing our own good in our own way..." (1859/2010, p. 21) This freedom may only be interfered with when some people's advancing their goods interferes with others' pursuing theirs. The state in particular ought not to embrace or impose any one conception of the good life, and a culture of ▶ [tolerance](#) is to be promoted both by the state and in civil society. Nearly all value pluralists recognize that this position confronts a problem, sometimes called the "paradox of toleration." This arises when someone's concept of the good involves intolerance toward others, for instance, if some people's religion dictates that leading a good life involves active intolerance, both in and out of their religious community, of certain lifestyle choices, such as gay marriage. To sanction such a value is to condone intolerance, but to suppress it is to be intolerant of one group's, perhaps deeply held, conception of the good.

This problem has preoccupied liberal theorists. Mill's solution that intolerance is justified against anyone who interferes with the freedom

of others would rule out very little, since almost any actions by some people will constrain some other people. An often-advanced solution, as by John Rawls (1996, p. 4), is that tolerance should only be prohibited with respect to ► **values** that affect interactions in the political or public realm but not regarding religious or general philosophical views that affect behavior in private realms such as the family. But this will often lead to sanctioning more intolerant behavior than value pluralists wish, and it also works against nurturing a general culture of toleration. Theorists who grant that there is an intractable problem here are divided into those who think the requirement of state neutrality should be relaxed, so that the liberal state actively promotes some goods (William Galston, 1991, is an example), and those (like Charles Larmore, 1987) who wish to maintain strict state neutrality and depend on extralegal persuasion to promote toleration.

A feature shared by power-political Pluralism and value pluralism that has a bearing on the quality of life is their subjectivism, where people are taken to be the appropriate judges of their own interests. This means that authorities should not try to force people to conform to what they think is best for them. As the former Prime Minister of Canada, Pierre Elliott Trudeau (himself a liberal theorist as well as a politician), once put it, “the state has no business in the bedrooms of the nation.” Some critics of this subjectivism maintain that its effect is to *worsen* the quality of people’s lives, not only due to the possibility of their making life-choice mistakes they later come to regret, but by leaving individuals without guidance in a sea of possible choices. Pluralists retort that the objectivist alternative is paternalism, which is either experienced as oppressive constraint or, perhaps worse, denies people their autonomy when the paternalist succeeds in getting them to give up on being masters of their own fates and to follow the orders of a paternalistic authority.

Few, if any, value pluralists also subscribe to power-political Pluralism. This is because they focus on moral values and visions of a good life or society. With some justice, they see Pluralist theory as largely amoral and premised, in the

manner of Thomas Hobbes (1651/1968), on a view of people as essentially self-interested competitors. Widespread acceptance of Pluralist theory, therefore, is thought to legitimize behavior consonant with this view to the detriment of the quality of a person’s life insofar as this is diminished by self-centeredness and competitiveness. Of course, to the extent that value pluralists are permissive of a wide diversity of values, they cannot rule out the possibility of some people seeing success in self-interested competition as constituting a good life. So the problem for value pluralists of how far toleration should go reappears.

This highlights a trade-off situation with respect to value pluralism and the ► **quality of life**. To the extent that such pluralism allows for the state (or an analogous, informal authority) to embrace and form policies on the basis of unique values and visions, it gives those subject to it direction and may protect them from debilitating mistakes, but it courts the problems of paternalism. These advantages and disadvantages are the opposite with an orientation of strict value neutrality. Viewed negatively, this means that pluralism is on the horns of a dilemma that prevents it from enhancing the quality of people’s lives no matter how deployed. Viewed positively, it means that value pluralism is supple enough to address a world where a good quality life requires both guidance and freedom. Arguably, this is in fact the world today, where national and ethnic interpenetrations are increasingly becoming the norm, thus making more and more countries multicultural. If one rejects the idea that multicultural accommodation is a threat to the quality of life in a society, but at the same time recognizes that some commonality of values is required for national or international cooperation and peace, then it may be that value pluralism provides the best stance from which to negotiate the conflicting demands of multiculturalism.

Value pluralism recommends as a default or presumptive stance toleration of people’s differing values and state neutrality regarding visions of a good society. But it relaxes these constraints regarding promotion of the value of toleration itself and of cognate values, such as those

favoring peace, cooperation, conciliation, and the seeking of common interests, and it actively combats activities that demonstrably undermine these things. Either of a stance mandating a single vision of a good life or society to which everyone must be made to adhere or, at the opposite pole, a libertarian stance that avoids the encouragement of any common values would be more decisive than that of value pluralism. However, in a world of plural values and visions among people who nonetheless live together in common societies, value pluralism may well be better suited for a desirable quality of life than these alternatives.

## Cross-References

- ▶ [Cultural Diversity](#)
- ▶ [Multiculturalism](#)

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## Point Prevalence

- ▶ [Prevalence](#)

## Points of No Return

- ▶ [Tipping Points](#)

## Poisson Distribution

- ▶ [Poisson Models](#)

## Poisson Models

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## Synonyms

[Count data models](#); [Law of rare events](#); [Law of small numbers](#); [Poisson distribution](#); [Poisson regression](#)

## Definition

The Poisson model is a discrete probability distribution (see Johnson et al., 1993) that expresses the probability of a number of events occurring in a fixed period of time (but also in other specified intervals such as distance or area) if these events occur with a known average rate and independently of the time since the last event. If the expected number of occurrences in this interval is  $\mu$ , then the probability that there are exactly  $y$  occurrences ( $y$  being a nonnegative integer,  $y = 0, 1, 2, \dots$ ) is equal to

$$P(Y = y) = f(y; \mu) = \mu^y e^{-\mu} / y!$$

where  $\mu$  is a positive real number, equal to the expected number of occurrences that occur during the given interval. As a function of  $y$ , this is the probability mass function.  $Y$  is said to have a Poisson distribution with parameter  $\mu$ :  $Y \sim \text{Poisson}(\mu)$ .

## Description

For small values of  $\mu$  the distribution is skewed, and it gets more symmetric as  $\mu$  increases.

For  $\mu \geq 10$ , the distribution is close to be symmetric. The whole distribution is characterized entirely by the parameter  $\mu$ . The mean and variance of this distribution can be shown to be  $E(Y) = Var(Y) = \mu$ . Thus, the usual assumption of “homoscedasticity” would not be appropriate for Poisson data. The Poisson model captures very well the fact that, as is often the case with count data, the variance tends to increase with the mean. In empirical studies, observed counts often exhibit larger variance than would be expected from the Poisson assumption, since an extra dispersion with respect to the Poisson model is present (see Breslow, 1984).

The Poisson distribution can be derived as a limiting form of the binomial distribution if you consider the distribution of the number of successes in a very large number of Bernoulli trials with a small probability of success in each trial. Specifically, if  $Y \sim \text{Binomial}(n, \pi)$ , then the distribution of  $Y$  as  $n \rightarrow \infty$  and  $\pi \rightarrow 0$  with  $\mu = n\pi$  remaining fixed approaches a Poisson distribution with mean  $\mu$ . Thus, the Poisson distribution provides an approximation to the binomial for the analysis of rare events, where  $\pi$  is small and  $n$  is large.

An alternative derivation of the Poisson distribution is in terms of a stochastic process. Suppose events occur randomly in time in such a way that the following conditions obtain:

1. The probability of at least one occurrence of the event in a given time interval is proportional to the length of the interval.
2. The probability of two or more occurrences of the event in a very small time interval is negligible.
3. The numbers of occurrences of the event in disjoint time intervals are mutually independent.

The Poisson distribution can be applied to systems with a large number of possible events, each of which is rare. Classic examples in social area include count data for area (deaths, births). This is sometimes known as the “law of rare events,” since each of the  $n$  individual Bernoulli events rarely occurs. Accordingly, the Poisson distribution is sometimes called the “law of small numbers” because it is the probability

distribution of the number of occurrences of an event that happens rarely but has very many opportunities to happen.

A useful property of the Poisson distribution is that the sum of independent Poisson random variables is also Poisson. Specifically, if  $Y_1, Y_2, \dots, Y_n$  are independent with  $Y_i \sim \text{Poisson}(\mu_i)$  for  $i = 1, 2, \dots, n$ , then  $Y_1 + Y_2 + \dots + Y_n \sim \text{Poisson}(\mu_1 + \mu_2 + \dots + \mu_n)$ . An important practical consequence of this result is that we can analyze individual or grouped data with equivalent results. Specifically, suppose we have a group of  $n_i$  individuals with identical covariate values. Let  $Y_{ij}$  denote the number of events experienced by the  $j$ -th unit in the  $i$ -th group, and let  $Y_i$  denote the total number of events in group  $i$ . Then, under the usual assumption of independence, if  $Y_{ij} \sim \text{Poisson}(\mu_i)$  for  $j = 1, 2, \dots, n_i$ , then  $Y_i \sim \text{Poisson}(n_i \mu_i)$ . In words, if the individual counts  $Y_{ij}$  are Poisson with mean  $\mu_i$ , the group total  $Y_i$  is Poisson with mean  $n_i \mu_i$ .

Another useful property is the following. Let  $Y_1$  and  $Y_2$  be two independent Poisson random variables with parameters  $\mu_1$  and  $\mu_2$ , respectively. The conditional distribution of  $Y_1$ , given  $Y_1 + Y_2 = n$ , is binomial with index  $n$  and probability  $\mu_1/(\mu_1 + \mu_2)$ . Correspondingly, for  $k$  independent Poisson variables  $Y_1, Y_2, \dots, Y_k$  with parameters  $\mu_1, \mu_2, \dots, \mu_k$ , the conditional distribution, given  $Y_1 + Y_2 + \dots + Y_k = n$ , is multinomial with index  $n$  and probabilities  $\mu_r/(\mu_1 + \mu_2 + \dots + \mu_k), r = 1, 2, \dots, k$ .

Regression models for count data (under the assumption of a Poisson distribution for the error structure) are widely employed in social-demographic sciences. The rationale is modeling the logarithm of the mean of a random Poisson variable as a linear function of observed covariates. The result is a generalized linear model (GLM, Generalized linear model) with Poisson response and link  $\log$ . More precisely, suppose that we have a sample of  $n$  observations  $y_1, y_2, \dots, y_n$  which can be treated as realizations of independent Poisson random variables, with  $Y_i \sim \text{Poisson}(\mu_i)$ , and suppose that we want to let the mean  $\mu_i$  depend on a vector of explanatory variables  $x_i$ . We could entertain a simple linear model of the form  $\mu_i = x_i' \beta$ , but this model

has the disadvantage that the linear predictor on the right-hand side can assume any real value, whereas the Poisson mean on the left-hand side, which represents an expected count, has to be nonnegative.

A straightforward solution to this problem is to model instead the logarithm of the mean using a linear model. Thus, we take logs calculating  $\eta_i = \log(\mu_i)$  and assume that the transformed mean follows a linear model  $\log(\mu_i) = \eta_i = x_i' \beta$  (the loglinear model). The link log is the canonical link, because it is the canonical parameter in the exponential family representation (see McCullagh and Nelder, 1989).

In this model the regression coefficient  $\beta_j$  represents the expected change in the log of the mean per unit change in the predictor  $x_j$ . In other words increasing  $x_j$  by one unit is associated with an increase of  $\beta_j$  in the log of the mean. Exponentiating we obtain  $\mu_i = \exp(x_i' \beta)$ ; in this model, an exponentiated regression coefficient  $\exp(\beta_j)$  represents a multiplicative effect of the  $j$ -th predictor on the mean. Increasing  $x_j$  by one unit multiplies the mean by a factor  $\exp(\beta_j)$ . Estimates for  $\beta_j$  are obtained via IWLS algorithms (IWLS, Iterative Weight Least Square) due to the link function and dependence between mean and variance on Poisson models. A further advantage of using the *log* link stems from the empirical observation that with count data the effects of predictors are often multiplicative rather than additive. That is, one typically observes small effects for small counts and large effects for large counts. If the effect is in fact proportional to the count, working in the log scale leads to a much simpler model.

When events occur over time, space, or some other index of size, models can focus on the rate at which the events occur (see Agresti, 2002). A model might describe how the rate depends on explanatory variables. The probability distribution of the number of occurrences of the event in a fixed time interval is Poisson with mean  $\mu_i = \lambda_i t_i$ , where  $\lambda_i$  is the rate of occurrence of the event per unit of time and  $t_i$  is the length of the time interval. A loglinear model for the expected rate has form  $\log(\mu_i/t_i) = x_i' \beta$ .

This model has equivalent representation  $\log \mu_i - \log t_i = x_i' \beta$  where  $-\log t_i$ , the adjustment term to the log of the mean, is called an *offset*. Standard GLM (GLM, Generalized Linear Model) software can fit a model having an offset term. So the expected number of outcomes satisfies  $\mu_i = t_i \exp(x_i' \beta)$ .

The application of Poisson regression models to the analysis of contingency tables. This is perhaps one of the most popular applications of loglinear models and is based on the existence of a very close relationship between the multinomial and Poisson distributions. Loglinear models are used to modeling cell counts: the model specifies how the size of a cell count depends on the level of each categorical variable for that cell, considering their “main” effects and the interaction’s one.

Poisson regression is also used on proportional hazards models for descriptions of Cox model to survival data analysis.

## Cross-References

- ▶ [Categorical Data Analysis](#)
- ▶ [Event History Analysis](#)
- ▶ [Heteroscedasticity](#)
- ▶ [Linear Regression Model](#)
- ▶ [Regression Coefficients](#)

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## Poisson Regression

- ▶ [Poisson Models](#)

## Poland, Rural Development Index

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### Definition

The parliamentary Republic of Poland is located in the eastern part of Europe and comprises a total area of 312 680 sq. km. (square kilometers). It shares common borders with seven countries: to the west with the Federal Republic of Germany (467 km); to the east side with the Lithuania (103 km), Russia (210 km), Republic of Belarus (416 km), and Ukraine (529 km); to the southeast with the Republic of Slovakia (541 km); and to the southwest with the Czech Republic (790 km). The total length of Poland's land and sea borders is 3 496 km. Poland is a relatively low-lying country. 91.3 % of its territory lies below 300 m above sea level and only 2.9 % above 500 m. There are three main mountain ranges in Poland: the Carpathians, the Sudeten Mountains, and the Góry Świętokrzyskie (Holy Cross Mountains). The climate is characterized by substantial fluctuations in the length of season. It represents the transition between continental Europe and the Atlantic-influenced moderate climate of Western Europe. The average annual temperature ranges from 6.0 °C to 8.8 °C. The average annual rainfall is between 500 mm and 600 mm in lowlands and 1,200–1,500 mm in the mountainous regions. It contains around 38.2 million inhabitants in the year 2010, i.e., a ► [population density](#) of 120 sq. km. The biggest minority in Poland is the Germans, mainly living in Silesia. Their number is approximately 150 000. The second largest minority are the Belorussians with around 49 000. They live mainly in the east. The Ukrainians are the third largest minority. Their number is about 31 000. The Polish currency is zloty.

### Description

#### Administrative Structures

In the 1990s, Poland's system of administrative division was reformed in two stages. In 1990 the commune (gmina), the primary urban and rural unit, which had been abolished in 1975, was reintroduced. In 1998, the number of voivodships (województwa), the major territorial division, was reduced from 49 to 16; the county (powiat) was instated as an intermediate unit between the commune and the voivodship; and some of the administrative duties and tasks devolved from central government to the territorial and/or local authorities.

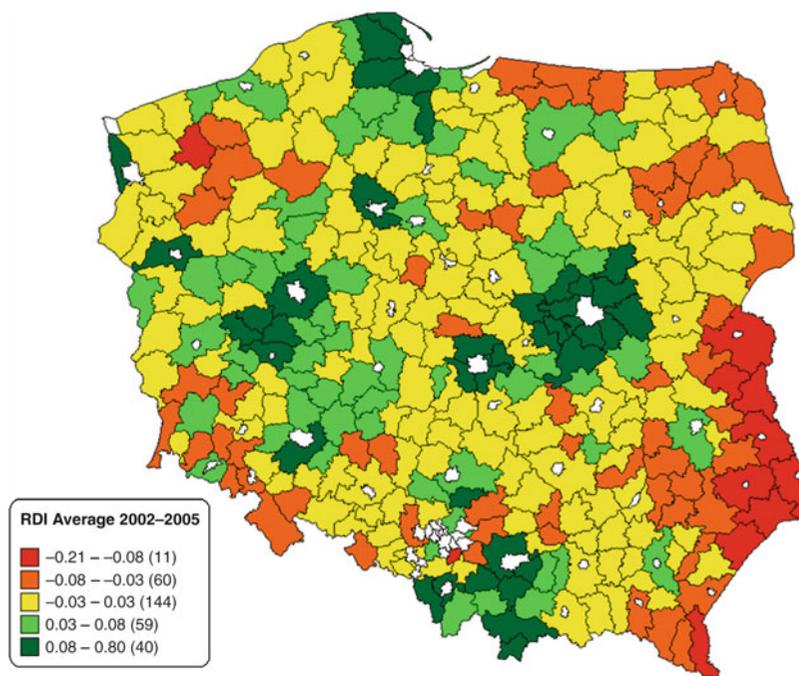
Poland's system of administrative division was reformed in two stages. In 1990 the primary urban and rural unit "gmina," which had been abolished in 1975, was reintroduced. In 1998 the number of voivodships (województwa), the major territorial division, was reduced from preliminarily 49 voivodships to 16. At the same time, the powiat was instated, an intermediate unit between the gmina and the voivodship. Furthermore, some of the administrative duties and tasks devolved in the 1990s from central government to the territorial and/or local authorities (Poland, 2012). In Poland the national administrative boundaries and names are compatible with the OECD definition NUTS (Nomenclature of Territorial Units for Statistics) and LAU (Local Administration Units) system. In addition, there are higher fragmentation units based on census data. The NUTS 2 level comprises 16 regions (voivodships). On NUTS 3 level, 45 statistical subregions (podregions) are given. Lastly, the LAU 1 level comprises 379 districts (powiats), including 65 urban districts, and the LAU 2 level comprises 2 554 settlements (gminas).

#### Land Use

More than 50 % of the land is devoted to agriculture, while the share of forest land was 28.8 %. While the total area under cultivation is recently declining, the remaining farmland is more intensively cultivated. 23 Polish national parks protect more than 1 % of Poland's territory (3 145 sq. km.).

## Poland, Rural Development Index,

**Fig. 1** Average RDI of the years 2002–2005 (number of regions) (Michalek & Zarnekow, 2012)



## Demography

In 2010 the age structure of the Polish population was characterized as follows: 0–14 years, 14.8 % (2 931 732; female 2 769 021); 15–64 years, 71.7 % (male 13 725 939; female 13 863 103); and 65 years and over, 13.5 % (male 1 971 763; female 3 202 131). In 2012 the birth rate was 9.96 births/1 000 population, the death rate 9.24 deaths/1 000 population. With a net migration rate of 0.47 migrant(s)/1,000 population, the population growth rate was about 1.19 %. The median age in total accounted 38.5 years, whereas males were in average 36.8 years, and females 40.3 years old. In comparison to the European Union, Poland has a greater share of people being 15–64 years old and less ones who are 14 years and younger (Eurostat, 2012).

## Economy

The gross domestic product (GDP) in Poland was 531.758 billion US dollars (USD) in 2011, i.e., GDP growth of 4.3 % to 2010. Regarding the economic sectors, agriculture adds 4.6 %, industry 28.1 %, and services 67.3 % to the GDP.

In comparison with other EU member states, Poland has a relatively high unemployment rate during the last years. In 2002 it was about 19.9 %, and it decreased to 17.7 % in 2005 and clearly to 9.6 % in 2008. In contrast, the unemployment rate of the EU-27 was nearly the same with 8.8 % in 2002 and 8.7 % in 2005. In 2012 the unemployment rate accounts 14 % (EU-27: 10.4 %).

## Rural Development

The overall level of regional development and the ► [quality of life](#) in individual rural regions at NUTS 4 level can be described by a Rural Development Index (RDI) (Michalek & Zarnekow, 2012). This means a multidimensional (composite) index measuring the overall level of rural development and quality of life in individual rural regions of a given EU country. In the RDI, the rural development domains are represented by hundreds of partial socioeconomic, environmental, infrastructural, and administrative indicators/variables at NUTS 4 level (991 variables/indicators describing various aspects of rural development in Poland).

The weights of economic, social, and environmental domains entering the RDI index are derived empirically from the econometrically estimated intra- and interregional migration function after selecting the “best” model from various alternative model specifications (e.g., panel estimate logistic regression nested error structure model, spatial effect models). In Michalek and Zarnekow (2012), the RDI is empirically applied to analysis of the main determinants of rural/regional development in individual rural areas in years 2002–2005 in Poland at NUTS 4 level.

During the years 2002–2005, the estimated highest values of an RDI were found in the rural suburb areas of big cities Warsaw, Poznan, and Gdansk, thus confirming a thesis of a strong positive influence of economically and socially most developed urban regions (cities) on the development of neighboring rural areas. On the other hand, the lowest RDIs (lower than  $-0.08$ ) were found in remote regions situated in southeastern Poland, i.e., Hrubieszowski (border with Ukraine), Bierunsko-Ledzinski (post heavy industrial complex in south Poland), Chelmski (border with Ukraine), and Bieszczadzki (remote region bordered to Ukraine and Slovakia). The results confirm a clear typological division of Poland based on the performance of individual regions into a good-performing western and central part and a badly performing eastern part (northeastern and southeastern Poland) (Michalek & Zarnekow, 2012) (Fig. 1).

## Cross-References

- [Rural Development Index Applied to Poland and Slovakia](#)

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## Policy Analysis

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## Synonyms

[Public policy](#)

## Definition

Policy analysis constitutes a practical approach to examining all the aspects involved in public action to achieve desired ► [social change](#) usually linked to improvements of ► [quality of life](#). It is an applied version of policy and political science (Landy, 1981), which incorporates all the necessary disciplines and their respective methodologies to gather information relevant to the policymaking process and to aid decision makers in selecting the best policy option (Parsons, 1996). However, since the effects of policy options are different for separate social groups, it has been argued that the citizenry must be proficient in policy analysis tools in order to participate in selecting the right policies to improve their ► [quality of life](#) (Ostrom, 2002; Rohrbaugh & Wehr, 1978).

## Description

### Origin

Policy Sciences arose in the United States from an intellectual interest in using the knowledge generated by the Social Sciences to improve decision-making on matters of policy. This concept first emerged during the 1920s in academic meetings sponsored by the American Association of Political Science. Researchers expressed their belief that the contributions of Political Science could be of great importance for the

democratic ► **development** of society (Aguilar Villanueva, 1992). Further action was taken at Harvard University around 1937 in introducing the study of public policy in its *Graduate School of Public Administration* and forming an Interdisciplinary Committee in 1940 devoted to developing the curriculum of this discipline (Guerrero, 1991).

In practical fields, the Great Depression and World War II brought about an intense level of collaboration between scientists and policymakers. Natural scientists were organized by the *Office of Scientific Research and Development* (OSRD). Economists, system analysts, and operation researchers were included in the *War Production Board* (WPB), developing sophisticated cost-benefit models. Meanwhile, social scientists were congregated in the Library of Congress through the *Experimental Division for the Study of Communication in Times of War*, headed by Harold D. Lasswell, to analyze the management of information and propaganda (Aguilar Villanueva, 1992).

Undoubtedly, this experience brought about extended cooperation between academics and policymakers. In 1951, a meeting was held at Stanford University to discuss a policy orientation program for Social Sciences, giving birth to what Harold D. Lasswell (1951) called in his seminal article the Policy Sciences. However, it is important to bear in mind that he is talking about a policy orientation which, in turn, will give birth to the public policy approach.

It is important to highlight that Lasswell identifies two main dimensions of knowledge to be developed within the policy orientation: one directed *to the policy process and toward the intelligence needs of policy* and the other with the aim of *improving concrete content of the information and interpretation available to policymakers* (Lasswell, 1951, p. 3). Although Lasswell sees both tasks as interconnected and interdependent, Aguilar Villanueva (1992) highlights differences in the practical scope, which diverge into two strands of thought. On the one hand, he asserts, are the policy researchers who are interested in the process by which decisions are made,

emphasizing the context, the interdisciplinary approach, and values involved. On the other, we find the professionals interested in the technical content of policy. The former prefer to be called policy scientists, while the latter are wont to adopt the name of policy analysts.

### Policy Analysis

The concept of policy analysis was introduced by Lindblom (1958), who busied himself with the methodology to be employed in this new discipline. In examining the work involved in the rational comprehensive method, he comes to the conclusion that the set of knowledge required prior to implementation would include clarification of values and objectives, comprehensive analysis considering every factor relevant in choosing the best policy, and the most appropriated means to achieve the desired results. However, this method can only be used for very simple problems, since a higher level of complexity would make it almost impossible to fully understand the relevant information in a short time.

It assumes intellectual capacities and sources of information that men simply do not possess, and it is even more absurd as an approach to policy when the time and money that can be allocated to a policy problem is limited, as is always the case (Lindblom, 1959, p. 80).

Instead of this approach, Lindblom advocates for a method drawn from experience, which entails successive limited comparisons, while policymakers focus their attention on marginal and incremental values. Another benefit of the incremental method, as the author refers to this approach, is that it allows for exchange between diverse interest groups, providing space for democratic decisions regarding the most valuable means and ends:

... every important interest or value has its watchdog. And these watchdogs can protect the interests in their jurisdiction in two quite different ways: first, by redressing damages done by other agencies; and, second, by participating and heading off injury before it occurs. (Lindblom, 1959, p. 85)

A discussion on the stages of the policy cycle has been closely linked to policy analysis. Since



**Policy Analysis, Fig. 1** Policy cycle in a result-oriented and evidence-based policymaking (Source: Own elaboration based on Molina, 2002)

Charles O. Jones', 1970 article, a consensus has been reached regarding the five steps that make up the policy cycle, namely:

1. Identification of the problem
2. Formulation of solutions
3. Decision choice
4. Implementation
5. Evaluation

There is also consensus that these stages are not sequential and can be overlapped in an interactive iterative process (Bardach, 1996; Meny & Thoenig, 1992; Molina, 2002). The Inter-American Institute for Social Development (INDES) under the Inter-American Development Bank (IADB) illustrates the stages of the policy cycle in the following graph, emphasizing their relation to result-oriented and evidence-based policymaking, which is the essential aim of public intervention to solve social problems such as ► [poverty](#) and ► [development](#) (Fig. 1).

At present, policy analysis continues to evolve, incorporating issues on multiple levels of government and ► [citizen participation](#) (Ostrom, 2002; Hanberger, 2003). Likewise, there is talk of introducing positivistic methodologies (Healy, 1986)

and tools to improve ► [quality of life](#) through the execution of public policy (Shaw, 2004; Hudson & Lowe 2009).

### Relevance of Quality of Life for Policy Analysis

The evolution of policy analysis has been linked to the discussion about ► [quality of life](#) since this usually designates the desired outcomes of public policies (Schuessler & Fisher, 1985). However, there is no single meaning of the concept of quality of life for policy analysis matters. This concept has been influenced by the discipline used, as economics (Becker, Philipson, & Soares, 2005) or sociology (Gerson, 1976; Hughes, 2006), the selected methods applied and instruments for measuring it, as well as the extent of policies in terms geographical levels (Harvey, 1974) – as national, regional, local, or even, across nations – and functional areas as health, education, housing, or multifunctional areas, which will include a more holistic approach (Brewer, 1999).

### Cross-References

- [Citizen Participation](#)
- [Democracy](#)
- [Development](#)
- [Policy Evaluation](#)
- [Poverty](#)
- [Quality of Life](#)
- [Social Change](#)
- [Social Inclusion](#)
- [Social Policy](#)
- [Social Well-Being](#)

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## Policy Communities

### ► Policy Networks

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## Policy Evaluation

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## Synonyms

[Policy analysis](#); [Policy performance](#)

## Definition

Policy evaluation is the analysis of policies, programs, or projects in order to interpret how successful or unsuccessful they have proved, with respect to their aims and/or their implementation on the ground. Evaluation is essentially retrospective since it is undertaken once a program or project has begun. It therefore differs from appraisal which entails assessing the respective merits of alternative policy or project options that might be pursued in the future. However, lessons drawn from evaluation should ideally feed forward into future policy decisions.

## Description

Evaluation can take place either during the lifetime or after the end of a policy intervention. The former is commonly termed a formative or process evaluation and the latter a summative or impact evaluation. In practice, many evaluations combine the two. In either case, the ideal is that the assessment will identify lessons that might be learned and hence may improve current or future practice and policy formulation (Ho, 2003).

A typical evaluation might assess impacts in terms of “the 3 Es”: **economy** (the cost of inputs),

**efficiency** (the ratio of inputs to outputs), and **effectiveness** (the degree to which outputs lead to desired outcomes – e.g., whether new jobs reduce local unemployment levels in a target area or group). Answering such questions usually entails developing quantitative approaches to assessment and hence places a heavy reliance on the availability of appropriate data on inputs and outputs and on socioeconomic indicators of outcomes.

Since the 1970s, there has been a significant growth of policy evaluation studies reflecting the fact that many national governments have espoused “evidence-based” policy and have commissioned assessments of policy interventions and their implementation on the ground. This has prompted an explosion of studies, both internally by policy makers and externally by research consultants and academics. In turn, this has led to a more sophisticated awareness of both the potential and the pitfalls and limitations of evaluation and to an increasing complexity and diversity of approaches to the assessment of interventions. In Britain, for example, the government now publishes a “Green Book” which outlines methods to be used to make an economic assessment of the social costs and benefits of all new policies projects and programs (HM Treasury, 2003), together with other documentation outlining what is considered essential or best practice in evaluation (e.g., Cabinet Office 2008; CLG, 2003; Spencer, Ritchie, Lewis & Dillon, 2003). Likewise, the OECD has published handbooks on approaches to evaluation (OECD, 2004, 2008). Both in America and Britain formal evaluation societies have been created to provide forums for the exchange of ideas among evaluators.

Evaluation is essentially comparative. It looks at the difference between what happens to people or places that are targeted by policy interventions as against those that are not targeted. In the field of urban and regional policy evaluation, this has proved especially challenging because the entities that most policy interventions have been targeted at are areas rather than individuals which makes it difficult to conduct genuinely experimental designs. These would require large

numbers of observations in order to control for variations. This is possible where individuals are involved – as, for example, with evaluation in medicine which can use large numbers of “experimental” and “control” individuals and statistically hold variations constant. Most evaluations of urban and regional policy try to parallel this by attempting to identify comparator areas (policy-off as against policy-on areas or groups) in order to compare change. However, it is rare that the experimental and control areas are genuinely similar, for example, with regeneration policy, interventions tend to tackle all or most deprived areas which makes identifying comparable policy-off areas difficult at best.

The most widely acknowledged of the challenges facing evaluation includes the need to take account of the following:

- **Counterfactual** – what would have happened without policy intervention or if the intervention had taken a different form. This is most often estimated through using policy-off comparator areas.
- **Deadweight** – an outcome that would have occurred even in the absence of policy intervention. Any policy-related benefit needs to discount the estimated scale of deadweight. The converse concept is **additionality** which is what would not have occurred in the absence of the intervention. This could be an impact that happened to a greater extent, or earlier, or within a specific targeted area as a result of intervention.
- **Displacement** – the degree to which a beneficial output or outcome in a target area is offset by reductions elsewhere. For example, employment growth in a target area may be offset by associated loss of employment outside the target area, or burglary might fall in the target area but merely be displaced to adjacent nontargeted areas. A particular form of indirect displacement is the concept of “crowding out” whereby an increase in supply prompted by government policy is offset by a fall in private sector supply, for example, the growth of services supported by public sector expenditure may reduce the readiness of the private sector to invest in an area.

Another form of displacement is **substitution** – for example – where a firm substitutes one activity for another to take advantage of government assistance (e.g., merely recruiting a different type of job applicant).

- **Leakage** – the proportion of outputs or outcomes which benefit those outside an intervention’s target area or group.

Urban and regional evaluations are also faced with the problem that target areas or groups have frequently been the beneficiaries of multiple interventions so that isolating the impact of any one presents challenges. Moreover, the effects of interventions may only appear after many years – and such time lags are likely to differ for different types of socioeconomic policy, for example, health changes may only occur over a generation, whereas changes in crime may respond to interventions very quickly. Many evaluations also face the problem that policy aims are often not specified very precisely.

Both quantitative and qualitative approaches to evaluation need to develop measures or estimates of these various complications in order to assess the “real” impact of interventions. Clearly, such assessment is not trivial.

**Quantitative** approaches face the dilemma that “simple” models cannot capture the subtlety and interrelationship of processes on the ground while complex mathematical formulations can suggest a degree of spurious accuracy and may fail to generate confidence on the part of policy clients. Despite the apparent sophistication of quantitative approaches to evaluation, any evaluation inevitably incorporates value judgements and is as much art as science. Indeed, some have argued that evaluation is essentially a political activity since it faces the dilemma of determining which impacts are relevant (and for whom) and how the mix of different impacts can be measured consistently. If we accept that there is conflict over resources, the very concept of a universal “social welfare function” is dubious and objective measurement becomes a logical impossibility (Meyer, 1995). Further, the measurements which underpin quantitative approaches depend on the availability of relevant data, and while there has been an invaluable

growth in the range of available small-area data (Wong, 2006), it is necessarily the case that what is measured is what is available to be measured. “Soft” indicators for which data do not exist may be as important as “hard” in evaluating the benefit of policy interventions – hence the increasing interest by governments in developing indicators of well-being.

However, quantitative approaches have great merits. They make explicit the assumptions on which they are based, and they use external evidence (in the form of measurable verifiable indicators) to measure changes in outcomes. Both attributes can give substance and credibility to quantitative methods.

**Qualitative** approaches have the merit of allowing for a more sensitive interpretation of the significance of different contexts in assessing the achievements and effects of policy interventions. They are also indispensable in evaluating whether the structures and processes put in place to deliver policy are appropriate and effective. However, they suffer from their disproportionate reliance on the judgements of the evaluator or of interview or focus group respondents. The latter are especially problematic since the individuals involved in policy interventions – whether as recipients or deliverers – cannot be considered wholly neutral observers. There tends to be an inevitable predisposition – at least on the part of the policy makers and deliverers – to offer positive verdicts on activities in which they were involved or for which they were responsible. Too great a reliance on interviews and qualitative approaches – together with the tendency for evaluators to align themselves with those who pay for evaluations and often control access to relevant information – can lead to evaluations that too frequently conclude unhelpfully that “. . . programme x has achieved much but there is still much to do.”

While the whole field is characterized by attempts to develop distinctive categories of methodological approaches (quantitative/qualitative, formative/summative, etc.), in practice, the dichotomies blur and intertwine, and many of the most convincing evaluations use multiple methods to arrive at “triangulated” judgements.

Two examples of major evaluations of British urban policy that combine a variety of methodologies are the assessment of “Action for Cities” (Robson et al., 1994) and the long-running evaluation of “New Deal for Communities” (Lawless et al., 2010). One of the frameworks within which multiple methods can be developed is “realistic evaluation” – an approach that aims to address measurement difficulties and establish causality within social systems (Pawson & Tilley, 1997; Chen & Rossi, 1983). Its aim is to develop an understanding of why a program works, for whom, and in what circumstances. It pays particular attention to the context and mechanisms of policy interventions and shares much in common with the concept of “theories of change” which tries to establish the links between the activities, outcomes, and contexts of an intervention. Such theory-driven approaches can provide valuable frameworks that can help to steer quantitative and qualitative approaches to evaluation.

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## Policy Issue Networks

### ► Policy Networks

## Policy Networks

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## Synonyms

Advocacy networks; Issue networks; Policy communities; Policy issue networks; Social network theory (primarily in sociology literature)

## Definition

A policy network is a closely knit, stable association of individuals and organizations that tend to have a limited or controlled membership, a focus on a narrow policy issue, and a common training or expertise allowing them to contribute to managing relevant policy concerns. These networks will frequently include industry, think tanks, academia, government agencies, and legislative staff.

## Description

The literature on networks spans a broad range of terms including intergovernmental networks and interorganizational networks, but the most significant terms are policy networks, policy communities, and issue networks. These terms vary considerably in terms of the stability of the network; whether the design is natural or deliberate; whether the focus is narrow, moderate, or broad; and whether the focus is on administration, policy, or both (Mingus, 2007).

In particular, the ideas of issue networks (Heclo, 1978) and policy networks both share a focus on policy-making, yet issue networks tend to be looser associations than policy networks and may have numerous participants who have a strong interest in a specific policy issue rather than a strong expertise. Issue networks frequently focus on broad policy concerns (e.g., environmental health, fair wages, access to birth control) rather than a narrow policy subfield (e.g., reducing malaria in Africa, providing microfinance to increase the independence of people, condom distribution to reduce HIV transmission). These are all examples where specific networks have focused on quality of life issues, although numerous other networks dance around the edges of quality of life issues by focusing on environmental conservation, reduction of greenhouse gas emissions, better regulation of the financial industry, and so forth. The more tightly knit and exclusive a policy network, the more likely it will fall into the policy community classification. Thus, networks that advocate for quality of life issues are more likely to be issue networks than policy networks or policy communities as these networks are usually more open to the needs of the people, including frequently representing disenfranchised populations. When advocating for important quality of life issues such as the reduction of global warming, an issue network might do so more from a public value perspective (i.e., arguing for justice or fairness), whereas a policy network would be more likely to do so from a scientific perspective (i.e., let us follow an objective or data-driven process).

Policy networks are distinct social structures because they involve multiple organizations, they do not need to involve hierarchical or contractual arrangements, there may be significant power differentials between the various actors, all the organizations are dependent on each other in at least some important aspects, and information or specific skills are key sources of power rather than just financial and jurisdictional power. Hugh Miller (1994) highlighted the focus of networks research “away from the inner workings of the organization and toward the mosaic of interactions among the sometimes diverse, sometimes narrowly interested parties engaged in the struggle over the allocation of values.” Therefore, developing clear descriptions of how a policy network functions with regard to specific policy priorities may be useful to identifying existing or potential problems. For example, if relevant individuals or organizations are systematically or unintentionally excluded from the policy network, then democratic administration may have been derailed by elite interests.

A shared body of knowledge and a common allegiance to professional norms and the scientific process distinguish policy networks from other network labels. They tend to focus on a narrow policy issue and operate throughout the range of quality of life issues, such as combating hunger (Burlandy & Labra, 2007), developing water policy (Sigrist, Abdelmoghny Hamouda, Luzi, & Tauchnitz, 2008), reducing HIV/AIDS (Torres-Ruiz, 2011), or deliberating the legality of prostitution (Wagenaar, 2006). Policy networks also pull actors outside of government into the policy-making cycle, and this is one way they may be distinguished from intergovernmental networks. Members are generally highly trained and educated professionals from industry, think tanks, academia, and government agencies, while power is commensurate with the information, knowledge, and resources one brings to the table.

### Cross-Border Policy Networks

Increasing globalization, due to decreased communication and transportation expenses, as well

as a heightened understanding of policy externalities, has made the examination of cross-border networks more critical. Mingus (2001) coined the terms “subnet” and “supranet,” essentially asking how within-country policy subnets interact across borders to form international policy supranets. These may be binational, regional, or global in scale. The language is simple and allows for an easier discussion of regional and international issues because policy subnets may be contributing toward a common purpose and may share numerous characteristics, such as the policy focus, yet may also have numerous characteristics that are not shared among the supranet, such as regime type.

A supranet might be focused broadly on, to use some quality of life examples, how foreign nations and international aid organizations may reduce the prevalence of hunger in sub-Saharan Africa, while individual subnets may be focused on specific nations or specific aspects of policy such as transportation systems and locally based agriculture. Few quality of life issues today are focused exclusively within national borders, and so these terms allow the use of the policy network concept to compare networks from different nations. Goldman’s (2006) work, for example, demonstrates how transnational policy networks, driven by the World Bank, transformed water policy throughout Africa, Asia, and Latin America rapidly from 1990 to 2005.

### Common Characteristics for Comparing Policy Networks

Typologies are often used to enable policy network comparisons. Common characteristics in various classification systems include the following:

- Membership size
- Range of member interests (broad or narrow; diverse or similar)
- Frequency of member interaction (in-person, telephone, or electronic; among members or as a whole)
- Decision-making style (consensus, majority vote, veto members, etc.)
- Network continuity or stability
- Resource distribution within the network

- Ability of representatives to regulate the actions of their participant organizations
- Ability of networks to regulate actions of their members
- Power balance (positive sum or zero sum game)
- Legal structure (if any)
- Structural focus (implementation, policy development, holistic)

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### Policy Outcome Fairness in Forestry

- [Forest Owners’ Satisfaction with Forest Policy](#)

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## Policy Outcome Satisfaction in Forestry

► [Forest Owners' Satisfaction with Forest Policy](#)

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## Policy Performance

► [Policy Evaluation](#)

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## Policy Politics

► [Democracy and Bureaucracy](#)

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## Political Activities

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## Synonyms

[Political engagement](#)

## Definition

Political activity refers to actions conducted by individuals with the hope of influencing the government (e.g., policy-making, elections, political parties, government officials, and government actions). They imply an active role in political life.

## Description

From the time of Aristotle, one of the main foci of the study of politics has been the political activities of citizens, such as ► [voting behavior](#), which is probably still the most common and most

studied expression of ► [political participation](#). Other political activities include political campaigns, lobbying, support for political causes (such as volunteering for a political party), signing a petition, participation in protests and demonstrations, attending a political rally, and contacting a mass media source and/or a politician. Verba and Nie (1972), the authors of one of the most influential studies on participation in political activities, noted that a major goal of political activity is to influence the government from “the outside”: “► [Political participation](#) refers to those activities of private citizens that are more or less directly aimed at influencing the selection of governmental personnel and/or the actions that they take.”

It is crucial to understand who engages in political activity because the quality of ► [democracy](#) is directly dependent on ► [political participation](#) and ► [active citizenship](#). The more citizens participate in political activities, the more democratic the polity is. In addition, according to Sen (2000), unrestricted political activities can be conceptualized as civil liberties: “. . .being able to do something through political action-for oneself or for others-is one of the elementary freedoms that people have reason to value.”

In a seminal work on political activity, Brady, Verba, Schlozman, and Lehman (1995) identified three types: (1) activities requiring money (examples include donations for campaigns and support for political causes), (2) activities requiring time (examples include working for a political campaign), and (3) voting, which is considered to be the “least demanding” political activity. There is a strong correlation between political activity and the amount of free time available to an individual. Interest in politics is crucial for turnout (voting); civic skills are essential for political activities requiring time, and ample financial resources (affluence) are essential for political activities requiring money.

According to Verba and Nie (1972), not only does engagement in political activity help citizens to communicate their “needs and desires” about the government, it is also “a prime source of satisfaction—satisfaction with the government and

satisfaction with one's role [in society]." Thus, in addition to its importance in political life, involvement in political activities can be seen as "the end in itself" (Verba & Nie, 1972), a way to achieve a fulfilling, meaningful life.

Studies of individuals who have experienced ► **traumatic life events** such as political ► **violence**, torture, and deportations support Verba and Nie's (1972) insight that political activity can be a source of satisfaction with one's role in society. It appears that becoming involved in political activities gives meaning to the lives of former victims. By making connections with other people and organizations, they become "agents of memory" who are interested in preserving and shaping ► **collective memory** (Aguilar, 1999; Budryte, 2010; Jelin, 2003). These studies suggest that there is a relationship between the political activities of former victims and their ► **emotional well-being** and the overall ► **health** of these individuals.

Weitz-Shapiro and Winters (2008) argue that despite numerous claims in the theoretical literature that there is a relationship between participation in political activities and ► **well-being**, the empirical literature is still in the early stages of development. It is difficult to say to what degree participation in political activities helps to improve the quality of life.

Generally, research focusing on participation in political activities is likely to pay attention to two major questions: (1) who participates (i.e., who is politically active), and (2) why and how ► **political participation** takes place. People who become involved in political activities do this because they can (i.e., they have adequate resources and are not prevented from participation by disenfranchisement) and because they want to (i.e., they have an interest in becoming involved in political life). One of the best known explanations of who is likely to become involved in political activities is the so-called SES model which focuses on elements of socioeconomic status, including ► **education**, income, and occupation (Wolfinger and Rosenstone, 1980). The more educated and the more affluent an individual, the greater the likelihood that she or he is politically active.

According to Wolfinger and Rosenstone (1980), ► **education** plays a very important role in the processes associated with voting. Family background and childhood experiences (e.g., growing up in a politically active family) are the variables related to ► **education** that help to explain who is going to develop ► **political consciousness**. Studies suggest that it is possible to develop certain educational activities to improve the likelihood of civic and political engagement (Chitty, 2010; Klofstad, 2010).

Deviating from the SES model, Brady et al. (1995) argue that resources are of crucial importance in predicting who is going to become involved in political activities. Taking resources into account helps to explain why socioeconomic status (defined by the levels of ► **education**, income, and occupation) is so important when studying political activities. In addition, resources are easier to measure, which helps to develop relatively reliable predictors of who is going to become involved in political activities and under which circumstances. Verba and Nie (1972) acknowledge the importance of the strategic use of resources, suggesting that ► **political participation** can be analyzed as a technique to set goals, choose priorities, and "decide what resources to commit to goal attainment."

A growing body of literature (e.g., Marschall, 2004; Platt, 2008) suggests that it is important to conceptualize participation in political activities as a result of interactions between personal characteristics and macro-level variables (exogenous variables). According to the "opportunity" model developed by Platt (2008), policy considerations affect individual political activities. Platt argues that individual ► **political participation** decisions are shaped by political opportunities that are defined as "recognized links between changes in broad contextual environments and an individual's policy concerns." Thus, according to his model, external threats, access opportunity (e.g., access to elected officials and the ability to influence the introduction of bills), and social networks are likely increase the likelihood of ► **political participation**.

Although many theorists focusing on political activities conceptualize citizens as

autonomous and rational individuals, some argue that the role of political mobilization (collective action) should be highlighted as well (Rosenstone & Hansen, 1993). Brady et al. (1995) highlight the role of civic skills (communication and organizational capacities) as resources essential for ► [political participation](#) and political mobilization. This point is especially salient in the era after the information revolution, during which the Internet and other means of communication, such as mobile phones, have affected political mobilization within nation-states and globally. These changes in communication have empowered ► [civil society](#) actors and thus increased the importance of the political activities of ordinary citizens. Arguably, the information revolution has made participation in political activities such as organizing demonstrations, participating in campaigns, or contacting elected officials easier. In addition, it appears that Internet use has helped to energize the younger generation – the group which is considered least likely to vote (Hirzalla, van Zoonen, & de Ridder, 2011). However, there is a lack of studies focusing on the relationship between the use of technology and political activities. The impact of social networking sites on political activities is another area in need of further research.

### Cross-References

- [Active Citizenship](#)
- [Affluence](#)
- [Civic Engagement](#)
- [Civil Society](#)
- [Collective Memory](#)
- [Democracy](#)
- [Education](#)
- [Emotional Well-being](#)
- [Health](#)
- [Political Consciousness](#)
- [Political Participation](#)
- [Traumatic Life Events](#)
- [Violence](#)
- [Voting Behavior](#)
- [Well-being](#)

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## Political Affiliation and Life Satisfaction in the USA

- [Ideology and Happiness in the USA](#)

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## Political Belief

- [Ideology and Quality of Life](#)

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## Political Confidence

► [Political Trust](#)

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## Political Consciousness

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### Synonyms

[Class consciousness](#); [Political culture](#); [Political identity](#)

### Definition

Political consciousness is one's political state of mind. This state of mind is based on the personal awareness of politics, position in the political system and history, and actions one perceived as available to take in an effort to influence the political reality in which one operates. Political consciousness is closely related to the concepts of political identity, political participation, political culture, and the idea of social contract between the people and the government.

Political identity is the "perceived connection between an individual and a political community (a group that has political interests and goals) and among individuals of a political community. Nationalism is the dominant political identity of most people, but others such as religion, do exist as a primary political identity and are becoming more common" (Rourke, 2008). Furthermore, recently, transnational ideas have been providing an alternative to nationalism in determining political identity. In this sense, political consciousness refers to "how we see ourselves connected as individuals to ideologies, religion, demographic characteristics, region, or virtually any other perceived common bond" (Rourke, 2008).

## Description

### Development of the Concept of Political Consciousness

The concept of political consciousness can be traced back to the early conversations between Plato and his teacher Socrates. As reported by Plato in *Crito*, after imprisonment, Socrates refused to escape from prison. Socrates agreed to live in this particular form of government, and thereby became a subject to its laws, even if he found the judgment false. The argument that Socrates used was based on his understanding of relationship between the government and the people – his own political consciousness. Socrates believed that the government had certain responsibilities to its people, and people had certain rights which informed his political state of mind. Convinced of the validity of this reciprocal relationship between the government and the people and living by the philosophy he advocated, Socrates chose to drink the poison as the punishment for his crime (Plato, 360BCE).

More modern approaches to political consciousness include many writers specializing in philosophy, political theory, and social theory. Among most notable ones are Hugo Grotius, Thomas Hobbes, John Locke, Jean-Jacques Rousseau, Georg Wilhelm Friedrich Hegel, and Karl Marx.

In his polemics written in the first half of the seventeenth century, Hugo Grotius maintained that all individuals have a natural right to defend their survival (Ritchie, 1895). A few decades later, in his book *Leviathan*, Thomas Hobbes argued that mutual concession of certain individual rights (such as a right to kill) among individuals in a society would lead to establishment of a state, ruled by norms of behavior with a focus on security of the individuals and the state (Hobbes, 1651). This idea of political consciousness of individuals was further advanced by John Locke who posited that it is in the best interests of individuals to establish a government which would protect their natural rights to life, liberty, and property (Locke, 1689). Furthermore, Locke wrote, government derives its power from the support of the people and is legitimized by their consent (Locke, 1689). In the

beginning of the eighteenth century, Jean-Jacques Rousseau moved the idea of individual's rights from a single person to a collective identity. In *The Social Contract*, he argued that people are subject to laws that apply to the entirety of a society and are created for the benefit of that collective (Rousseau, 1762). Through their approach to the relationship between the people and the government, the authors mentioned above influenced the development of the social contract, which serves as basis for political consciousness.

Georg Wilhelm Friedrich Hegel in his work *Elements of the Philosophy of Right* (1827) applied his theory of dialectics to political consciousness and political sense of identity. He argued that political sense of identity was determined by God. The change in political consciousness occurred through dialectical process: one set of ideas (thesis), combined with an opposite set of ideas (antithesis), led to the fusion of both sets (synthesis), bringing about a new set of ideas (Hegel, 1991). Following in the footsteps of Hegel, Karl Marx attributed the political sense of identity to changing economic conditions. Marx understood political consciousness as awareness of one's identity in terms of political culture, position in history and society, all determined by sociopolitical economics. Political economy, Marx posited, determines political consciousness. How a person perceives himself in a society is determined by a set of relative political and economic circumstances. "It is not the consciousness of men that determines their being, but, on the contrary, their social being that determines their consciousness," Marx wrote in the first volume of *The Capital* in 1867 (Marx, 1992).

### Political Participation and Social Change

Political consciousness of the people determines their political participation in and influences on domestic political systems. This applies to both democratic and nondemocratic forms of domestic regimes. In societies where historical, cultural, economic, and social collective experiences have not encouraged participation in political processes, political consciousness will dictate a weak role of the people in local- and statewide political systems and their legitimacy by consent

of the governed. In those instances, political consciousness has been informed by the potential lack of communication between the government and the people, lack of consent from the people, lack of political representation, repression of political rights and practices, or corruption of political rights and practices.

Karl Marx argued that prolonged situations in which economic, social, and political factors form unequal social and political relationships will lead to social revolutions and change. In his theory of Marxism, the author maintained that the social and political consciousness of proletariat and bourgeoisie will be changed with continuation of the oppressive social, political, and economic relationship. Through control of economics, the proletariat will introduce a change in political and social control, thereby changing the political consciousness of both groups over time (Marx, 1992). This theory of political, social, and economic change has been used in explaining social revolutions and change across countries and continents, from the civil rights movements in the United States to democratization processes in Central and Eastern Europe and to antiapartheid movement in the Republic of South Africa.

Another approach to political consciousness is represented by Gabriel Almond and Sidney Verba in their seminal volume *The Civic Culture* (1965). The authors introduced the concept of political culture, defined by three concepts: deference, consensus, and homogeneity. Deference measured the degree to which people acknowledged and respected authority; consensus measured the degree to which people supported the government and its policies, thereby offering consent; and homogeneity measured the degree of ethnic and national similarity among people (Almond & Verba, 1965).

Through this first systematic study of political culture, Almond and Verba were able to determine that there are three types of political culture based on people's attitudes toward politics – in other words, their political consciousness: parochial, subject, and participant. In parochial political culture, people show low levels of acknowledgment and respect toward the central government; they do not show interest in political events; and they

show low levels of participation in political processes. In subject political culture, people show medium levels of acknowledgement and respect toward the central government, and other local and state political institutions; they show medium level of interest in political events and perceive those events as impactful on their lives; and they show medium levels of participation in local and state political processes. In participant political culture, people see themselves as able to influence the government and, in return, perceive the government as being able to affect their lives. Subsequently, they show high levels of acknowledgment of the central government, and they are highly active in political processes. The participant political culture corresponds generally with democratic regimes (Almond & Verba, 1965).

### Political Consciousness of Minorities

With the rise of transnationalism, minorities deserve a special attention in respect to political consciousness. With the increased movement of people and ideas across borders, combined with easiness of communication and gaining information, the potential of civil conflict sparked by change in political consciousness has also amplified. Robert Gurr in his essay on management of ethno-political conflicts writes: “Leaders of ethno-political movements almost always seek support by appealing to minority peoples’ resentment about their lack of political participation, material inequality, and cultural recognition and justify such claims by referring to international standards of individual and group rights” (Gurr, 2001). In other words, people’s actions are determined in a great measure by their political consciousness, and to diffuse potential conflicts, the leaders must appease the perceptions of people as to their place and role in the political system.

Gurr, furthermore, argues that “[t]he first and most basic principle is the recognition and active protection of the rights of minority peoples. . . . A corollary principle is the right of national peoples to exercise some degree of autonomy within existing states to govern their own affairs. . . . Recognition and protection of collective rights are two of the domestic elements of the preferred strategy for managing ethnic heterogeneity” (Gurr,

2001). However, the strategies mentioned above do not apply only to ethnic minorities. The same methods of appealing to and appeasing the requirements dictated by political consciousness apply to minorities based on gender, religion, socioeconomic standing, as well as historically repressed minorities (Drake & Hershberg, 2006).

### Political Consciousness and Quality of Life

The development of political consciousness concept and its implications is closely related to social and economic variables impacting the lives of individuals and communities. The concept of social contract introduced by John Locke, but based on centuries of theoretical and philosophical ideas, speaks to the impact of people on the political system in which they live and, in return, to the influence that system has on people’s existence. Furthermore, Marx claimed that the change in political consciousness comes from the structural conditions impacting the economic and social dynamics between groups. However, it is safe to argue that advanced levels of political consciousness, in which people perceive themselves as responsible participants in the political process on local and state levels, also positively impact their quality of life (Campbell, Converse, & Rodgers, 1976).

Based on theoretical and empirical evidence, the relationship between political consciousness which informs people’s role in and impact on political systems affects people’s quality of life. Using the typology established by Almond and Verba, it is clear that as people show higher levels of acknowledgement and respect of the government and increased levels of participation in political processes, they enjoy more representative forms of government. Subsequently, with a higher degree of political culture and consciousness, people also exercise more advanced and complex forms of control over their standards of living, including social, economic, and political factors.

### Cross-References

► [Collective Action](#)

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## Political Context and Social Change

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## Synonyms

Ecological systems theory

## Definition

► **Social change** refers to changes in the political or economic context of societies which affect the vast majority of the population, albeit not necessarily in a uniform way. It may occur gradually (as in the process of globalization) or abruptly (as in the case of political revolutions) and be more or less broad in its scope. Social change can be driven by collective action, changes in ► **values**, technological innovation, and other exogenous or endogenous factors. Usually, various political institutions, norms of living together, and cultural symbols are affected simultaneously.

## Description

In this essay we describe how changes in the political system (such as German unification after the collapse of communism in Central and Eastern Europe) may affect individual ► **quality of life**. We begin with the description of the ecological contexts in which individual development is embedded and argue that political changes may affect all these contexts as well as the interactions among them. We then introduce a model that describes how contextual change is negotiated by individuals and provide empirical evidence showing how political change may have both positive and negative effects on the quality of life in different groups of individuals.

## Ecological Systems of Human Development

Human functioning and ► **development** takes place in a multilayered structure of ecological contexts that are themselves not stable but evolve over time. In his seminal ecological systems theory, Bronfenbrenner (1979) distinguished between microsystems that encompass the immediate environment in which the individual directly participates (such as the workplace, the family, or the neighborhood), mesosystems that represent the interactions between different microsystems (such as spillover effects between work and family life), exosystems in which the individual is not directly involved but which still

affect microsystems and mesosystems (such as the workplace of the spouse), and the most distal macrosystem in which all the other systems are embedded and which comprises the cultural and political context (such as societal norms or legislation).

Changes in the distal macrosystem can affect virtually all the more proximal systems, in particular by changing opportunities and constraints for the attainment of developmental and other goals therein. Within the microsystems, for instance, new political legislation may open up new occupational opportunities for self-employment or support parental leave through financial incentives. The more radically and rapidly changes in the macrosystem occur, the more severely the other systems are likely to be affected. The analysis of changes in the ecological contexts of individual development is usually subject to sociology or the political sciences (e.g., Nee & Matthews, 1996).

### A Model Linking Macro with Micro

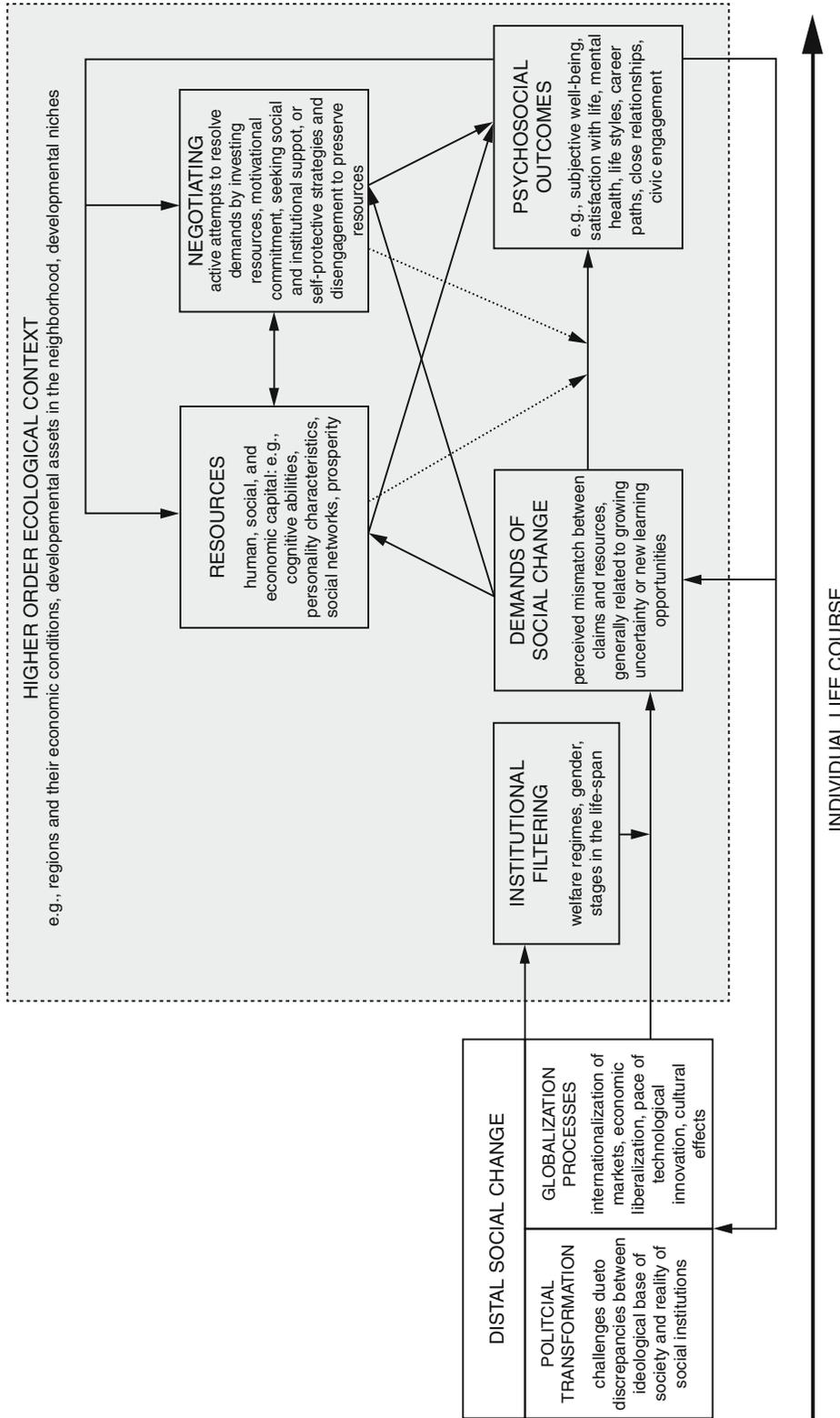
It is widely agreed that the changing relations between the individual and his or her ► [social ecology](#) constitute the basic process of human development and are in part responsible for psychological differences between individuals (see Lerner, 1991; Li, 2003). However, the effects of political changes in the macrosystem on individual ► [adaptation](#) and development have hardly been investigated from an interindividual differences perspective. If studied at all, it was generally assumed that such changes in the macrosystem affect the entire population or at least well-defined segments of the population (such as all farmers or all single parents) in a similar fashion. Consequently, when analyzing effects of social change and political context, researchers have tended to compare same-aged cohorts of individuals under different political systems and in different historical periods (e.g., Silbereisen & Wiesner, 2000). As Pinquart and Silbereisen (2004) point out, such cohort comparisons lead to inconsistent and ambiguous results as they disregard interindividual differences in the process of adaptation to the new opportunities and constraints.

Drawing on the landmark study on the effects of the Great Depression of the late 1920s on family functioning and child development by Elder (1999), Pinquart & Silbereisen (2004; see also Silbereisen, 2005) challenged the view that political changes in the macrosystem affect all individuals alike and suggested a psychological model for the understanding of the link between macro and micro that emphasizes interindividual differences in how contextual change is perceived, appraised, and negotiated and how it affects psychosocial outcomes (see Fig. 1). The model integrates Bronfenbrenner's (1979) ecological systems theory within a framework of ► [stress](#), appraisal, and coping as suggested, for instance, by Lazarus and Folkman (1984).

The first source of interindividual variation in the effects of social and political change results from the fact that changes in the macrosystem hardly affect individuals in a direct way. Rather, they become effective insofar as they change the more proximal ecological contexts of development (such as school, work, family, or leisure) and, of course, individuals differ in the degree to which they participate in these contexts, to which these contexts are central to them, and so on. From that point of view, it is less important to analyze what specific change at the political level occurs but rather how this change translates into the everyday life of an individual.

In addition to that, there are various social institutions such as the welfare state system or legal regulations that protect certain groups of people from changes in the microsystems. For instance, ► [single-parent families](#) may be excluded from tax increases or older workers from protection against dismissal. This adds another source of interindividual variation to the effect of social change and political context on individual development. Concerning social and economic changes resulting from globalization, Hofäcker, Buchholz, and Blossfeld (2010) have analyzed the role of such institutional filters by comparing the welfare state regimes in different countries.

More important, however, is that in order to become psychologically effective, changes in the microsystems of development first need to be



**Political Context and Social Change, Fig. 1** The Jena model on social change and human development. Adopted with permission from Silbereisen and Tomasik (2011b)

perceived and appraised by individuals either as new demands that challenge accustomed ways of negotiating developmental tasks (such as the need for careful occupational planning given the liberalization of the labor markets; for details, see Silbereisen, Pinquart, & Tomasik, 2010; Tomasik & Silbereisen, 2009) or as new benefits that provide enhanced opportunities for negotiating these tasks or even open up totally new developmental pathways (such as new opportunities for living and working abroad after the fall of the Berlin Wall; see Silbereisen & Tomasik, 2011a). The individual load of such demands and benefits individuals are confronted with represents the major source of interindividual variation in the affectedness by political change but of course this load is not randomly distributed in the population. Recent research on perceived changes in the labor markets due to globalization and economic recessions (Silbereisen & Tomasik, 2011a; Tomasik, Sijko, Silbereisen, & Wasilewski, 2013) has demonstrated that a higher demand load related to work (e.g., perceived ► **job insecurity**, need to work below one's qualification, need to accept casual employment) is more prevalent in:

- Those who are unemployed or outside the labor market as compared to those who are employed
- Those who are lacking a partner due to divorce or widowhood, presumably because of missing ► **social support** (only in the case of younger adults)
- Those who have attended compulsory schooling only or dropped out of school (only in the case of younger adults)
- Those who live in regions that are characterized by high unemployment and high outmigration

Furthermore, Silbereisen and Tomasik (2011a) showed that the benefits of social change (e.g., more freedom in choosing preferred forms or relationships, ease of workload through technological advancements, new social experiences due to social media) are more prevalent in:

- Those who are employed as compared to those who are unemployed or outside the labor market

- Those who are not married but rather single (or cohabiting in the case of younger adults)
- Those who have higher education (only in the case of younger adults)

Taken together, in particular higher education and employment predict fewer perceived demands and more perceived benefits of social change, whereas a more traditional partnership arrangement (i.e., marriage) is associated with fewer perceived demands but at the same time with fewer perceived benefits.

When confronted with demands of political change, individuals may try to negotiate them by investing time and effort, keeping their commitment high and seeking social support (mode of engagement), or they may withdraw from them and seek self-protective attributions in order to justify their withdrawal (mode of disengagement). The different ways of dealing with the demands bring about another important source of interindividual variation. The most important predictors of whether someone engages with demands of social change seem to be how these demands are appraised by the individual. Tomasik, Silbereisen, and Pinquart (2010) showed for German adults that appraising demands as being challenging, controllable, and leading to personal gains is associated with more engagement with them, whereas appraising demands as being threatening and uncontrollable is associated with more disengagement from them. These associations, however, do not necessarily generalize to other countries and seem to depend on possible consequences that success or failure in mastering the demands of social and economic change has for the individual. In countries with a liberal ► **welfare** system, for instance, personal appraisals of demands seem to be far less relevant and individuals negotiate demands "come what may" because failing to master them adequately would mean an existential threat to the individual (see Tomasik, Silbereisen, Lechner, & Wasilewski, 2013).

Appraisals of the demands are just one example of the psychosocial resources that are mentioned in the model and believed to influence how individuals negotiate these demands. Other personal (such as optimism, self-efficacy, or religiosity), social (such as social support, ► **social**

networks, or “weak ties”), and structural (such as social capital in the neighborhood, accessibility to institutional support, or economic prosperity of the region) resources are often discussed as possible predictors of engagement and disengagement but also as possible mediators or moderators in the relations between other components of the model. Empirical research on this topic, however, is not well developed (but see Grümer & Pinguart, 2011; Lechner, Tomasik, Silbereisen, & Wasilewski, *in press*). In particular, there is no decisive list of personal, social, and structural resources that reliably predict a successful mastery of demands of social change in changing political contexts. But still, the model assumes that interindividual variation in the endowment with resources will substantially affect the outcome of the adaptation process.

A high demand load finally has consequences for various psychosocial outcomes and has been shown, for instance, to be negatively associated with indicators of ► **subjective well-being** (e.g., Grümer & Pinguart, 2011; Lechner et al., *in press*; Silbereisen & Tomasik, 2011a; Tomasik & Silbereisen, *in press*), which itself is an important marker for individually defined quality of life. Longitudinal studies have confirmed the cross-sectional findings. Most relevant in this context is a study by Körner, Silbereisen, and Cantner (*in press*), which first decomposed interindividual variance in ► **satisfaction with life** over time into a time-invariant trait component and a time-dependent occasion component and then correlated the two components with the demand load individuals reported to perceive. Results showed that a higher demand load predicts lower occasion-specific satisfaction and also that a lower trait satisfaction predicts a higher perceived demand load. In other words, the effect is bidirectional so that people confronted with many demands of social change have a decreased level of satisfaction with life and those whose satisfaction with life is generally lower also report more demands of social change. These analyses do not allow drawing causal conclusions but still support the direction of effects suggested by the model.

### Illustration of More Complex Empirical Associations

Taking different parts of the model together, the associations are more complex than the scope of this essay allows to be fully described. We will therefore limit our illustration to two selected findings that are relevant in the context of research on quality of life.

First, it seems to be the case that the correlation between perceived demand load and subjective well-being varies as a function of the regional economic context the individual is living in. More specifically, Pinguart, Silbereisen, and Körner (2009) found that the negative correlation between demands and subjective well-being is particularly strong in regions that are economically well off, whereas this correlation virtually disappears in economically weak regions. The explanation of the moderating effect of the context can be seen in the different social norms toward demands of social change in different regions. Individuals who experience a high demand load and at the same time live in regions where experiencing a high demand load is rather normative (as indicated by the weak regional economy) can easily attribute their demands to the unfavorable contextual circumstances that also affect many others. Being confronted with a high demand load becomes a social norm and hence is less likely to affect an individual’s evaluation of his or her satisfaction with life. Individuals, however, who experience a high demand load in a context where experiencing a high demand load is rare (as indicated by the strong regional economy) are more likely to attribute their demands to personal circumstances, and this will negatively affect their satisfaction with life. Similar moderating effects of the context are known, for instance, from research on the consequences of individual unemployment in regions with low and high unemployment rates.

Second, another moderating effect of the context pertains to the association between disengagement from demands of social change and subjective well-being. In general, disengaging from demands of social change is not considered

as an adaptive response and is usually associated with lower subjective well-being. This can be explained by the fact that individuals who do not seize the new opportunities that come along with social or political change will not be able to capitalize on them, will waste their resources on no longer promising endeavors, and thus sooner or later drop behind in their developmental potential. However, as Tomasik and Silbereisen (in press) showed, disengagement can also have beneficial effects for subjective well-being, which is the case when the proximal context offers only limited opportunities for engagement with the demands. In their study, the authors specifically investigated how individuals dealt with demands related to the need for occupational planning, which in the course of the politically instigated liberalization of the labor markets has become more important than ever. They found that in regions which provided plenty of opportunities for engaging with the uncertainty of occupational planning, the association between disengagement and subjective well-being was, as usually found, negative. In regions which provided limited opportunities for engagement, however, disengagement and subjective well-being were positively correlated. In other words, individuals increased their subjective well-being over time if they disengaged from hardly attainable demands. This finding is explained by the fact that strategic disengagement under unfavorable conditions prevents the individual from repeated experiences of failure and frees up resources that can be invested in more promising strivings.

### Conclusion

In trying to understand how social, economic, and political change affects individual adaptation and development, one first has to understand how these rather distal changes translate into demands and benefits in more proximal ecological contexts of the individual. From a psychological perspective, however, the analysis of proximal changes is still not sufficient to understand which effects such changes will have. In a second step, one therefore has to investigate the process of adaptation to these changes, in which individual,

social, and structural resources as well as efforts for negotiating the demands in terms of engagement with and disengagement from them play a central role. In addition, the contextual opportunities and constraints need to be considered as they have been shown to substantially moderate the associations between demands, resources, negotiating efforts, and outcomes. Taking all these factors into account, it is evident that there must be vast interindividual variations in how changes in the macrosystem finally result in a changed quality of life of individuals. For the planning of social and political interventions that aim at fostering the quality of life in individuals, this insight suggests that there are probably no “one size fits all” solutions.

### Cross-References

- ▶ [Casual Employment](#)
- ▶ [Collective Action](#)
- ▶ [Democracy](#)
- ▶ [Employment Insecurity](#)
- ▶ [Fear of Job Loss](#)
- ▶ [Locus of Control](#)
- ▶ [Long-Term Changes in Well-Being](#)
- ▶ [Policy Analysis](#)
- ▶ [Policy Evaluation](#)
- ▶ [Responsiveness to Change](#)
- ▶ [Social Trends](#)
- ▶ [Societal Progress](#)

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## Political Culture

- ▶ [Israeli Democracy Index](#)
- ▶ [Political Consciousness](#)

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## Political Efficacy

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## Synonyms

[Political influence, belief](#)

## Definition

The believe that one can have influence on political decision making.

## Description

Already in 1954 the concept “political efficacy” has been proposed as a variable that should strongly determine whether people will participate in the political processes (Campbell, Gurin, & Miller, 1954). Political efficacy was described as a “feeling that political and social change is possible, and that the individual citizen can play a part in bringing about this change” (Campbell et al., 1954). The authors realized that “in any one election political interest and participation may be largely explained in terms of such factors as the attractiveness of one or both candidates and the perceived importance of the campaign issues.” On the other hand, they argue that for the explanation of long-range trends in level of electoral participation, one requires in addition to the above-mentioned factors “the consideration of broader and more enduring political values and attitudes... Sense of political efficacy... represents an attempt to investigate one of these broader political attitudes.”

For Lane (1959, p. 150), it was self-evident that this concept has two components: the image of the self and the image of democratic government. This suggests that people should believe that they can play an active role in changing society and that they should also believe that the system reacts on these actions in a positive way. If these two requirements are not satisfied, people will not actively participate in political processes was his suggestion. On the other hand, he argues that “people endowed with a feeling of political effectiveness of this kind are more likely to engage in politics: they are more concerned about the outcome of elections, they learn more about the political situation, and are more consistent in their support of their party’s stands on various issues. They know how to get things done in political life, and they are more likely to demand a greater role in government affairs” (1959, p. 152).

Originally a limited number of items for both aspects were used. Balch (1974) was the first who showed that two concepts can be distinguished empirically. The first was referred to as “internal

efficacy” or “subjective competence,” while the second was referred to as “external efficacy” or “system responsiveness.” The idea that these items represent two concepts has now been accepted in general because several studies have shown that the suggested two-factor structure can be found (Acock, Clarke, & Stewart, 1985; Craig, 1979; Craig & Maggiotto, 1982; Finkel, 1985; Miller & Traugott, 1989, and Saris & Gallhofer, 2007). For a detailed discussion of these earlier models, we refer to Vetter (1997).

In the later discussions of these issues, Gamson (1968, 1971) argues that political trust also plays an important role. It will be clear that people without the idea that they can have any influence do not have an argument to participate. But also the people who are confident that they can have influence may not participate if they trust very much the political system in the sense that it will produce the results that the person likes to have. In that case there is no reason at all to participate. So the conclusion should be that only in case of political efficacy and lack of trust in the system one can expect participation of the citizens. This suggests that political trust is a conditional variable for the relationship between political efficacy and political participation.

Based on their empirical study of these relationships, Sigelman and Feldman (1983) concluded that the conditional relationship is not so strong as expected but both variables had independently effect on participation. They also discovered that “policy dissatisfaction” is a more important determinant of political mobilization than political trust, although they also found conditional effects of political trust in more complex models than the simple three variable model of Gamson.

It is also relevant to mention that several studies showed that measures for “subjective competence” correlated much stronger than measures for “system responsiveness” with measures of “political participation,” while the latter correlate much higher than the former with measures for “political trust” and “satisfaction with political policies”

(Craig & Maggiotto, 1982; Niemi, Craig, & Mattei, 1991; Sigelman & Feldman, 1983; Vetter, 1997). These findings suggest that “subjective competence” and “system responsiveness” are really different variables which should be measured separately. Saris and Gallhofer (2007) have made the same remark but using also an extra argument. They found that the two concepts were not significantly correlated after correction for spurious relationships due to systematic method effects.

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## Political Empowerment

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### Definition

Political empowerment refers to the process of transferring various elements of power (resources, capabilities, and positions) to those who do not have it. Political empowerment requires inclusion in democratic decision-making processes.

### Description

A common understanding of political empowerment (the transfer of power to those who do not have it) embraces the definition of power in distributive terms. Following this understanding, political empowerment must include giving access to various political offices, including positions in the government, to the members of ► **disadvantaged populations**. The literature on political empowerment attempts to assess the impact of access to political offices on the overall ► **well-being** of minorities.

A different understanding of political empowerment refers to the transformation of various relations between the “haves” and “have-nots.” This understanding of ► **empowerment** suggests that the transformation of the societal and political structures that are responsible for the perpetuation of inequalities is necessary. This transformation may include the elimination of structures that present obstacles to self-determination and self-development (Allen, 2008; Young, 1990).

The second definition of empowerment is prevalent in women’s studies and feminist literature. It describes ► **women’s empowerment** in various male-dominated cultural contexts (Budryte, 2010). This body of literature is likely to pay attention to the importance of collective

action and collective ► [political consciousness](#). Measures of women's political empowerment include representation in national parliaments, local governments, peace processes and policy-making, that is, an increasing percentage of female elected officials.

In most cases, however, access to political structures is accompanied by changes in social and political structures and vice versa. For example, in the United States, the access of disadvantaged groups to power structures was an outcome of the Civil Rights movement of the 1950s and 1960s. The Civil Rights movement led to significant changes in political and social structures by challenging an institutionalized belief that "white domination is a function of the inherent superiority of whites" (Jones, 1978). On the one hand, the changes in various discriminatory structures made black political empowerment possible. On the other hand, black political empowerment influenced the disintegration of these structures.

According to Hanks (1987), "Black political empowerment called for more than just having blacks in office-these officials were supposed to have an impact on the status of black life." This author outlined three measureable stages of the black political empowerment process. These stages include blacks holding offices ("in proportion to their numbers in the population"), the adoption and implementation of public policies that benefit blacks, and an improvement in the socioeconomic status of the black community.

Hanks' (1987) outline is an example of the so-called instrumentalist approach to political empowerment which implies that changes in political representation have the potential to improve the socioeconomic status of underrepresented groups. Those who embrace this approach are likely to argue that instead of using a winner-take-all election system, in which the candidate with the most votes wins, political entities sensitive to the needs of underrepresented minorities should switch to a proportional representation electoral system, in which representation in power structures depends on the proportion of the vote won.

Proportional representation and other electoral arrangements, such as the creation of special

electoral districts, are ways to increase representation based on race and ethnicity in government. Some countries, including the United States, New Zealand, and Belgium, have created electoral arrangements to make sure that ethnic minorities are represented in the electoral process and the government. However, even though electoral reforms may increase the number of minority politicians in power structures (descriptive representation), such reforms may lead to a backlash among voters and politicians, thus resulting in fewer elected politicians supporting minority-friendly policies (substantive representation).

Numerous studies of political empowerment have tried to gain insight into issues related to descriptive and substantive representations. Some studies have shown that black mobilization during the 1960s and 1970s increased the number of minorities holding office and led to the increased government responsiveness to minority needs (Chambers, 2002). Following these changes, researchers have tried to assess the impact of minority representation on policy outcomes, such as municipal employment, ► [education](#), and minority business development. Some have argued that there is some evidence to suggest that black officials did help their black constituents by providing policies, public services, resources, and benefits (Parker, 1990). Others (e.g., Bonds, 2007) have maintained that an increase in the number of black elected officials did not translate into more resources for the black community.

The minority empowerment thesis (which argues for electoral strategies to improve minority representation) identifies several likely outcomes of minority representation in power structures. These outcomes include more active minority ► [political participation](#), a more positive minority attitude toward the government, and increased identification with those who represent minorities in the government. Bobo and Gilliam (1990) found that blacks residing in "black-empowered cities" were "significantly more likely to be politically engaged" (exhibit higher levels of ► [political participation](#)) when compared with those who lived in "unempowered" cities. Citizens in "black-empowered cities" were

found to exhibit higher levels of ► [political trust](#) and political knowledge. Similarly, Mansbridge (1999) described a so-called communicative advantage. She argued that having a representative from the same group may help to break down communication barriers between constituents and their representatives.

Overall, the results of recent studies exploring whether the electoral success of a black elite has had a positive influence on the attitudes of black citizens regarding the system have been mixed. Overby, Brown, Bruce, Smith, and Winkle (2005) examined the effects of the presence of black judicial officials on ► [public opinion](#) regarding the judicial system in the state of Mississippi. Overby et al. (2005) did not find adequate evidence suggesting that the presence of black judges helped to improve the image of the judicial system in the eyes of black constituents.

Other studies on the political empowerment of America's blacks have demonstrated the importance of political leadership. For example, Vanderleeuw and Liu (2002) explored the relevance of minority institutional power on group ► [political participation](#). One of their findings was that attempts to mobilize voters by black candidates (especially by black incumbents) were likely to yield greater ► [political participation](#) among black voters. Similarly, Howell and Marshall (1998) have underlined the importance of black leadership for the development of ► [political trust](#) at the local level.

Another variable which will impact the future of political empowerment is e-technology. According to Behrouzi (2005), it is important to empower individual citizens to make sure that they "exercise their individual sovereign powers directly." E-technology can help individual citizens to participate directly in voting and decision making, thus ensuring the "direct and continuous input of citizens into the decision-making process." Hirzalla, van Zoonen, and de Ridder (2011) suggest that e-technology has impacted ► [political participation](#). In the future, e-technology may empower individual citizens. The ways in which this empowerment will take place and which groups are likely to be affected by these developments require further research.

## Cross-References

- [Disadvantaged Populations](#)
- [Education](#)
- [Empowerment](#)
- [Equality](#)
- [Political Consciousness](#)
- [Political Participation](#)
- [Political Trust](#)
- [Public Opinion](#)
- [Women's Empowerment](#)

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## Political Engagement

- ▶ [Political Activities](#)

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## Political Ideas

- ▶ [Ideology and Quality of Life](#)

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## Political Identity

- ▶ [Political Consciousness](#)

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## Political Influence

- ▶ [Israeli Democracy Index](#)

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## Political Influence, Belief

- ▶ [Political Efficacy](#)

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## Political Islam

- ▶ [Democracy and Islam in the Middle East](#)

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## Political Participation

- ▶ [Israeli Democracy Index](#)

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## Political Preferences

- ▶ [Voting Behavior](#)

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## Political Responsibility

- ▶ [Collective Responsibility](#)

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## Political Rights

- ▶ [Israeli Democracy Index](#)

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## Political Rights and Civil Liberties

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### Definition

#### Definitions by Freedom House

Freedom House evaluates each year the political rights and civil liberties situations in 195 nations and 14 territories since 1972. Freedom House also evaluates ▶ [Press Freedom](#) annually since 1980 in 197 nations and territories. Occasionally, Freedom House pays attention to Media Freedom, Freedom of Expression, Religious Freedom, Freedom of Association, and Internet Freedom (Freedom House).

Political rights ratings are based on an evaluation of three subcategories: electoral process, political pluralism and participation, and functioning of government (see questions below).

Civil liberties ratings are based on an evaluation of four subcategories: freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights (see questions below).

The evaluations by Freedom House do not rate governments or government performance per se but rather the real-world rights and freedoms enjoyed by individuals. Freedoms can be affected by state actions as well as by non-state actors, including insurgents and other armed groups.

## Description

### Based on Universal Declaration of Human Rights

Freedom House does not maintain a culture-bound view of freedom. The methodology of the survey is grounded in basic standards of political rights and civil liberties, derived in large measure from relevant portions of the Universal Declaration of Human Rights. These standards apply to all countries and territories, irrespective of geographical location, ethnic or religious composition, or level of economic development.

### Methodology: Evaluations by In-House and Consultant Regional Experts and Scholars

The findings are reached after a multilayered process of analysis and evaluation by a team of in-house and consultant regional experts and scholars. The survey enables an examination of trends in freedom over time and on a comparative basis across regions with different political and economic systems. Freedom in the world's ratings and narrative reports are used by policymakers, leading scholars, the media, and international organizations like the World Bank, in monitoring the ebb and flow of freedom worldwide.

### Ratings

Each country is assigned a numerical rating from 1 to 7 for both political rights and civil liberties, with 1 representing the most free and 7 the least free. The ratings are determined by the total number of points (up to 100) each country receives on 10 political rights questions and 15 civil liberties questions; countries receive 0–4 points on each question, with 0 representing the smallest degree and 4 the greatest degree of freedom.

### Questions to Evaluate Political Rights

#### (A) Electoral Process

1. Is the head of government or other chief national authority elected through free and fair elections?
2. Are the national legislative representatives elected through free and fair elections?
3. Are the electoral laws and framework fair?

#### (B) Political Pluralism and Participation

1. Do the people have the right to organize in different political parties or other competitive political groupings of their choice, and is the system open to the rise and fall of these competing parties or groupings?
2. Is there a significant opposition vote and a realistic possibility for the opposition to increase its support or gain power through elections?
3. Are the people's political choices free from domination by the military, foreign powers, totalitarian parties, religious hierarchies, economic oligarchies, or any other powerful group?
4. Do cultural, ethnic, religious, or other minority groups have full political rights and electoral opportunities?

#### (C) Functioning of Government

1. Do the freely elected head of government and national legislative representatives determine the policies of the government?
2. Is the government free from pervasive corruption?
3. Is the government accountable to the electorate between elections, and does it operate with openness and transparency?

### Additional Discretionary Political Rights Questions

1. For traditional monarchies that have no parties or electoral process, does the system provide for genuine, meaningful consultation with the people, encourage public discussion of policy choices, and allow the right to petition the ruler?
2. Is the government or occupying power deliberately changing the ethnic composition of a country or territory so as to destroy a culture or tip the political balance in favor of another group?

### Questions to Evaluate Civil Liberties

#### (D) Freedom of Expression and Belief

1. Are there free and independent media and other forms of cultural expression? (*Note:* In cases where the media are state-controlled but offer pluralistic points of view, the survey gives the system credit.)

2. Are religious institutions and communities free to practice their faith and express themselves in public and private?
  3. Is there academic freedom, and is the educational system free of extensive political indoctrination?
  4. Is there open and free private discussion?
- (E) Associational and Organizational Rights
1. Is there freedom of assembly, demonstration, and open public discussion?
  2. Is there freedom for nongovernmental organizations? (Note: This includes civic organizations, interest groups, and foundations)
  3. Are there free trade unions and peasant organizations or equivalents, and is there effective collective bargaining? Are there free professional and other private organizations?
- (F) Rule of Law
1. Is there an independent judiciary?
  2. Does the rule of law prevail in civil and criminal matters? Are police under direct civilian control?
  3. Is there protection from political terror, unjustified imprisonment, exile, or torture, whether by groups that support or oppose the system? Is there freedom from war and insurgencies?
  4. Do laws, policies, and practices guarantee equal treatment of various segments of the population?
- (G) Personal Autonomy and Individual Rights
1. Do citizens enjoy freedom of travel or choice of residence, employment, or institution of higher education?
  2. Do citizens have the right to own property and establish private businesses? Is private business activity unduly influenced by government officials, the security forces, political parties/organizations, or organized crime?
  3. Are there personal social freedoms, including gender equality, choice of marriage partners, and size of family?
  4. Is there equality of opportunity and the absence of economic exploitation?

### Overall Status: The Freedom Rating

The average of the political rights and civil liberties ratings, known as the freedom rating, determines the overall status: Free (1.0–2.5), Partly Free (3.0–5.0), or Not Free (5.5–7.0). Freedom House also assigns upward or downward trend arrows to countries which saw general positive or negative trends during the year that were not significant enough to result in a ratings change. Freedom House adds the following qualifications to such ratings.

A **Free** country is one where there is open political competition, a climate of respect for civil liberties, significant independent civic life, and independent media.

A **Partly Free** country is one in which there is limited respect for political rights and civil liberties. Partly Free states frequently suffer from an environment of corruption, weak rule of law, ethnic and religious strife, and a political landscape in which a single party enjoys dominance despite a certain degree of pluralism.

A **Not Free** country is one where basic political rights are absent and basic civil liberties are widely and systematically denied.

### Electoral Democracy

The survey assigns the designation of electoral democracy to countries that have met certain minimum standards. The numerical benchmark for a country to be listed as an electoral democracy is a total of 7 points or more (out of a possible 12) for the three political rights subcategory questions on electoral process, as well as a total of 20 points or more (out of a possible 40) for all ten political rights questions.

### Cross-References

- ▶ [Corruption](#)
- ▶ [Elections](#)
- ▶ [Gender Equality](#)
- ▶ [Press Freedom](#)

## References

All these data, background information included, are available at the website of Freedom House, methodology and data: <http://www.freedomhouse.org/>.

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## Political Stability Comparisons Among Nations

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### Definition

While there is no universally accepted definition of what constitutes “stability,” politically stable countries do have something in common: they are capable of handling all sorts of crises and tensions and absorbing shocks from all sources, both internal and external. This often requires high degree of political institutionalization, high degree of political legitimacy, sound economic performance and policies, and state’s proven capacity to deal with natural disasters or humanitarian emergencies. Stable countries are usually absent of significant antistate opposition or have low levels of political ► [violence](#) or social, ethnic, or religious tensions.

### Description

Political stability greatly affects the ► [quality of life](#). Economic and human development needs a secure and stable political and social environment. Outbreaks of political, ethnic, or religious violence following street protests and mass demonstrations or in the wake of political repression or religious persecution often lead to loss of human lives, interruption of daily ► [norms](#), and destruction of properties and pose serious threats to existing political and socioeconomic order. The worst cases of political instability, in the form of mass resistance and bloody crackdown,

civil wars, military coups, ethnic cleansing, or genocide, not only create humanitarian crises but negatively impact regional and, sometimes, even global ► [security](#).

Concerns about political stability also affect foreign direct investment as institutional or individual investors are reluctant to put their money into any economy where they do not feel safe about their investments in the short term or over a certain period of time. Moreover, in the age of globalization, nationals who have low confidence about the political stability in their own countries may choose to “vote with their feet” by migrating to a politically stable environment, thus a drain of both capital and talent.

Due to its profound policy implications, analyzing, reporting, and predicting political stability or state fragility has been a rapid growing industry, involving not only academics, think tanks, and businesses, as well as government agencies, intelligence communities, the military, intergovernment organizations, and global rating agencies.

One of the global surveys and analyses of political stability is the World Bank’s *Worldwide Governance Indicators (WGI)*, which cover a total of 213 economies over the period 1996–2009. According to the World Bank, the aggregate indicators of governance represent the views of a large number of enterprise, citizen, and expert survey respondents in industrial and developing countries. The individual data sources underlying the aggregate indicators are drawn from a diverse variety of survey institutes, think tanks, nongovernmental organizations, and international organizations. WGI has six aggregate indicators of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The “political stability and absence of violence” indicator which measures the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism, has become the often quoted source of data for measuring political stability ([The World Bank](#)).

Apart from the World Bank's "political stability and absence of violence" indicator, there are six sets of publicly available indices measuring political instability and state fragility on a global scale. They have now become the mostly quoted measurements in the literature on political stability. The first three – *the State Fragility Index*, *the Country Indicators for Foreign Policy-fragility index*, and *the Index of State Weakness in the Developing World* – are assessments of government performance in four key areas: political, security, economic, and social. In other words, these are report cards on the current status – how the state has been performing or functioning in recent years. The other three indices – the ► *Failed States Index*, *the Peace and Conflict Instability Ledger*, and *the Political Instability Index* – are assessing and measuring the likelihood of conflict, instability, and state failure in the future.

*The State Fragility Index (SFI)* is compiled by the researchers at the Center for Systemic Peace and the Center for Global Policy at George Mason University and is published in the *Global Report* series. According to the authors of the SFI, "A country's fragility is closely associated with its *state capacity* to manage conflict; make and implement public policy; and deliver essential services and its *systemic ► resilience* in maintaining system coherence, cohesion, and quality of life; responding effectively to challenges and crises, and continuing progressive development" (Marshall & Cole, 2009).

The 2009 SFI assesses each country in terms of "effectiveness" and "legitimacy" in four performance categories. The "effectiveness" category includes "security effectiveness," "political effectiveness," "economic effectiveness," and "social effectiveness." The "legitimacy" category includes "security legitimacy," "political legitimacy," "economic legitimacy," and "social legitimacy." There are a total of eight component indicators and all indicators are given equal weights.

► *The Country Indicators for Foreign Policy (CIFP)* developed by the researchers at Carleton University aims at measuring "state fragility" which is defined as "the extent to which

a state can or cannot provide the basic functions of governance to its population." "Fragile states lack the functional authority to provide basic security within their borders, the institutional capacity to provide basic social needs for their populations, and/or the political legitimacy to effectively represent their citizens at home and abroad" (Carleton University, 2012).

The CIFP-fragility index relies on a total of 83 composite indicators grouped in 6 categories: governance (12 indicators), economics (24 indicators), security and crime (10 indicators), human development (17 indicators), demography (10 indicators), and environment (10 indicators). All categories are given equal weights, and all indicators inside their given categories are given equal weights as well.

*The Index of State Weakness in the Developing World* considers a state's strength or weakness as a function of its effectiveness, responsibilities, and legitimacy across a range of government activities. Weak states are thus defined as "countries that lack the essential capacity and/or will to fulfill four sets of critical government responsibilities: fostering an environment conducive to sustainable and equitable economic growth; establishing and maintaining legitimate, transparent, and accountable political institutions; securing their populations from violent conflict and controlling their territory; and meeting the basic human needs of their population" (Rice & Patrick, 2008).

The index uses 20 indicators to measure state weakness of developing countries according to their relative performance in four critical spheres: economic, political, security, and ► *social welfare*. Referred to as "baskets," each of these four categories of core government functions contains five indicators. All indicators are given equal weights. The index covers the countries in the developing world only, but the developing world here is a broad category, including as many as 141 countries.

*The Failed States Index (FSI)* developed by the *Foreign Policy* magazine and the Fund for Peace measures a country's risk for internal conflict. The key concept, "state failure" is

defined as “the loss of physical control of its territory or a monopoly on the legitimate use of force; the erosion of legitimate authority to make collective decisions, an inability to provide reasonable public services, and the inability to interact with other states as a full member of the international community” (The Fund for Peace and *Foreign Policy*, 2012). The FSI is based on a total of 12 indicators of vulnerability in three categories: four are social, two are economic, and six are political. All indicators are given equal weights.

*The Peace and Conflict Instability Ledger (PCIL)* is developed by the researchers at the University of Maryland. It aims at assessing the future likelihood of state instability which is defined as a wide variety of event types, including revolutionary wars, ethnic wars, adverse regime changes, and genocides or politicides. “. . .the onset of any one of these events signals the arrival of a period in which government’s capacity to deliver core services and to exercise meaningful authority has been disrupted, threatening its overall stability” (Hewitt, Wilkenfeld, & Gurr, 2010). The index includes five categories of composite indicators: regime consistency, infant mortality, economic openness, militarization, and neighborhood war.

*The Political Instability Index (PII)* is based on a survey of a total of 165 countries by the *Economist* Intelligence Unit. It assesses the likelihood of social and political unrest which is defined as “those events or developments that pose a serious extra-parliamentary or extra-institutional threat to governments or the existing political order. The events will almost invariably be accompanied by some violence as well as public disorders. These need not necessarily succeed in toppling a government or regime. Even unsuccessful episodes result in turmoil and serious disruption” (*Economist* Intelligence Unit, 2012b).

The overall index has two composite indicators, rating each country for its underlying vulnerability to unrest and economic distress. The indicator of “underlying vulnerability” includes 12 sub-indicators: inequality, state history, corruption, ethnic fragmentation, trust

in institutions, status of minorities, history of political instability, proclivity to labor unrest, level of social provision, a country’s neighborhood, regime type, and regime and factionalism. The indicator of “economic distress” includes three sub-indicators: growth in incomes, ► **unemployment**, and level of income per head.

All these six sets of indices represent aggregate data which incorporate many more composite indicators which, at times, overlap. Due to different research designs and survey methodologies, however, each index tends to come up with different ratings and rankings. Each index also has its own weaknesses, flaws, or bias. In two user’s guides on measuring fragility, researchers in Germany and UK have discussed in great detail some of the problems associated with these indices (Mata & Ziaja, 2009; McLoughlin, 2010). Undoubtedly, no system of measurement and assessment is beyond criticism or controversy, but the six publically available sets of indices do offer reasonably comprehensive and balanced assessments when they are put together in comparisons.

Global comparisons of the established democracies, which are usually advanced industrialized economies, with poor, developing countries, many of which are non-democracies, almost inevitably produce predictable lists of the “usual suspects” as the most stable or the most unstable countries. For instance, among the 165 countries covered by the 2009–2010 *Political Instability Index*, the top 20 most stable countries are Finland, Sweden, Denmark, Switzerland, Norway, Luxembourg, New Zealand, Ireland, Canada, Austria, Netherlands, Iceland, Australia, Germany, Belgium, France, Slovenia, USA, UK, and Singapore. On the other hand, the top 20 most unstable countries are Zimbabwe, Chad, Democratic Republic of Congo, Cambodia, Sudan, Iraq, Cote d’Ivoire, Haiti, Pakistan, Zambia, North Korea, Bolivia, Ecuador, Angola, Dominican Republic, Ukraine, Bangladesh, Guinea, Nepal, and Niger.

Among the 177 countries covered by the 2012 *Failed States Index*, the top 20 least fragile states are Norway, Denmark, Canada, Sweden, Finland,

Switzerland, Costa Rica, New Zealand, Luxembourg, Austria, Australia, Czech Republic, Slavonia, Japan, Germany, Oman, Netherlands, Belgium, UAE, and Seychelles. The top 20 most fragile states are Somalia, Democratic Republic of Congo, Sudan, Chad, Zimbabwe, Afghanistan, Haiti, Yemen, Iraq, Central African Republic, Cote d'Ivoire, Guinea, Pakistan, Nigeria, Guinea-Bissau, Kenya, Ethiopia, Burundi, Niger, and Uganda.

What is less certain and predictable are the measurements of political stability and state fragility of the majority countries between the best top and worst top 20. Here comparisons of the five members of the so-called BRICS (Brazil, Russia, India, China, and South Africa) may shed some interesting light. The term, "BRICS," is somehow an arbitrary one, but to the extent that these five countries are the largest emerging economies, covering four different continents (South America, Eurasia, Asia, and Africa), and that these countries appear to have more in common when it comes to opportunities, challenges, and risks in their development, comparisons among them may help us better understand political stability. The BRICS cases also allow cross-regime-type comparisons as Brazil, India, and South Africa belong to the category of "flawed democracies," while Russia and China belong to the category of "authoritarian regimes," according to the Economist magazine's *Democracy Index* (Economist Intelligence Unit, 2012a).

On a scale of 0 (least stable) to 100 (most stable) of the World Bank's *Worldwide Governance Indicator of "political stability and absence of violence,"* South Africa (with a score of 44.5) is considered to be most stable of the five BRICS countries, followed by Brazil (54.2). China (29.7) and Russia (21.7), on the other hand, fall way behind. With a score of 13.2, India is considered to be the least stable of the five BRICS countries.

On a scale of 1 (least fragile) to 25 (most fragile) of the *State Fragility Index*, Russia and China are tied in terms of state fragility. With a score of 8, both are considered to be more fragile than Brazil (with a score of 5) but slightly

less fragile than South Africa (with a score of 9). India has received the worst score (13) for state fragility among the BRICS countries. In terms of two categories of composite indicators, Russia, China, and South Africa are tied in terms of "effectiveness." With a score of 4, all three of them are considered much less effective than Brazil (with a score of 1) but far more effective than India (with a score of 8). In terms of "legitimacy," Brazil, Russia, and China are tied. With a score of 4, they are slightly better than India and South Africa (with a score of 5).

The CIFP-fragility overall scores (from 1.00 as least fragile to 10.00 as most fragile) show that Brazil (4.84) is the least fragile, followed by South Africa (4.84), Russia (5.04), China (5.06), and India (5.71). On the "governance" indicator, South Africa (3.75) is the best, followed by India (4.41), Brazil (4.61), China (5.98), and Russia (6.15). On the "economics" indicator, China (4.25) is the best, followed by Russia (4.49), South Africa (4.57), Brazil (4.92), and India (5.31). On the "security and crime" indicator, South Africa (4.19) is the best, followed by Brazil (4.39), China (6.09), India (7.32), and Russia (7.57). On the "human development" indicator, Brazil (4.51) and Russia (4.51) are the best, followed by China (4.69), South Africa (5.52), and India (6.42). On the "demography" indicator, Russia (3.38) is the best, followed by China (4.62), Brazil (4.90), South Africa (5.13), and India (5.63). And on the "environment" indicator, Brazil (4.19) is the best, followed by Russia (5.43), India (5.51), China (5.71), and South Africa (6.27).

*The Index of State Weakness in the Developing World*, which assesses a total of 141 developing countries, shows significant differences in terms of overall scores and cross-regime comparisons. On a scale of 0 (worst) to 10 (best), South Africa (7.50) is the best, followed by Brazil (7.22), China (6.41), India (6.28), and Russia (6.20). The composite indicators of this index are more revealing. In the "economics" basket, five BRICS countries are roughly the same, with Russia performing slightly better, with an overall score of 7.14, which is followed by China (6.89), South Africa (6.89), Brazil (6.72), and India (6.72). In the "security"

basket, South Africa (7.72) is the best, followed by Brazil (7.32) and China (6.85). India (4.87) and Russia (4.83) fall way behind. In the “social welfare” basket, Russia (9.04) is the best, followed by Brazil (9.01), China (8.21), South Africa (7.33), and India (6.79).

While Russia is ranked the best on two of these three indicators and China is consistently ranked the third on these three indicators, it is in the “political” basket that Russia and China receive much lower scores. With an overall score of 8.07, South Africa is the best, followed by India (6.72) and Brazil (6.42). Russia and China, on the other hand, receive an overall score of 3.81 and 3.69, respectively. More specifically, on the composite indicator of “voice and accountability” in the “political” basket, Russia and China receive a score of 4.03 and 1.78, respectively, compared to South Africa’s 8.22, Brazil’s 7.56, and India’s 7.50. On the composite indicator of “freedom,” Russia and China receive a score of 2.50 and 0.83, compared to a score of 8.33 for both Brazil and South Africa and a score of 7.50 for India.

If the report cards on how the BRICS countries have been performing in recent years show many significant differences, it should come as no surprise that the assessments for the likelihood of conflict, instability, and state failure in the future also differ in many ways.

*The Failed States Index (FSI)* shows that Brazil and South Africa are less vulnerable than Russia, India, or China. On a scale of 20 (most stable) to 120 (failed states), Brazil (64.1) is the best, followed by South Africa (66.8) and Russia (77.1), while India (78.0) and China (78.3) are basically tied. A breakdown of the FSI further indicates that in terms of “social vulnerability,” on a scale of 0 (best) to 10 (worst), Brazil (5.32) is the least vulnerable, followed by South Africa (6.03), Russia (6.08), China (6.05), and India (6.65). Within this category, the composite indicator of “mounting demographic pressures” suggests that all of the BRICS countries face more or less the same challenge (6.0 for Russia, 7.0 for Brazil, 7.3 for India, 7.9 for China, and 8.1 for South Africa). Meanwhile, Russia, China, and India receive the worst score (7.9) for the composite indicator of “vengeance-seeking

group grievance,” suggesting that the likelihood of social unrest is higher in these countries than in South Africa (5.6) or Brazil (6.2).

In the “Economic Vulnerability” category, Brazil, India, China, and South Africa, as the largest emerging economies, receive pretty bad scores for the composite indicator of “uneven economic development” (8.4, 8.3, and 8.2, respectively), while Russia’s score stands at 7.3. In the “political vulnerability” category, Russia and China receive the worst score for the composite indicator of “legitimacy of the state,” 7.9 for both Russia and China, compared to South Africa’s 5.2, India’s 5.5, and Brazil’s 5.6. Russia and China also receive the worst scores for the composite indicator of “violation of human rights and rule of law,” 8.6 for China and 8.1 for Russia, compared to South Africa’s 4.5, Brazil’s 5.0, and India’s 5.8. On the other hand, South Africa, China, and Brazil receive better scores for the composite indicator of “intervention of external actors,” suggesting that the likelihood of foreign intervention in these countries is low.

Contrary to the worst assessment by *the Failed States Index*, *the Peace and Conflict Instability Ledger (PCIL)* gives China the best assessment among the BRICS countries. On a scale of 0 (low risk) to 40 (highest risk), China’s risk score stands at 1.2, which places China in the “low-risk” group. Brazil (6.6), Russia (6.7), and South Africa (8.1) are placed in the “some-risk” group, while India (12.0) is placed in the “high-risk” group. China is ranked the best among the BRICS countries because China receives the best assessment for “regime consistency” and better-than-average assessments in three other categories (infant mortality, economic openness, and militarization). Only in the category of “neighborhood war” does China receive a worse-than-average assessment mainly because China is located in a region full of security risks: 12 of China’s 14 neighboring countries receive the worst score in this category.

Somewhat surprising and certainly contradictory to the findings by other indices, the *Economist* magazine’s *Political Instability Index* ranks India as the most politically stable among the BRICS countries. On a scale of

0 (no vulnerability) to 40 (highest vulnerability), India's political instability score (4.5) is slightly better than that of China (4.8) or Brazil (5.4), while Russia (6.5) and South Africa (7.0) fall behind. A closer look at the PII's two composite indicators indicates that, if measured in terms of "underlying vulnerability to unrest," China (4.6) turns out to be the least vulnerable, closely followed by India (5.0), Russia (5.0), and Brazil (5.8), while South Africa is the most vulnerable (7.1). If measured in terms of "economic distress," India (4.0) is the least vulnerable, followed by Brazil (5.0) and China (5.0), while South Africa (7.0) and Russia (8.0) are much more vulnerable.

Stability is a relative term. Some countries are more stable than others although few can claim to be absolutely stable. Moreover, no countries are free of concerns about real or potential threats to social, economic, and political stability, both from within or from the global environment. Nevertheless, these comparisons should make it clear that democracies receive much better scores than non-democracies although the causal relationship between regime type and political stability is by no means linear. On such indicators as "legitimacy," "► [human rights](#)," "voice and accountability," and "► [freedom](#)," Russia and China are scored much worse than other countries in the BRICS group. This is particularly evident in the *Failed States Index* and the *Index of State Weakness in the Developing World*. On the other hand, on such political indicators as "regime consistency" or economic indicator as "economic openness" or ► [social indicators](#), China is usually scored much better than other countries in the BRICS group and better than average on a global scale of comparisons.

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## Political Trust

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## Synonyms

[Institutional trust](#); [Political confidence](#)

## Definition

In its broadest sense, political trust refers to citizens' assessments of the core institutions of the polity and entails a positive evaluation of the most relevant attributes that make each political institution trustworthy, such as credibility, fairness, competence, transparency in its policy-making, and openness to competing views. As a conceptual device, political trust is conceived as a midrange

indicator of support between political actors in charge of each institution and the overarching principles of democracy in which specific institutions are embedded in a given polity.

## Description

Political trust is a key component of any well-functioning democratic society. The legitimacy and stability of democratic regimes depend strongly on citizens' support of the system. When institutions and political actors of democratic regimes are perceived to be trustworthy, citizens are more willing to abide by the laws, are more interested in politics, and get more involved in civic affairs (Putnam, 1993). Political trust also provides the basis for political actors to act and decide without restraint (Warren, 1999). Signs of absent or decreasing political trust have therefore long been a matter of serious concern.

In the wake of the diagnosis of a "crisis of democracy" proclaimed by the "Trilateral Commission" in the 1970s (Crozier, Huntington, & Watanuki, 1975), a number of comparative studies investigated the developments, causes, and consequences of political trust. Since then, however, the empirical evidence of ever-declining levels of political trust has been at best mixed and has varied significantly between countries.

As to the origins of political trust, two explanatory approaches have proven to be particularly useful. The first approach reflects a top-down perspective and stresses the relevance of institutional performance for the formation of political trust. The second approach adopts a bottom-up view, claiming that the erosion or even the complete absence of social capital leads to a severe degrading of political trust (Mishler & Rose, 2005; Newton & Norris, 2000).

According to the top-down approach, the trustworthiness of political institutions is assumed to be a function of their ability to provide citizens with a political and economic environment that guarantees political rights, lives up to ethical, just, fair, and transparent standards, and ensures economic prosperity and ► [equality](#) for substantial parts of society (Mishler & Rose, 2005).

Proponents of the bottom-up perspective argue that features of ► [social cohesion](#) that are embodied in the prevalence of a spirit of cooperation, trust, and solidarity provide the basis for citizens to shift their focus from narrow self-interest to the common good, become interested in politics, and participate in it, and, consequently, become supportive of the political system as a whole. Therefore, two levels of analysis need to be distinguished that are both relevant for the formation of political trust. The aggregate level indicates the extent to which a society can draw on social capital, e.g., ► [social trust](#) as a resource for cooperation. The individual level describes whether people as individuals have a trustful and cooperative attitude. In fact, this twofold differentiation of social capital as a societal and individual resource is also positively associated with a number of indicators of ► [quality of life](#) at both levels of analysis. As several cross-country studies suggest, macro indicators that measure high levels of quality of life in a given society, such as social or economic equality, aggregated ► [life satisfaction](#), or ► [subjective well-being](#), are positively correlated with social and political trust. At the individual level, citizens who possess more material and immaterial resources, such as higher income and status, better ► [education](#) and ► [health](#), or higher levels of ► [happiness](#) or life satisfaction, are socially and politically more trustful than those who are less well off (Zmerli, Newton, & Montero, 2007; Zmerli & Newton, 2011).

Declining levels of political trust are thus explained by deteriorating institutional performance, such as inefficacy, inefficiency, or high levels of ► [corruption](#), and societal malfunction, with its macro- and microlevel implications.

Yet another explanation for decreasing levels of political trust is put forward by modernization theorists. With ever-increasing numbers of well-educated citizens and post-materialists in modern societies, the number of politically knowledgeable and interested but critical citizens is also growing (Dalton, 2004; Inglehart, 1997). Political distrust is, therefore, perceived as the expression of the individual orientation of reflective citizens.

With regard to its consequences, political trust can also be perceived as a source of institutional and societal performance. Where people are trustful of their political institutions, they are more likely to act in accordance with the law, which in turn reduces the need for monitoring or sanctions and the associated costs. Diminishing these transaction costs results in an accumulation of resources, which are now available for further more efficacious institutional action (Putnam, 1993). In addition, high levels of political trust strengthen people's willingness to cooperate with their fellow citizens because they trust that political institutions will impose effective sanctions on aberrant behavior (Zmerli et al., 2007).

### Measurement and Dimensionality

As an empirical indicator, the majority of studies follow the World Values Survey and use the question:

Please look at this card and tell me for each item how much confidence you have in them.

Although the items vary from one questionnaire to another, they generally address trust in the national parliament, government, politicians, political parties, the police, the legal system, the civil service, the army, the UN, and other international organizations.

From a theoretical perspective, the items on political trust in this set can be differentiated according to criteria relating to the actors and institutions of representative party-based democracy, on the one hand, and criteria relating to institutions of the "Rechtsstaat" on the other (Denters, Gabriel, & Torcal, 2007). Empirically, however, a number of comparative studies suggest that there is just one dimension of political trust underlying most of these items.

### Cross-References

- ▶ Corruption
- ▶ Education
- ▶ Equality
- ▶ Happiness
- ▶ Health

- ▶ Life Satisfaction
- ▶ Quality of Life
- ▶ Social Cohesion
- ▶ Social Trust
- ▶ Subjective Well-Being
- ▶ Trust

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### Political Trust and Integration

- ▶ Goal Achievement

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## Pollyanna Principle

- ▶ [Positivity Bias](#)

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## Polyarchy

- ▶ [Conceptualizing Democracy and Nondemocracy](#)

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## Polytomous Rasch Model

- ▶ [Rasch Polytomous Models](#)

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## Poor Nutritional Status

- ▶ [Malnutrition](#)

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## Popular Rule

- ▶ [Conceptualizing Democracy and Nondemocracy](#)
- ▶ [Measuring Democracy](#)

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## Population Age Pyramid

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### Synonyms

[Age-sex pyramid](#); [Population pyramid](#)

### Definition

A population age pyramid consists of two histograms set back to back on a vertical axis, showing

the numbers (or percentages of the whole population) of the two genders (separately) by age groups, usually in intervals of 5 years (Weeks, 2012).

### Description

A population pyramid is a “picture” illustrating the age structure and the gender structure of the population resident within a particular region or country at a particular point in time, for example, South Africa in 2010. The number of males and females in each age group (usually 5-year cohorts) is given in numbers or in percentages of the total number of people of that country. Population pyramids are essentially graphs and they are called pyramids because in countries or areas which have high birth rates and high death rates (as in many developing countries), the base of the graph is broad and rapidly tapers towards the top (where older ages are depicted) (Weeks, 2012).

Pyramids with broad bases are called “progressive pyramids” because they suggest future population growth, and this, in turn, suggests a lower quality of life. Cylindrically shaped pyramids are called “regressive pyramids.” These are characteristic of advanced economies, where there are proportionally fewer children and more old people (Mayhew, 2009).

A population pyramid is useful to examine the age structure of a population. It also provides information about social attributes of that population (Larkin, 2009). The shape of the population pyramid of any country or area will reveal the stage of the demographic transition of that area.

The term “a picture tells a thousand words” is particularly apt in the context of population pyramids. Instead of having to wade through long columns of statistics and using several formulae to work out various aspects of a population’s quality of life, one look at a population pyramid for that place or area gives immediate insight into aspects such as fertility rates, death rates, and life expectancy.

Studying the population pyramids of South Africa, for example, reveals inequalities between the different racial groups in the country, arguably attributable to the impact of decades of

Apartheid policy. Looking at the separate population pyramids from the South African censuses (the last one having been undertaken in 2001 and the next one being scheduled for October 2011), it is easy to see the differences. The population pyramid of the “black” population has a wide base and tapers quickly towards to older age groups. From such a shape it is clear that the dependency ratio (the ratio of the dependent-age population to the working-age population) of the population being depicted is high. The pyramid for the “white” group has a more cylindrical shape, showing low birth and death rates and a higher life expectancy, typical of a relatively affluent and educated society.

Population pyramids also provide insight into the history of the group being depicted. For example, they show if a country has been through a war or if it has experienced an epidemic or pandemic, such as AIDS. In the former example, a population pyramid for 1950 for a European country involved in World War 2 would reveal an indentation on the male side of the pyramid between the ages of 25 and 45. The base of such a pyramid would be wider than it would have had 10 years earlier, as a result of the “baby boom” after World War 2. In the latter example, the pyramid would show the lowering of the life expectancy as a result of AIDS being most prevalent among people between the ages of 15 and 24 years (Miller & Spoolman, 2009).

## Cross-References

- ▶ [Birth Rate](#)
- ▶ [Childlessness, Midlife, and Old Age](#)
- ▶ [Children from Birth to Age Five, Quality of Life in](#)

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## Population and Environment

- ▶ [Immigrant Concentration Impact on Air Pollution](#)

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## Population Census

- ▶ [Census](#)

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## Population Change

- ▶ [Population Growth](#)

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## Population Density

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## Synonyms

[Gross residential density](#)

## Definition

- ▶ [Population density](#) is a ratio of the number of people per a given unit of land area (usually expressed per square kilometer or mile). The ratio can be computed at the nation level

(e.g., total population divided by total land area in the country) or it can be computed using other “place” definitions. For example, population density can be computed for a city (total population of residents living in the city per land area within the city), specific neighborhoods or census districts, urban versus suburban areas, or for specific buffers around where people live (e.g., total number of people living within a square kilometer area defined by the road network from one’s residence).

A related concept is residential density. Residential density is usually computed using a count of housing units in the numerator, although population counts can be used. The denominator can be either land area devoted *only* to residential use (i.e., area of other land uses is subtracted out) or total land area. Net residential density is the ratio of residential housing units to the land area devoted only to residential land use. ► **Gross residential density** is the ratio of residential housing units to total land area (i.e., all land uses). When gross residential density is computed as the total population (rather than housing units) to total land area (all uses, not just residential), the measure is the same as ► **population density**.

## Description

As early as the 1960s, psychologists and sociologists were concerned that population density, especially high density or “overcrowding,” might have detrimental effects on health and quality of life. Studies have found mixed results suggesting complex underlying influences and relationships. However, when significant associations are found, the direction often is that of higher density related to lower perceived life quality or satisfaction. Recent examples include three large studies that examined census-based population density in relation to quality of life (QOL) or psychosocial measures.

Oliver (2003) examined over 2,000 individuals using data from the 1986 Americans’ Changing Lives Survey and the 1990 US Census and found that residents of places with higher population density were more dissatisfied with their

neighborhood, felt less safe in their neighborhood, had lower emotional well-being, and reported lower general life satisfaction than those living in less densely populated places. Another nationally representative US study by Lawless and Lucas (2011) examined data from the 2005–2008 Behavioral Risk Factor Surveillance System (overseen by the Centers for Disease Control and Prevention) and found that living in areas with higher population density was associated with lower life satisfaction. A third study in Oslo, Sweden, by Cramer and colleagues (2004) examined indices of quality of life on over 2,000 adults registered in the 1994 National Population Register and found that higher population density (defined by the number of people per square kilometer in the respondent’s district) was associated with lower QOL indices, including perceived global QOL, neighborhood quality, and subjective well-being.

Negative associations between population density and QOL measures often are explained as due to more negative characteristics in densely populated urbanized areas, such as higher levels of noise, vehicle congestion, crime, and blighted areas, with less social interaction, less interest in community activity, and fewer amenities like “green space.” Modern urban planners suggest that such negative influences can be reduced and healthier communities created with planning and transportation designs based on “New Urbanism” (<http://www.newurbanism.org>) and “Smart Growth” (<http://www.smartgrowth.org>) models. These models promote more compact walkable communities with greater mixes of land uses, housing, and job types while decreasing the negative externalities of automobile use and preserving open space and desirable amenities.

However, because more walkable communities also have higher residential density, the challenge for community planners is to improve other characteristics and amenities that are related to satisfaction with one’s neighborhood. A recent study found that the association between higher residential density and lower neighborhood satisfaction was mediated by residents’ perceptions of fewer neighborhood aesthetic qualities, more pollution, less overall safety, and more crime (VanDyck,

Cardon, Deforche, & DeBourdeaudhuij, 2011). Thus, efforts to improve such characteristics may mitigate the negative association between population density and QOL perceptions.

## Cross-References

- ▶ [Density, Urban](#)
- ▶ [Neighborhood Well-being](#)
- ▶ [Residential Satisfaction](#)
- ▶ [Smart Growth](#)
- ▶ [Urban Design](#)

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## Population Estimates

- ▶ [Estimator](#)

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## Population Growth

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## Synonyms

[Population change](#)

## Definition

Population growth is usually referred to as “population change” – since empirical values as well as theoretical ones may be positive, zero, or negative. It is measured as “the difference between the sizes of a population at different dates.” “Population” may refer to the population of a country, a region, or other subdivision of a country or a proper subset of such a population (e.g., “illegal immigrants in California”). “Different dates” are usually at a distance of a (calendar) year but may also be at monthly intervals or some other interval (such as a decade or an intercensal period).

## Description

Population growth may be measured in *absolute* values or as a *relative* measure. In the former case, we subtract the population count at the earlier of two dates from the population count at the later date. In the latter case, we divide the difference thus obtained by the population count at the earlier date. Such a relative *rate* may be converted into a *percentage* by multiplying the rate by 100.

## Components

For any population, growth over a specific time interval can be *decomposed* into the contributions by specific *modes of entry* and *modes of exit*. For the population of a country, we can specify the former as *the sum of the number of births (B) and the number of immigrants (I)* and the latter as *the sum of the number of deaths (D) and the number of emigrants (E)*. For populations defined in other ways (such as regional populations or the population of all people resident in a given country who have earned doctorates), modes of entry and exit need to be stated in relation to the definition of such populations.

For national populations, we can thus write

$$P_{t+1} = P_t + B + I - D - E, \text{ where:}$$

$P_{t+1}$  is the population at time  $t + 1$ .

$P_t$  is the population at time  $t$ .

$B$  is the number of births in the period between  $t$  and  $t + 1$ .

D is the number of deaths in the period between  $t$  and  $t + 1$ .

I is the number of immigrants in the period between  $t$  and  $t + 1$ .

E is the number of emigrants in the period between  $t$  and  $t + 1$ .

We can also rearrange the terms in this equation as follows:

$$P_{t+1} - P_t = (B - D) + (I - E)$$

The left-hand side of this equation obviously refers to the amount of population change; the right-hand side consists of two terms; we refer to the former as “net natural increase” and to the latter as “net migration.” In many populations, growth has been due largely to net migration, in the presence of negative natural increase.

The above equations are referred to by demographers as “balancing equations,” in which occasionally solutions may be found for one of the terms (e.g., emigration in the case of Canada) if such a term is either not measured empirically or measured unreliably.

### Longer Periods of Time

The above section refers to a situation in which two points in time are exactly 1 year apart. In many situations, we only have independent and reliable measures of population size which are much further apart, for example, when such measures are obtained by a population census. Usually, the *intercensal period* is 10 years (though there are many exceptions to this). Thus, the amount of population growth can be measured simply by subtracting the earlier population count from the later one. However, we run into difficulties when we are interested in *rates of population change*.

In such case, we need to divide the amount of population change by a population value. Generally, we choose as this population value the *average* population for the entire period. In other words, if the initial population had a size  $P_0$  and the final population size was  $P_n$ , the average population would be estimated as  $(P_0 + P_n)/2$ . Let us refer to this value as  $P_a$ . (It should be noted that the period over which we are measuring

population change equals  $n$  years –  $n$  does not need to be an integer).

If we know the values of the initial and final population size, as well as the length of the intervening period, we can calculate the rate of change, on an annual basis.

There are three general approaches to this:

#### 1. Linear Change (also called Arithmetic Change)

In this case, we assume that the overall change is divided equally over the entire period (in other words, if the intercensal period is 10 years, we assume that the total change may be divided by ten to obtain an annual change). We can estimate the annual amount of change as

$b = (P_n - P_0) / n$ . The linear rate of change will then be  $(b/P_a) * 100$  (note: this yields a *percentage change*).

#### 2. Geometric Change

Under this approach we assume that the annual rate over the entire period of  $n$  years is constant (think compound interest). Thus, we can state

$P_n = P_0 (1 + r)^n$  (where  $r$  is the annual rate of change). Taking logarithms, we can solve for  $r$ :

$$\ln(1 + r) = \{\ln(P_n/P_0)\}/n$$

The value thus obtained may be converted in a percentage change by multiplying it by 100.

#### 3. Exponential Change

As in the case of geometric change, we assume that population change compounds. However, whereas for geometric change we assumed that this compounding took place on an annual basis, for exponential change we assume that the compounding takes place over infinitely small segments of time (compare annually compounded interest with daily interest). We can then write

$P_n = P_0 * e^{rn}$ ;  $e$  is a mathematical constant, commonly used in calculus. Here, again, we can solve for  $r$  by taking logarithms.

For any given period and any given values for the population sizes, these three

**Population Growth, Table 1** The countries with the highest rates of population change

1	East Timor	5,36	13
2	United Arab Emirates	4,82	14
3	Qatar	4,52	15
4	Eritrea	3,93	18
5	Burundi	3,58	19

**Population Growth, Table 2** The countries with the lowest rates of population change

1	Georgia	-0.97	71
2	Ukraine	-0.77	90
3	Lithuania	-0.62	112
4	Latvia	-0.53	131
5	Bulgaria	-0.53	131

Source: Tables 1 and 2, *Population growth > annual percentage by country, World Development Indicators database*. Retrieved from [http://www.NationMaster.com/graph/peo\\_pop\\_gro\\_ann-people-population-growth-annual](http://www.NationMaster.com/graph/peo_pop_gro_ann-people-population-growth-annual), accessed 11/09/11

approaches will yield slightly different values for the rate of change; the geometrical one will be the largest, followed by the exponential and the linear ones. The magnitude of the difference is a function of the value of  $n$  and of the amount of population change between the initial and final time points.

### Doubling Time

For many superficial comparisons, the rate of change is not an intuitively clear instrument. For most observers, the fact that Kuwait had a rate of population change of 3.04 in 2005 doesn't really mean very much. However, if we convert this value into the number of years it would take the population of Kuwait to double; it might be easier to appreciate what this means. To convert an exponential rate of change into a doubling time (in years), we divide the observed rate into 69.34 (which happens to be 100 times the natural logarithm of 2). Demographers refer to this as the "rule of 70," since this number is easier to remember than 69.34. It should be clear that such doubling time would only obtain if the observed rate of population change would continue for a large number of years!

Some observed values.

Without claim to perfect accuracy, we present the following values (all pertaining to calendar year 2005):

Note that in the former table (Table 1), we see doubling times below 20 years; the latter table (Table 2) shows negative rates of change. The values in the fourth column reflect *halving* times; in other words, if current conditions persist over a very long period of time, the population of Georgia would *halve* in 71 years. Note that the countries in the former table are all Third World countries, in Asia or in Africa; the countries in the latter table all belonged to the former Soviet Empire.

### Cross-References

- ▶ [Death](#)
- ▶ [Immigrants, an Overview](#)

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## Population Growth and Air Pollution

- ▶ [Immigrant Concentration Impact on Air Pollution](#)

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## Population Health Measurement

- ▶ [Epidemiologic Measurements](#)

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## Population Intensity

- ▶ [Density, Urban](#)

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## Population Norms

- ▶ [Normative Data](#)

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## Population Pyramid

- ▶ [Population Age Pyramid](#)

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## Population Reference Data

- ▶ [Normative Data](#)

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## Populations at Risk

- ▶ [Vulnerable Populations](#)

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## Pornography and Men's Attitudes Supporting Violence Against Women

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### Synonyms

[Attitudes](#)

### Definition

The widely accepted conceptualization of “attitudes” usually incorporates three components including affective responses, cognitive evaluations, and behavioral predispositions toward an entity (Breckler, 1984; Hald, Malamuth, & Yuen, 2010). Following this, attitudes supporting violence against women (ASV) may be conceptualized as (a) affective responses to acts such as rape, other types of sexual aggression, and partner violence, (b) evaluative cognitions, and (c) behavioral predispositions or attractions toward such aggressive acts (Malamuth, Hald, & Koss, 2012). Consequently, this term also incorporates rape-supportive attitudes and rape myth

acceptance (see also Allen, Emmers, Gebhardt, & Giery, 1995).

The term “pornography” refers to sexually explicit materials intended to create sexual arousal in the consumer. Nonviolent pornography is defined as sexually explicit materials without any overt coercive content but which may sometimes imply acts of submission and/or coercion by the positioning of the models, use of props, or display of unequal power relationships. Violent pornography is defined as sexually explicit materials in which nonconsensual, coercive, and/or violent sexual relations are explicitly portrayed (see also Senn & Radtke, 1990).

### Description

In the controversy about effects of exposure to pornography, attitudes have long held a central and decisive role. In pornography research, predominately, attitudes supporting violence against women, sexist attitudes, sexually permissive attitudes, and attitudes toward pornography have been targeted (Hald, Seaman, & Linz, 2012). In the following focus will be on pornography and men's attitudes supporting violence against women (including rape-supportive attitudes and beliefs).

Generally, data from a wide variety of experimental and correlational studies have converged to show that pornography consumption may increase ASV (Allen et al., 1995; Hald et al., 2010). In a recent meta-analysis on the relationship between pornography consumption and ASV in nonexperimental studies, Hald et al. (2010) found a significant association between pornography consumption and ASV, with a significantly stronger effect for violent than nonviolent pornography. Furthermore, Hald et al. (2010) found heterogeneity among the included studies to a degree indicative of moderating variables, although the literature encompassed in this meta-analysis did not enable identifying the basis for such moderation. However, this was made possible in another study by Malamuth et al. (2012) using a large representative sample of American men. Here it was found that the

significant association found between pornography consumption and ASV was moderated by individual differences in risk of sexual aggression such that consumers at the highest risk level of sexual aggression who reported the most frequent use of pornography also held the highest level of ASV.

These results from nonexperimental studies converge with meta-analyses and data from experimental studies. For example, in a meta-analysis on pornography and ASV in experimental studies, Allen et al. (1995) also reported a significant effect of pornography consumption on ASV with a stronger effect for violent than for nonviolent pornography. Further, in the largest experimental study to date investigating the association between exposure to pornography and ASV, Hald and Malamuth (2012) found that higher levels of past pornography consumption significantly predicted ASV. Further, that experimental exposure to pornography significantly increased ASV among men low in agreeableness (Hald, & Malamuth, 2012).

While potential effects of pornography consumption on attitudes constitute important changes in and of themselves (Malamuth et al., 2012), they are also of major interest due to findings showing that attitudes, e.g., ASV, can be a risk factor have been shown to be a risk factor for sexually aggressive behavior (Kjellgren, Priebe, Svedin, & Langstrom, 2010; Seto et al., 2010; Seto, & Lalumiere, 2010) and in confluence with other factors predict "real-world" sexually aggressive behaviors (e.g., Hall et al., 2006; Kjellgren et al., 2010; Malamuth et al., 2000). Importantly, though, when such studies have examined individual differences, they consistently indicate that the effects of exposure to pornography are evident only for a subgroup of male users, namely, those already predisposed to sexual aggression (Kingston, Malamuth, Fedoroff, & Marshall, 2009; Seto, Maric, & Barbaree, 2001).

If, indeed, pornography consumption increases ASV and ASV is a cornerstone of sexual aggressive behaviors among subgroups of males, this constitutes major challenges to the quality of life of many people including victims, families, and communities, as the result of such

aggression may be severe and include a variety of physiological, social, and psychological consequences. According to the Centers for Disease Control and Prevention (CDC) among others, consequences of sexual aggression include unwanted pregnancies, pain disorders, bodily injury, anxiety, depression, PTSD, reduced social functioning, and strained interpersonal relationships (CDC, 2012). Thus, sexual aggression may both immediately and long term result in reduced physical, psychological, and social health and functioning and through this in possible reduced quality of life.

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## Pornography, Sexual Socialization, and Satisfaction

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### Synonyms

Educational effect of pornography; Erotic enrichment effect of pornography; Normalization effect of pornography; Safe sex effect of pornography; Sexual script theory; Sexual scripts overlap scale (SIOS); Sexually explicit material

### Definition

In the recent literature, pornography is usually defined as any kind of material aiming at creating or enhancing sexual feelings or thoughts in the recipient and at the same time containing explicit exposure and/or descriptions of the genitals and clear and explicit sexual acts, such as vaginal intercourse, anal intercourse, oral sex, masturbation, bondage, sadomasochism, rape, urine sex, and animal sex. (Hald & Malamuth, 2008).

Sexual socialization is a lifelong process of socially mediated learning about sexuality-related social norms, values, beliefs, meanings, roles, identities, and behaviors. According to the sexual script theory, a social learning approach to human sexuality, sexual socialization occurs in the context of one or more specific sociocultural (macro) scripts and is characterized by the formation of intrapersonal and interpersonal scripts, which define sexual reality and guide sexual decision-making (Simon & Gagnon, 1999).

► **Sexual satisfaction** is an affective response reflecting the subjective evaluation of various dimensions associated with one's sexual life. In a broader sense, sexual satisfaction denotes subjective sexual well-being (cf. Lorenz, Stephenson, & Meston, 2011; Štulhofer, Buško, & Brouillard, 2010).

### Description

Digital revolution and the global popularity of Internet resulted in an unprecedented anonymity of use, availability, and affordability of sexually explicit materials. Pornography has become ubiquitous and often normalized. In contrast to the past criminalization and stigmatization, pornography use has been transformed almost into an entertainment genre. Currently, little is known about the consequences of the increased presence and normalization of pornography. Most of the available studies have focused on possible negative effects, such as sexual aggression, antiwomen attitudes, or risky sexual behavior. Although usually anecdotally, pornography use has also been associated with positive outcomes – particularly through

providing information about sexual techniques (educational effect), depicting certain sexual practices as a part of the standard sexual repertoire (normalizing effect), serving as a safe sexual outlet (safe sex effect), and fostering erotic exploration and experimentation (erotic enrichment effect). In this sense, empirical evidence of the positive relationship between pornography and sexual satisfaction and the repeatedly reported association between sexual satisfaction and overall [▶ quality of life](#) (cf. Laumann et al., 2006; Rosen & Bachmann, 2008) would suggest that pornography use may increase quality of life.

### Research on the Association Between Pornography Use and Sexual Satisfaction

Using different research design, a handful of studies examined the link between pornography and sexual satisfaction. The earliest attempt was Zillmann and Bryant's (1988) experimental study that focused on the association between repeated exposure to sexually explicit materials and a range of intimate and sexual experiences, including affection, perceptions of self and partner's physical attractiveness, and sexual performance. Study participants were students and community members ( $n = 160$ ) who were shown pornographic videos of nonviolent content during six 1-hour weekly sessions. A week after the final experimental session, participants filled out questionnaires that measured perceptions and evaluations of their sex life. Compared to a control group that was exposed to nonsexual videos, participants in the experimental condition placed a greater importance on emotionless sex and reported diminished sexual [▶ happiness](#) and satisfaction with partner's appearance, sexual curiosity, and performance. In spite of a solid research design, the study had several limitations. First, no [▶ effect size](#) was provided for differences between experimental and control groups. Secondly, their sample was affected by a very low response rate and included a high proportion of sexually inactive and single individuals. In addition, most participants were quite inexperienced with pornography, which may have magnified the impact of exposure. Finally, the [▶ attitudes](#) and dispositions that participants

reported shortly after the treatment did not necessarily reflect non-transitory effects of exposure.

Two decades later, Hald and Malamuth (2008) conducted a cross-sectional assessment of self-perceived effects of pornography use on sex attitudes, sexual knowledge, [▶ sexual experiences](#), and general quality of life in a national sample of young Danish adults ( $n = 688$ ). Participants were asked whether their pornography use had a positive or negative impact on a number of items related to each of the analyzed dimensions. Among both genders, the self-assessed negative effects of pornography use on different facets of personal sex life were of small size, if statistically significant. In contrast, positive effects were moderate in size, with men consistently reporting more positive effects than women. Regardless of gender, frequency of pornography use and the degree of perceived realism of pornographic material were found significant only in the context of positive associations. A couple of study limitations need to be considered. Although the authors should be commended for assessing a comprehensive inventory of sexuality-related outcomes, their reliance on self-perceived impact is open to normative expectations and socially desirable answers. In addition, the study was conducted in a sexually permissive culture with a long tradition of legal access to pornography, which restricts the generalizability of the findings.

In contrast, a Dutch panel study focused solely on the impact of online pornography use on sexual satisfaction. Peter and Valkenburg (2009) approached the issue of a possible causal link by conducting a longitudinal cohort study of Dutch adolescents ( $n = 1,052$ ). Conceptually, the authors relied on the [▶ social comparison theory](#), which emphasizes an automatic process of comparing one's attributes to that of the others. As much of the adolescents are sexually inexperienced, they seem particularly prone to making comparisons between pornographic presentations of bodies and actions and their own – much to their dissatisfaction. The study reported an indication of reciprocal causality between pornography use and sexual satisfaction. For male and female adolescents alike, exposure to pornography reduced sexual satisfaction and lower sexual satisfaction in turn increased

pornography use. This spiral effect, however, was very weak, being moderately strong only in the case of adolescents with no or very limited sexual experience. In other words, negative effects of pornography use primarily affected young people who lacked experience-based perspective and presumably ascribed too much realism to the glamorized pornographic imagery. Peter and Valkenburg longitudinal study was conducted within one calendar year, which provided a limited insight into the dynamics of the target relationship. An additional shortcoming is the use of a generalized two-item measure of sexual satisfaction, which is at odds with the multidimensionality of the construct (cf. Štulhofer et al., 2010). In contrast to the previous studies, the authors offered a conceptual description of the social mechanism behind the explored causal relationship. The implied mechanism, however, was not empirically assessed.

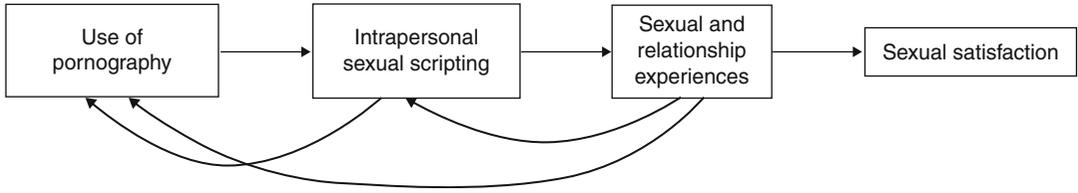
An important qualitative study was carried out by Löfgren-Mårtenson and Månsson (2010) among Swedish high-school students. Using individual semi-structured interviews and ► **focus groups**, the authors concentrated on adolescents' accounts of pornography use and the associated meanings. Somewhat surprisingly, Löfgren-Mårtenson and Månsson found that male and female students had no problems to openly discuss their pornography-related experiences. On the one hand, adolescents viewed pornography use as a normalized, socially acceptable practice that became an integral part of their everyday life. Pornography was acknowledged as informing and enhancing one's sexual life. On the other hand, participants, particularly young women, displayed ambivalence toward sexually explicit material, expressing critical stance toward the typical presentations of female sexual roles and emotionless sexual encounters. For some adolescents, typically of female gender, positive attitudes toward pornography were conditional upon the context of use. Pornography was acceptable and enjoyable if used with someone they were fond of. The authors concluded that most participants had developed skills necessary to distinguish pornographic fantasies from real-life sexual interactions. The study's qualitative design and the fact that it was also carried out in a sexually permissive

society characterized with a long tradition of school-based comprehensive sexuality education preclude any generalization of the findings.

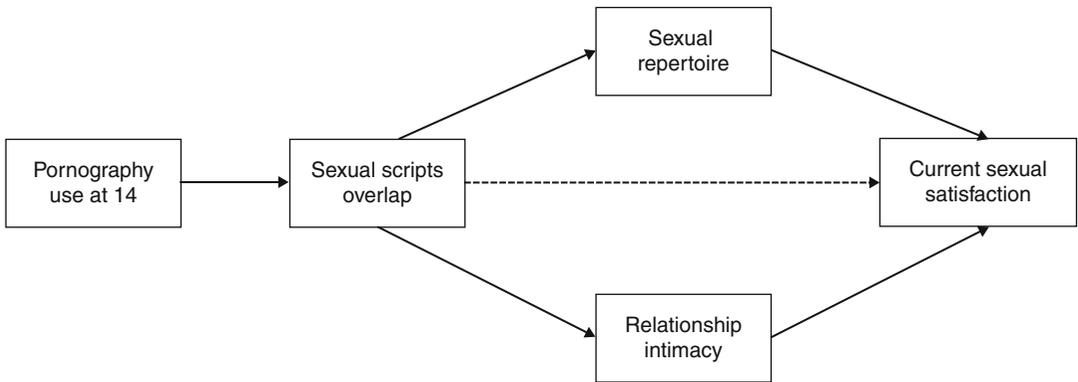
### **Pornography Use, Sexual Socialization, and Sexual Satisfaction**

The initial interest behind the studies presented in this section was to analyze, retrospectively, possible effects of pornography use in adolescence on young adults' sexual satisfaction. In a more general sense, the aim was to explore the role of pornography in the contemporary process of sexual socialization – which was absent from the studies outlined in the previous section.

Theoretical conceptualization used in the assessment of the impact of pornography on sexual satisfaction (and, thus, quality of life) was based on the sexual script theory (Simon & Gagnon, 1999). According to the theory, sexual scripts represent socioculturally and experientially constructed mental maps that anchor sex attitudes and guide sexual decision-making and erotic responses. Based on the overwhelming evidence that a majority of contemporary teenagers and young adults encounter pornography several years prior to their first (partnered) sexual experiences, the model presented in Fig. 1 proposes sequential influence, in which pornography exposure/use plays a prominent role in the construction of intrapersonal sexual script. The assembled script is then “tested” in dyadic sexual activity. At this stage, the script usually undergoes a revision as an interpersonal component is being added. This process of *rewriting* of intrapersonal sexual script based on the “sexual reality principle” (shared experiences, partner's sexual needs, emotional exchanges and investments, communication about sex, etc.), which may be (partially) repeated any number of times during life course, can impact pornography use in a number of ways – for example, by increasing or decreasing frequency of use, by changing patterns of use, or by altering personal evaluation of sexually explicit materials. Adding to the fact that the initial impact of pornography use on intrapersonal scripting is not uniform, as it depends on personality traits, social connectedness, and the sociocultural environment (sex-related norms and gender role



**Pornography, Sexual Socialization, and Satisfaction, Fig. 1** A theoretical model of the link between pornography use and sexual satisfaction



**Pornography, Sexual Socialization, and Satisfaction, Fig. 2** Path diagram of the indirect effects of pornography use in adolescence on sexual satisfaction in young adulthood

expectations), these feedback loops point to intricate dynamics behind the association between pornography and sexual satisfaction.

Based on the hypothesized interplay of the sequentially structured factors that determine personal sexual satisfaction, a more parsimonious path model was built to test the presumed indirect effect of pornography use in adolescence on sexual satisfaction in young adulthood. The model presented in Fig. 2 outlines two mechanisms through which pornography-influenced sexual scripting may affect sexual satisfaction. The first mechanism represents a positive influence: the more varied sexual repertoire – indirectly associated with pornography use – the higher sexual satisfaction. The rationale behind the hypothesized mechanism was that a more diverse sexual repertoire makes individuals less vulnerable to sexual boredom. The second mechanism denotes a negative effect: pornography-affected sexual socialization results in a lower sexual satisfaction due to a lower level of achieved relationship intimacy. In other words, pornography use has

a negative effect on emotional intimacy, which in turn impacts sexual satisfaction and, ultimately, quality of life. Finally, a direct effect of pornography-affected sexual scripting on sexual satisfaction was also hypothesized.

To test the above assumptions, two large-scale studies using online questionnaires were carried in 2006 ( $n = 1.914$ ; 61 % of women) and 2007 ( $n = 600$ ; 66 % of women) among young Croatian adults aged 18–25 years. The average age in the samples was 22 ( $SD = 2.03$ ) and 21 ( $SD = 1.76$ ), respectively. The central construct, pornography-affected sexual scripting, was assessed with a novel instrument, the *Sexual Scripts Overlap Scale* (SSOS; Štulhofer & Landripet, 2010). According to the conceptual model, pornography use is assumed to affect the process of intrapersonal sexual scripting by providing a “wish list” of sexual acts, bodies, images, and narratives, as well as a set of specific beliefs about male and female sexuality. To reflect this process, a scale was developed by asking two groups of college students to make a list of things/activities/sensations that are (a) important

for pornographic depiction of sex and (b) personally important for great sex, respectively. The two inventories, the porn script inventory and the “great sex” inventory, were then combined. In total, the inventory comprised 42 items. In the first part of the online questionnaire, participants were asked to assess the importance of the listed items for “great sex” using a 5-point scale (ranging from 1 = “completely unimportant” to 5 = “extremely important”). At the end of the questionnaire, they were asked to assess the inventory again, but this time to rate items’ importance “for pornographic presentation of sex.” The SSOS scores were computed on the paired (the great sex vs. the porn) items by subtracting the second from the first. If, for example, the item “cuddling after sex” was judged as “somewhat important” (3) for good sex life and “completely unimportant” (1) for pornographic presentation of sex, the pair was scored 2. Participant’s SSOS score was additive, representing the sum of scores for all 42 pairs of items. Even though the instrument was derived from multidimensional scales (that included different aspects of sexual performance and activity, emotions and communication, physical appearance, bodily features, and power balance between partners/actors), it demonstrated a high level of internal consistency (Cronbach’s  $\alpha = .91$ ). The higher the score, the larger the separation between the mental representations of pornographic sex and “great sex.” As they reflected a lesser overlap between the great sex and pornographic scripts, higher SSOS scores represented a weaker influence of pornography on adolescent sexual socialization. Frequency of pornography use was assessed retrospectively at three time points: at the age of 14, 17, and in the 12 months preceding the study. In most analyses, the core indicator of pornography exposure/use was the frequency of early use of sexually explicit materials (at the age of 14).

In the first study (Štulhofer et al., 2007), the structural model presented in Fig. 2 was tested separately for female and male participants using structural equation modeling. According to the findings, pornography-affected sexual socialization, indicated by SSOS scores, had no direct effect on sexual satisfaction. Indirect or mediated effects, expressed through sexual repertoire and

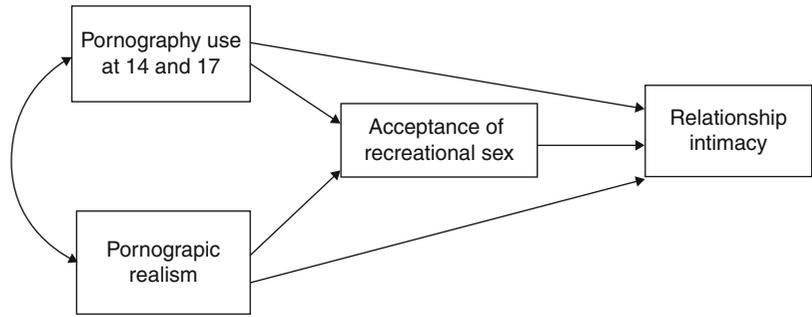
emotional intimacy paths, were significant, but their (moderate) relevance was observed only among men. The effects were of negligible size among female participants. Among men, mediated effects of pornography use were both positive and negative. While the first were related to more varied sexual experience, the latter were related to a lower level of intimacy achieved in one’s relationship. Overall, the negative impact of pornography-affected sexual scripting on sexual satisfaction (through intimacy) was stronger than the positive impact (through sexual repertoire).

Failing to take into account an important aspect of the use of sexually explicit materials – the genre of the preferred pornographic materials – was an obvious and critical limitation of the first study. In the second study (Štulhofer, Buško, & Landripet, 2010), which focused exclusively on men, participants were divided into two groups, depending on the preferred pornographic genre. Distinguishing between mainstream and nonmainstream or “paraphilic” pornography users – the later being characterized by using primarily materials that depict S&M, B&D, fetishism, bestiality, or violent/coercive sex – the authors explored the assumption that the effects of early pornography exposure/use would not only be mediated by sexual scripting but also moderated by a type of preferred sexually explicit material.

Fitting the structural model used in the previous study (Fig. 2) in the two groups pointed to a strong moderating effect of pornographic genre. No significant effect of early pornography use on sexual socialization was found among mainstream pornography users. In other words, the indirect effects or pornography use on sexual satisfaction observed in the first study reflected the experience of a subgroup of men who preferred nonmainstream material and could not be generalized. Whether it is a specific pornographic genre that impacts relationship intimacy or rather a specific set of sexual preferences that determines both the preference for a specific pornographic genre and intimacy achievement remains unknown.

In the third study (Štulhofer, Buško, & Schmidt, 2012), the notion that pornography use may negatively affect relationship intimacy was revisited. Confirming insights from the literature

**Pornography, Sexual Socialization, and Satisfaction, Fig. 3** Path diagram of the relationship between adolescent exposure to pornography and relationship intimacy in young adulthood



on sexuality in committed relationships, the previous studies revealed a strong association between intimacy and sexual satisfaction among young adults of both genders. The new study focused on the role of exposure to pornography during adolescence (assessed retrospectively at the ages of 14 and 17) in predicting intimacy among young adults. A different structural model was employed, in which perceived realism of pornographic contents and attitudes toward recreational sex were also taken into account (Fig. 3). It was hypothesized that perceived realism would moderate the impact of pornography on sexual socialization, which in turn would affect relationship intimacy through a stronger acceptance of commitment-free sex. No direct relationship was found between adolescent exposure to pornography and relationship intimacy in young adulthood, but the proposed structural model fits the data in the case of female participants. The effects, however, were of marginal to small magnitude; the pornography measures explained only nine percent of variance in the acceptance of recreational sex.

Causality-implying language used in this chapter should not mislead the reader. Cross-sectional character of the three studies which were presented in more detail does not warrant causality-implying conclusions. Although pseudo-causal statistical techniques used allow the use of terms such as “effects” and “impact,” the direction of associations between the constructs of interest was theoretically presupposed. The notable difference is the central link between pornography exposure/use and sexual satisfaction and intimacy, which direction was determined by the passage of time (from early adolescence to young adulthood).

**Conclusion**

The findings of the three studies that relied on the sexual script theory both conceptually and analytically point to an educational effect of pornography, which may increase sexual satisfaction among men as well as women by expanding their sexual repertoire. Whether the effect dissipates over time, possibly with pornography habituation, is currently unknown. The observed negative association between pornography-influenced sexual socialization and relationship intimacy does not seem to affect sexual satisfaction. A possible exception may be men with specific (paraphilic?) preferences in pornography, although it remains unclear whether it is their pornography use that negatively affects relationship intimacy or their specific sexual preferences that orient them toward particular pornographic materials and, at the same time, intensify problems with creating and/or maintaining intimacy that were already initiated by these men’s sexual taste.

So far, the issue of a possible association between pornography use and sexual satisfaction has been only fragmentarily addressed. A number of questions – which importance increases as sexually explicit materials become ubiquitous and their use in the developed West culturally normalized – remain unanswered. Moralistic concerns which frequently permeate discussions about the role of pornography in society, as well as in individual lives, may continue to act as an obstacle to systematic research, particularly when involving young people.

**Cross-References**

- ▶ Attitudes
- ▶ Decision Making

- ▶ [Effect Size](#)
- ▶ [Focus Groups](#)
- ▶ [Happiness](#)
- ▶ [Quality of Life](#)
- ▶ [Sexual Experiences](#)
- ▶ [Sexual Satisfaction](#)
- ▶ [Social Comparison Theory](#)

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## Porto City (Portugal), Quality of Life

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### Definition

Since 2001, the [▶ quality of life](#) in the city of Porto has been assessed through a monitoring system, developed in the Porto City Council. This tool comprises two complementary approaches: one based on a set of statistical indicators obtained from institutional sources intended to increase knowledge on the local environmental, social, and economic conditions and the other based on local surveys aimed at obtaining a view of the residents' perceptions of those conditions and their personal sense of well-being.

### Description

Located on the Atlantic coast, on the right bank of the Douro River, Porto is the main economic, cultural, and academic hub of the northern region of Portugal and its second largest city. The population in the municipality's administrative area is approximately 238,000 inhabitants, and the metropolitan area numbers 1.5 million. Porto's economic structure is dominated by the tertiary sector. In the last few years, economic activities related to life sciences (biotechnology,

biomedicine, and biomedical engineering), higher education (50,000 students), information technology, and tourism have developed strongly.

The Porto Monitoring System on Urban Quality of life (MSUQL) was conceived to enable the systematic follow-up of a number of relevant trends related to domains that, directly or indirectly, influence daily living conditions in the city, such as income, housing, labor market, ► [education](#), ► [health](#) conditions, air quality, and culture. Innovative and efficient urban policies need to be based on sound evidence and a broad focus. From the outset, MSUQL was designed to present an integrated overview of the quality of life in the city for the purpose of supporting decision-making. Given its nature, this tool represents also a useful platform to provide the public with more information and to foster dialogue and cooperation among different urban actors engaged in urban development policies.

There is no general consensus as to what is meant exactly by “quality of life.” However, there is a wide agreement that the concept is multidimensional and that it comprises several domains (Massam, 2002; Michalos, 2003; Sirgy et al., 2006) (*quality of urban life*). The conceptual framework underpinning the Porto monitoring project not only profited from well-established theory and concrete models applied to other cities but also resulted from the definition of which key areas were relevant to the particular reality of Porto (Nuvolati, 1998; Yuan et al., 1999; Santos & Martins, 2007). This task was accomplished by the project team, which included officers from the Planning and Studies Unit of Porto City Council, officers from other municipal departments, a multidisciplinary panel of academic experts, and support from CEF.UP, a research unit at the University of Porto.

All the choices regarding the conceptual framework were made, bearing in mind the outcomes that were considered crucial to maintaining or reinforcing quality of life in Porto. In terms of focus, four domains were identified as central to understanding the quality of urban life: environmental conditions, collective material conditions, economic conditions,

and society. Each of these domains was then divided into relevant themes covering the main dimensions which have an impact on the quality of life of the population (Table 1).

The first domain, called “environmental conditions,” distinguishes seven main themes related to the physical aspects of the city, as well as the quality of the environment in general. It covers aspects such as environmental pollution, waste generation and management, green spaces, and climate.

The second domain, “collective material conditions,” aims to characterize the local supply of facilities and infrastructures related to collective living conditions. Access to opportunities in the sphere of culture, sports, education, health, and social care is critical to people’s lives. This domain also includes aspects related to city conditions in terms of built environment and ► [mobility](#), as well as the existence of local shops and regular local services.

The third domain, “economic conditions,” provides an overview of economic activity in the city. It includes aspects related to individual standards of living in terms of income and consumption, as well as opportunities such as having a job and a house. Another topic included in this domain concerns the general prosperity of the city.

The fourth domain, “society,” looks at several social determinants of the well-being of citizens. It concentrates on aspects such as education and skills, health, or safety and helps to understand the participation of residents at local level.

Traditionally, to assess urban quality of life, applied research follows one of two major approaches: objective and subjective. The objective approach is based on collecting and analyzing statistical data, referenced to certain spatial units (cities, regions, countries) with the purpose of characterizing – and sometimes monitoring – local living conditions (material and immaterial, individual and collective), but also assets and opportunities offered to the citizens who choose these areas as their place of work or residence (► [objective quality of life](#)). In the case of studies that use a subjective approach, the main source of

**Porto City (Portugal), Quality of Life, Table 1** MSUQL conceptual framework

Environmental conditions	Collective material conditions	Economic conditions	Society
Green spaces	Cultural facilities	Income and consumption	Population
Climate	Sports facilities	Labor market	Education
Noise	Educational facilities	Housing market	Cultural dynamism
Air quality	Social and health facilities	Economic dynamism	Civic participation
Water	Built environment		Health
Energy	Mobility		Safety
Waste management	Retailing and services		Information society

data are surveys, conducted to assess the opinion of individuals with regard to their life in general, or in relation to different aspects of the social, economic, and environmental context in which they live. This kind of research generally serves to support the analysis of the value systems and preferences of population groups (Veenhoven, 2002) (► *perceived quality of life*).

The monitoring system on urban quality of life developed in Porto, however, proceeded to combine these two approaches, the objective and subjective:

- The objective approach is based on a set of about 80 statistical indicators which aim to evaluate the various dimensions of urban quality of life mentioned previously.
- The subjective approach is based on survey data gathering the opinions and expectations of citizens with regard to their individual quality of life and their everyday experience of living in Porto.

### Objective Approach

The approximately 80 statistical indicators selected, which aim to portray the various dimensions of urban quality of life presented before, were chosen based on a broad debate involving the working team directly in charge of MSUQL project, officers from other departments of the local authority, and academic experts. The selection of measures has relied on several well-established criteria. As is normally the case, ideal indicators were not always available in institutional sources. In these cases, the best proxies available were chosen (► *indicator selection criteria*).

With regard to the nature of the indicators themselves, despite a concern with characterizing

the situation based on the available resources and opportunities and, above all, their accessibility and use by the population, it was not always possible to ensure that all the topics were handled according to these perspectives. This constraint arose primarily from difficulties related to the availability of data provided by secondary sources (► *quality of community life measures*).

To perform the monitoring exercise, the data are analyzed to identify evolutionary trends. Whenever comparability is possible, benchmarking analyses are also performed, which confront the city's figures with those from the metropolitan surroundings (NUT III), the national mean, and, in the case of a small number of indicators, the European context (e.g., cities integrated in the European *Urban Audit* project).

A project of this nature is obviously very demanding in terms of the required statistical data. The selected indicators are based on about 200 basic variables that have to be collected at least annually. A first data source is the municipality of Porto itself. Indeed, since the project began, efforts have been made jointly with different departments to set the rules and routines to collect the relevant data for this project, which in many cases the services already compiled on a regular basis, but in some cases required specific procedures.

Since the city's datasets do not cover all the project's needs, it was necessary to establish contacts and agreements with about 30 public and private institutions. These institutions provide approximately 70 % of the basic variables. Among such entities, the National Agency of Statistics and the Ministry of Employment and Social Security are particularly relevant.

### Subjective Approach

The second approach followed to assess quality of life in Porto is based on data on the residents' perceptions and evaluations. These kinds of data are obtained through surveys, which intend to assess not only the level of satisfaction of individuals – globally and regarding different dimensions – but also gather information on the importance respondents attach to the different components of individual and collective life.

A first survey was conducted in 2003 exclusively on residents in Porto. The sample consisted of individuals aged 15 years and over, living in the city for more than a year. Interviewing took place at the respondents' homes, equally distributed over four predefined areas of the city. Two thousand and four hundred residents answered the survey. A summary and a discussion of the main results are available in Martins and Santos (2003) and Santos et al. (2007).

The results obtained in Porto's first survey show clearly that, in order to understand urban quality of life, it is not enough to track key trends in the objective circumstances of citizens' lives. It is also necessary to examine how the population feels about those circumstances and satisfaction with their lives in general. In fact, it became clear that when the results of these two approaches were independently compared, they did not always correlate. The particular cases which showed no coincidence between the objective and the subjective approaches were those which have subsequently been more closely analyzed. Interpreting the causes behind the divergent perspectives and discussing how this situation must be taken into account when devising local strategies are fundamental steps towards implementing public policies that not only improve objective living conditions but also produce gains in terms of people's global quality of life.

It is also important to highlight the relevance of using subjective measures in the cases where the objective indicators are limited in their ability to capture the realities intended for evaluation. An interesting example is the global measure of housing quality, which is very difficult to obtain by means of one or even several objective indicators.

A new survey will be conducted in 2013, based on a reformulated questionnaire, which will enable comparisons of the population's perceptions of quality of life over time and identify new and emerging trends. It is intended that in the future, this local survey be implemented regularly, possibly every three years.

The new questionnaire is divided into 5 major sections, of which the first four will be repeated in all the surveys so as to ensure a basis for evolutionary analysis and a final, more variable section intended to collect unavailable statistical data concerning objective indicators. It also includes some questions at the end related with the respondents' socioeconomic characteristics.

The overall concept of quality of life is the focus of the first section. The respondents are asked to identify, from a list of about 20 aspects, those they consider the most relevant to achieving a satisfactory quality of life in a city. The second section, now with reference specifically to Porto, is intended to characterize the quality of life in the city at present and over the last two years, as well as identify the most positive and negative aspects.

The questions in the third section focus on quality of life in the individual's area of residence. Regardless of the characterization of the city as a whole, here respondents are asked to assess the quality of life in their ► [neighborhood](#), including access to a range of local services and goods as well as social, environmental, urban, and safety aspects.

The fourth section deals with the individual quality of life: satisfaction with personal quality of life at present and over the last two years, importance of various aspects of their personal life, and potential social networking in solving possible personal life issues, commuting to work.

The last section is variable, and in the survey scheduled for 2013, it aims to collect data on the respondents' leisure time: physical activity, time spent on various activities, and leisure activities. In future surveys, it is intended that this section serves to collect other quantitative information that is not currently available from official statistical services or other institutional sources.

## Reporting on Findings

The first QOL report was published in 2003 (Martins & Santos, 2003) and was the first integrated assessment of living conditions and subjective well-being in Porto. The first part presented the MSUQL project, with particular attention paid to the underlying conceptual and methodological framework. The second part described the quantitative assessment, presented the statistical data, and analyzed the existing situation and past trends. It also included contributions from experts in the four domains in order to foster reflection and integrated approaches to the different dimensions of quality of life in the city. The third part of the report focused on the main findings and the conclusions drawn from the data survey analysis.

A second report was released in 2005 with an update of the statistical data (Martins & Santos, 2005). This report also provided an analysis of trends in the four major domains defined in the analytical model.

The third report, to be presented in 2012, highlights the updated panel of statistical indicators. Based on the data for those indicators, it contains a comprehensive analysis of the current situation in the city and the progress made in individual and collective well-being recorded in the last five years.

## Current Developments

With the purpose of increasing its effectiveness in supporting urban diagnosis and ► **civic engagement**, as well as its ability to influence decision-making on the part of different stakeholders, the Porto Monitoring System was subject to a process of reflection in 2010. Following this exercise, some adjustments were made to the thematic structure of the initial analysis model, and some of the indicators were replaced. Additional elements were also identified to improve the monitoring system. One of the challenges facing the system is measuring the spatial disparities of quality of life. The objective evaluation of the city's average conditions in the various dimensions of quality of life should be complemented with quantitative measures that can account for inequalities and spatial contrasts. This has been

a growing concern in view of current economic, social, and environmental changes, which tend to aggravate the differences between places and social groups within cities – producing phenomena of serious spatial fragmentation – and raise the need to find new answers to these problems. Currently, a spatial typology reflecting neighborhood quality of life profiles has been developed, which serves to map not only local vulnerabilities but also local assets. A key component of this exercise is the development at a sublevel scale (413 spatial units) of what can be called a neighborhood quality of life conceptual framework. This tool can be a new input for more targeted, area-based, and integrated policies.

## Cross-References

- [Quality of Community Life Measures](#)

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## Poset

► [Partially Ordered Set](#)

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## Positive Affect

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## Synonyms

[Pleasure](#); [Positive emotions](#)

## Definition

### Affect

The term *affect* is used in different ways. It can be taken as an overarching term containing all the concepts in a hierarchy of more specific understanding. Feelings, in the sense of a continuous stream of experiences that always are present in a conscious human being, constitute the most particular element in this hierarchy. At the next two levels are emotions and then moods, compiled as a combination of feelings and other elements with different degrees of specificity, intensity, and duration. The least particular element in this hierarchy is affective style/emotional traits. The term affect can also be used in a more restricted sense, to denote one or more of the four levels of the hierarchy. Hence, affect can refer to an emotional trait, a mood, an emotion, or a feeling state or to combinations of these concepts, such as both moods and emotions.

### Positive

The term *positive* can be used to denote a subjective or ethical good, a value, an affirmation, a certainty, or as an abstract entity that includes appetitive motivational processes and outputs. Related to affects, the term positive can either denote a person's ethical value or an

evaluation of something likeable or a sensational feeling of something pleasurable, for example, the feeling that arises when the probability of attaining a goal is increased. According to some scholars, an affect is positive if we want it to continue.

### Positive Affect

The formulation *positive affect* (PA) can be used as a subordinate part of the affect hierarchy, and will then refer to a variety of different moods and emotions, such as happiness, contentment, love, interest, pride, and pleasure. As such, PA is considered one of the four main components of subjective well-being (the other three are life satisfaction, domain satisfaction, and negative affect). On this view, positive affect is a term that does not refer to a particular feeling or emotional subsystem, but to a group of different emotional systems that constitutes a semantic idea. It has been argued that this kind of positivity is a glue that holds together a subset of discrete emotions that are deemed good.

There is no scientifically based origin for the categorization of these emotions as positive. Members of such a PA category do not share a common referent but constitute a semantic network that links together a variety of signs of something praiseworthy or ethically good. Under this view, PA refers to a variety of experiences that are linked to very different physiologies, thoughts, and schemas (Kagan, 2002). Moreover, the degree to which members of the category really are positive may vary with the context. For instance, even if approach is typically considered to be positive, approaching danger could be bad, and happiness may be the improper response to a sudden death of a close friend.

Used in a narrow sense, PA refers to a particular and fundamental feeling quality, which quite often is pleasure. On this interpretation, PA reflects the most fundamental level of a hierarchy of emotions, more distinct and primitive than emotions and moods. Hence, in this different understanding of PA, the concept is subordinate to emotion, whereas in the broad understanding, PA is superordinate to emotion.

## Description

### History

The term “affect” was earlier used to pertain to emotions in the sense of being the opposite of intellectual. It has been used in English at least since Francis Bacon in the early seventeenth century. Inspired by this meaning of the term, Freud developed over the years a concept of unconscious libidinal or psychic energy that he called “affect.” Some of Freud’s followers became particularly interested in PA, like Buchenholz (1958) who argued that the joy of the satiated infant at the breast became the model of all later PA. Other pioneers, like Murray, Maslow, and Piaget, researched PA as well, and a comprehensive treatment was provided by Silvan Tomkins. In the early 1960s, he published two influential volumes on affect, the first of them on PA (Tomkins, 1962). Tomkins’ writing is both thought provoking and difficult to summarize, but very briefly, and in a period during which affect was typically reduced to a simple tension-reduction mechanism, Tomkins suggested that affective organization is just as important as the cognitive capacities for human development. He further proposed the existence of nine innate affects, two of which were positive: interest-excitement and enjoyment-joy. Tomkins showed great concern for the functions of affects and for the role they have played in our evolutionary past. The idea that different positive affects have distinct functions was continued by Tomkins’ students, first and foremost Carroll Izard and Paul Ekman. But the functional approach did not catch on among the founding fathers of quality of life research. Traditionally then, the well-being literature concentrated more on general positivity than on the psychology of affects.

### Dimensions

#### Same-Level Dimensions

Bentham, the British philosopher, radically excluded everything but affect from moral and psychological discourse. He said that pleasure and pain point out what we ought to do as well as what we shall do, and even if talking about “two sovereign masters” of behavior, Bentham

considered them as the endpoints on a unidimensional (but bipolar) continuum. The thinking of J.S. Mill involved a separation of higher PA from the lower PA, but it remained faithful to the idea of unidimensionality when it came to overall evaluations of affective experiences (Sumner, 1996). Empirical reports suggesting that positive affect is fundamentally different from negative affect came much later, often ascribed to the work of Nowlis (1965) or to Bradburn’s theory of psychological well-being (Bradburn, 1969). Bradburn used PA as a superordinate concept, to denote a particular feeling tone that could be identified among items reflecting subjective experiences that correlated highly with one another. Although the theoretical and empirical rhetoric of the psychological well-being theory have been criticized, better data and better thinking have continuously fed the idea that positive and negative affect are distinct, and today this idea has become one of the dominant positions of the field.

Another leading position is related to Tomkins’ work on the basic (or discrete) affects – also referred to as “specific-affect theories” – and some support for this approach came from structural analyses of the quantitative associations between different subjective experiences. Beginning half a century ago, factor analyses of self-reported affective states typically suggested that there are between six and twelve independent dimensions of affective experiences. But in 1980, James Russell published a seminal paper that challenged this view and initiated the work on an idea that has been labeled “dimensional theories of affect.” Russell (1980) proposed that the different affective experiences are related to each other in a highly systematic way and that this relation can be represented as a circular arrangement reflecting only two underlying dimensions: valence and arousal. Organized as a circumplex, the affects seem to fall in a circle such that if pleasure is located at zero degrees, excitement follows at 45°, arousal at 90°, distress at 135°, displeasure at 180°, depression at 225°, sleepiness at 270°, and relaxation at 315°. Somewhat later Russell (2003) went out to say that all our feelings come from a particular combination

of valence (feeling good or bad) and arousal (feeling energized or enervated).

One critique against the circumplex can be articulated on the basis of early work in psychology. Traditional thinking considered arousal – not valence – as the important determinant of behavior (cf. for instance the so-called Yerkes-Dodson law). As for affect, the legendary “Wundt curve” depicted arousal as the cause of pleasure, not a twin dimension at the same explanatory level. The assumed independence between arousal and valence may be attributed to the inverted U-shaped relation between them, and such a curvilinear relation will not be properly analyzed by the linear mathematics of ordinary factor analyses (which is frequently used as the basis of a circumplex). Hence, the two dimensions in Russell’s model may come from a mathematical artifact rather than from the way in which affects are mentally organized.

A second critique of the affect circumplex relates to the lack of association among the positive affect items it contains. Within the half-circle representing PA in the circumplex, the whole range of correlations exists, from  $-1$  via  $0$  to  $+1$ . The PA concept of the affect circumplex is thus very different from the PA concept proposed by Bradburn, and it cannot account for a psychological “commonness” or glue to the PA.

A different kind of comment on the Russell circumplex was articulated by Tellegen, Watson, and Clark (1999). These authors proposed a taxonomy of affects in which valence is placed at the highest level, PA at the next level, and specific affects at the lowest level. In the framework, PA is identified as a robust dimension located about  $45^\circ$  apart from the pleasant end of the valence dimension. Unlike the bipolar pleasure-displeasure dimension at the top of the hierarchy, the lower-level concept of PA is practically unrelated to the corresponding concept of negative affect (NA).

The notion of PA and NA independence has stirred some controversies over the years. Proponents of the bipolar position have argued that when PA and NA appear uncorrelated, it is due to issues such as reliability, validity, intensity, response format, time span, the true nature of

a bipolar correlation (which, according to Russell and Carroll (1999), is  $-.47$  and not  $-1.00$ ) and several other issues. A summary of the debate was published in a special issue of the *Journal of Personality and Social Psychology*, edited by Ed Diener (1999).

Proponents of the independence position hold that PA and NA reflect distinct neurological and motivational structures. In the Tellegen, Watson, and Clark approach, PA is described as a state of high energy, full concentration, and pleasurable engagement and is further defined as a feeling state (but not a discrete feeling state); PA is related to a corresponding trait dimension of positive emotionality. Based on this conceptualization, these authors created the widely used Positive Affect Negative Affect Schedule (PANAS). Even if the PANAS structure appears from a varimax rotated factor analyses of items which, at least to some extent, appear as the Russell circumplex if left unrotated, the PANAS is no circumplex (but see Russell & Barrett, 1999 for counter arguments). This is due to its simple factor structure and the fact that a circumplex has no simple structure (Guttman, 1954). The PANAS approach has been criticized for lack of validity. The reason is simply that pleasure, which is the prototypical positive affect, is excluded from their model. Hence, a decade after launching the PANAS, Watson and his colleagues acknowledged that the term “positive activation” is a better name than “positive affect” for their concept (Watson, Wiese, Vaidya, & Tellegen, 1999).

Cacioppo and his colleagues have also called into question the fruitfulness of a bipolar valence dimension (Cacioppo, Gardner, & Berntson, 1999; Norris, Gollan, Berntson, & Cacioppo, 2010). Their system is referred to as bivalent rather than bipolar, and it considers PA to be a part of the nervous system. PA is involved in appetitive information processing and has evolved in our evolutionary past in order to make hospitable environments attractive. PA constitutes a distinct evaluative channel in the three-dimensional space Cacioppo and coworkers have labeled the evaluative space model. Negative affect is a second and separate

evaluative channel in the model, responsive to aversive information processing. It has evolved to make hostile environments unattractive. The two separable channels of evaluations enable quick decisions as to whether one should approach or withdraw from an environment or a situation. Furthermore, the interaction between the two evaluation channels creates what we recognize as feelings, which is the third and final element in the evaluative space model. All combinations of positive and negative activation are possible in the model—giving rise to a variety of feelings – but intense PA tends to suppress NA and vice versa.

Another intriguing feature with the evaluative space model is the distinct activation function it provides for the two affect dimensions. A positivity offset exists, which means that the function for positivity is higher than the function for negativity at zero input. A negativity bias exists, which means that the function for negativity rises more quickly than the function for positivity. Explained by an analogy of a regression analysis, the positivity offset resembles the intercept, which is higher for PA than for NA. The negativity bias resembles the slope, which is steeper for NA than for PA.

#### Different-Levels Dimensions

When PA is used as an overarching concept, it must account for a categorization of substructures. For example, Schimmack, Oishi, Diener, and Suh (2000) proposed a taxonomy of affective experiences that distinguished between a number of facets. Each facet was defined by a type, a quality, and an aspect. Originally, the taxonomy pointed out two types of affects – moods and emotions – but it was later expanded to also include sensory affects. Moreover, the two qualities of an affective experience were positive or negative, and the three aspects referred to intensity, duration, and frequency. In slight contrast to this terminology, the literature on sensory feelings typically refers to the positive–negative dimension as the hedonic dimension of a feeling and saves the concept of quality for what some philosophers refer to as “qualia” (e.g., Cabanac, 2010). In other words, the quality of an affect is

not about positivity or negativity (i.e., its hedonic dimension), but rather about distinct feeling states such as feeling cold in low temperatures or the feeling of sweetness when eating a chocolate. For example, in detailed studies of the sensation of taste in monkeys, Rolls (2005) observed that different hunger states did not change the activity of taste neurons located in the primary taste cortex. However, there is a secondary taste area located in the orbitofrontal cortex that is sensitive to hunger. If a monkey is fed to satiety, the neuronal responses in this brain area disappear. The important difference is that the dimension of quality is invariant, while the hedonic dimension varies with the context. Feeling cold always feels cold, but it may also be pleasant in a state of hyperthermia or unpleasant in a state of hypothermia.

At the trait level, PA has typically been investigated as affective “styles” (Davidson, 2005) or “traits” (Watson, 2000). Watson argues that affective traits represent stable differences in individuals’ tendencies to experience a corresponding mood state. The term affective styles refers to consistent individual differences in emotional reactivity and regulation (Davidson, 2005). On this view, PA is related to the approach system, which facilitates appetitive behavior and approach related to emotional feelings that are usually generated in the context of moving toward a desired goal. Davidson has showed that brain structures in the left frontal hemisphere are specialized for PA and has pointed out the importance of making a distinction between two kinds of PA, those associated with pre-goal attainment and those associated with post-goal attainment. The pre-goal PA is elicited when an organism moves closer toward an appetitive goal, whereas the post-goal PA represents the form of positive emotion that is associated with activation in a different set of brain circuits.

Affective styles are associated with temperament, personality, and vulnerability to psychopathology. For example, Eysenck argued that extraverted individuals were more likely to experience PA than introverted individuals (Eysenck & Eysenck, 1985). This approach was adopted and strengthened by Costa and McCrae, who took

the position that extraversion is the disposition that produces PA (Costa & McCrae, 1980). Another kind of relationship between personality and PA is presented by Gray. Based on a long chain of arguments, he proposed that a neurologically based motivational system is responsible for individual differences in PA. He baptized the neurological system corresponding to PA for the “Behavioral Activation System” (BAS), which basically is sensitive to rewards and which is rotated 45° away from Eysenck’s original dimension of extraversion (Gray, 1981).

### Functions

Charles Darwin and William James were both concerned with the functionality of emotion and affect. For Darwin, our emotions were like vestigial parts that testified to the evolved history of our species, and he did not put much emphasis on their functions in modern lives. James, on the other hand, realized that the motivational and bodily functions of emotion still apply, and he also argued that feelings were necessary in order to bring significance and meaning into our lives. Updated research along these lines has confirmed many of James’ speculations; humans need affective feelings in order to operate functionally and to develop a meaningful sense of self (e.g., Damasio, 1994).

As stressed by the evaluative space model, and many others, a fundamental role of PA is to initiate approach behavior. Lack of PA, or perhaps more precisely the wanting element of PA (e.g., Leyton, 2010), may lead to inactivity. But the functions of PA can be specified more precisely. For example, a large body of literature indicates that PA influences cognition in specific ways, and some kinds of problems are solved more easily in high PA (Ashby, Isen, & Turken, 1999). Cheerful people seem to earn (a little) more money (Diener, Nickerson, Lucas, & Sandvik, 2002), and PA leads in general to more helpful behavior (although not if the helping is unpleasant or requires sustained efforts (Carlson, Charlin, & Miller, 1988)). In her broaden-and-build theory, Fredrickson argues that PA broadens people’s momentary thought-action repertoires and leads to actions that build

enduring personal resources. Moreover, PA broadens attention and increases a person’s openness to experience (Fredrickson & Cohn, 2008). In the functional well-being approach (FWBA), Vittersø has presented framework in which the hedonic element of PA is proposed to assist in the management of stability and homeostatic regulation, whereas the function of the so-called eudaimonic elements of PA is to organize change and personal growth (Vittersø, 2013; Vittersø, Søholt, Hetland, Thorsen, & Røysamb, 2010).

PA also promotes health. Several studies have shown that people high in PA are less affected by virus infections (Cohen, Doyle, Turner, Alper, & Skoner, 2003) and even live substantially longer than people low on PA (Danner, Snowdon, & Friesen, 2001; Seder & Oishi, 2012). We are also beginning to understand some of the underlying psychobiological mechanisms of PA (Steptoe, Dockray, & Wardle, 2009). But the most important role of PA is in management of social relations. Not only as the different kinds of love that develops in families and among close friends but in almost every aspect of everyday life. Humans are social beings, happiness is social, and the essential elements in high-quality lives are social (Thin, 2012).

### Measurements

Advances in electronics and statistics have dramatically improved the quality and quantity of the empirical foundation for the science of PA. Relevant observations come from subjective, physiological, and behavioral data, and they are all relevant measures of affect. There is probably no one “golden standard” for the measurement of PA; rather, the concept must be conceptualized as a multidimensional phenomenon.

#### Self-Reports

To the extent that PA refers to the feeling of happiness (which is assumed in some of the approaches presented above), an early measure was provided by Gurin and coworkers (Gurin, Veroff, & Feld, 1960). They simply asked participants the following question: “Taking all things together, how would you say things are these days – would you say you are ‘very happy,’

‘pretty happy,’ or ‘not so happy’ these days?’ As an alternative, Bradburn developed a multi-item scale to measure PA (the Positive Affect Scale or PAS for short, Bradburn, 1969). Other researchers working in 1950s and the early 1960s combined a number of different positive affects when they measured PA, such as the Multiple Affect Adjective Checklist (MAACL; Zuckerman & Lubin, 1965), the Mood Adjective Checklist (MACL; Nowlis, 1965), or the Activation-Deactivation Adjective Checklist (AD-ACL; Thayer, 1967). Somewhat later, the widely used Positive Affect [Activation] Negative Affect [Activation] Schedule was launched (► PANAS; Watson, Clark, & Tellegen, 1988). A more recent adjective checklist is the UWIST Mood Adjective Checklist (UMACL; Matthews, Jones, & Chamberlain, 1990) and another is the 24-item emotion scale developed by Diener, Smith, and Fujita (Diener, Smith, & Fujita, 1995). The Differential Emotions Scale (DES) was developed by Izard and colleagues to measure a number of basic emotions. It is not an adjective checklist but comprises short statements like “In your daily life, how often do you feel happy?” The most recent version of this scale (DES-IV) includes 12 subscales (Izard, Libero, Putnam, & Haynes, 1993). Fredrickson has developed a positivity scale in order to measure the ratio of positive to negative affects over the last day, called the Positivity Self Test (Fredrickson, 2009).

Overall measures of affect have been criticized for being vulnerable to a number of judgment and memory biases and for this and other reasons; diary methods are considered highly appropriate in affect assessments. The systematic investigation of PA by means of a diary is not new. Dante might have been the first to do so, in his small book *Vita Nuova* (meaning *The New Life*). In it he recorded his feelings and thoughts about a woman with whom he had fallen in love (see Oatley & Johnson-Laird, 2011). Much later diary studies were used for research purposes (Field, 1981; Flügel, 1925; Hersey, 1929), and it is currently a major source of data about PA (Hektner, Schmitt, & Csikszentmihalyi, 2007). The well-known Experience Sampling Method

was developed independently by both Csikszentmihalyi’s research group in Chicago (Csikszentmihalyi, Larson, & Prescott, 1977) and Herman Brandstätter in Germany (Brandstätter, 2007). Somewhat later, Kahneman and colleagues developed a diary approach – the Day Reconstruction Method – which asks respondents to reconstruct the events of the previous day and then to complete a self-report questionnaire. By slightly altering the instruction of the Day Reconstruction Method, an Episode Reconstruction Method can be formed, the intention of which is to gather affective information about particular events in people’s lives.

Data from diaries have also proven useful for linguistic analyses of affect. The well-known “nun-study” showed, for instance, how the ratio of positive to negative expressions in autobiographies turns out to be a powerful indicator of longevity (Danner, et al., 2001), and the procedure has returned similar results with another sample (Pressman & Cohen, 2012) and with other outcomes, like success at work (Fredrickson & Losada, 2005) or in marriage. Pennebaker (e.g., Pennebaker & King, 1999) has spearheaded a research paradigm on the benefits of the process of diary writing itself, and that includes the development of linguistic analyses that go beyond calculating the ratio of PA to NA (see also Wierzbicka, 2009). Projective techniques, which are known to be sensitive to affect, have also informed linguistic analyses of PA (e.g., Schiff & Lamon, 1989).

### Psychophysiological Measures

Interests in psychophysiological assessments of affect stretch back to the pioneers of affect research, such as James, Lange, Cannon, Bard, Duffy, Schachter, Singer, and many others. Today, patterns of physiological reactions to affective stimuli can be measured with a series of strategies and techniques (Bradley & Lang, 2000).

The autonomic nervous system (ANS) is a general-purpose physiological system responsible for modulating peripheral functions (Mauss & Robinson, 2009). Although the most common indices of ANS, such as heart rate and skin

conductance, cannot fully account for typical PA items such as happiness and joy, there seem to be a general tendency for PA to be associated with weaker ANS responses than NA (Cacioppo, Berntson, Larsen, Poehlmann, & Ito, 2000). Similarly, Lang has argued that the startle response – a universal reflex that involves eye blinks and other motor actions – is linearly, and inversely, related pleasure (Lang, 1995).

Brain states are important indicators of affective responses. Electroencephalography (EEG) is used as a psychophysiological marker of PA. Davidson and his colleagues have demonstrated how a left-sided activation in the prefrontal cortex predisposes individuals to experience PA (Davidson, 1992). More recent, a consensus seems to have developed on the understanding that frontal EEG asymmetry primarily reflects levels of approach motivation (left hemisphere) versus avoidance motivation (right hemisphere) (Mauss & Robinson, 2009). The use of neuroimaging techniques, such as functional magnetic resonance imaging (fMRI) and positron emission tomography (PET), has become common in studies of affect. Some of the results indicate that PA can be observed as activation of particular brain structures (e.g., Anderson et al., 2003; Damasio et al., 2000), but the results from meta-studies suggest that the results are more robust for approach and avoidance than for the PA in the sense of happiness or pleasure (Murphy, Nimmo-Smith, & Lawrence, 2003).

#### Behavioral Measures

Smiling is probably the best-known behavioral indicator of PA. Seder and Oishi (2012) discovered an impressive  $r = .57$  correlation between smiling intensity as rated from on a single Facebook profile photograph and self-reported life satisfaction measured 3.5 years later. Review studies conclude that there is an association between activities in the muscle groups involved in smiling (basically the corrugator, orbicularis, and zygomaticus) and PA (Larsen, Norris, & Cacioppo, 2003). Nevertheless, one study showed that children smiled more after failure feedback than after success feedback (Schneider & Josephs, 1991), indicating that affective display rules play

a role in smiling behavior. Several coding systems for facial expressions of affects exist, for instance, the Facial Action Coding System (FACS; Ekman, Friesen, & Hager, 2002).

Proudness is another PA that is often recognized from behavioral measures, characterized by an expansive body posture. Vocalization is a behavior measure with relevance for studies of affect, but it has been difficult to find vocal characteristics that are sensitive to PA (Mauss & Robinson, 2009).

#### Conclusions

Positive affect may not be sufficient for a good life, but it is necessary. A life without positive feelings is not very attractive. But even if PA holds a core position in quality of life research, the concept suffers from absence of clarity and presence of what has been termed the “jingle-jangle fallacy” – the jingle fallacy being that just because things are called the same name, it does not mean that they are the same thing; the jangle fallacy says that because things are called different things, it does not necessarily mean they are different; see Pedhazur and Schmelkin (1991). Currently, the literature takes PA to interchangeably mean (1) happiness; (2) all positive feeling states; (3) an overarching concept that covers (a) all these positive, ongoing feelings, in addition to (b) the entire idea of emotions, (c) moods, and (d) individual differences in affective dispositions; (4) only energetic feeling states; (5) only pleasant feeling states; (6) energetic experiences above the subordinate level of separate feeling states, but below the superordinate level of general pleasure; (7) both moods and emotions, but not affective states and feelings; (8) an evaluative information-processing system that generates feelings; and (9) approach motivation. And, following the jangle analogy, many researchers speak about emotion or mood in the same way others speak about affect.

Despite this conceptual confusion, it seems safe to anticipate that the affect research will increase in knowledge about the separate elements in the domain. More comprehensive understanding will follow better observations of the elements of PA. Hopefully such developments will introduce a more strict conceptual

discipline among researchers. On the other hand, more information may result in further fragmentation and foster-isolated camps of scholars without the broad orientation needed to fully understand human affects. In any case, it is unlikely that the field will manage to establish a common referent to the notion of PA. The concept will probably still be used in multiple ways in the years to come, based not on a scientific but on a normative and semantic commonness.

## Cross-References

- ▶ [Affect Balance Scale](#)
- ▶ [Core Affect](#)
- ▶ [Negative Affect](#)
- ▶ [Pleasure](#)
- ▶ [Subjective Well-Being](#)

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- **Positive affect** (PA) reflects the extent to which a person feels active, enthusiastic, and alert. High PA is a state of high energy, concentration, and experiencing pleasure, whereas low PA is characterized by sadness and lethargy (Watson et al., 1988).
- **Negative affect** (NA) is a state of general distress and unpleasurable engagement, with low NA reflecting calmness and serenity.
- There are two versions of the questionnaire: a 60-item version (PANAS-X) and a brief 20-item scale. Respondents rate how they are feeling for each adjective on a 5-point
- **Likert-type scale** ranging from 1 (very slightly) to 5 (extremely). The high extreme of each dimension indicates the experience of affect, while the low end represents a lack of emotion. The PANAS-X is simple and easy to administer. Most respondents complete the 60-item scale in 10 min or less.
- The PANAS-X measures ► **mood** at two different levels. In addition to the two higher-order broad dimensions, PA and NA, the questionnaire measures 11 specific affects: joviality, self-assurance, attentiveness, fear, hostility, guilt, sadness, shyness, fatigue, serenity, and surprise.

## Positive and Negative Affect Schedule (PANAS)

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### Definition

*Positive and Negative Affect Schedule* (PANAS; Watson, Clark, & Tellegen, 1988) is the most frequently used self-report instrument assessing positive and negative affect.

### Description

The questionnaire measures two general dimensions, positive and negative affect.

### Time Frame

The PANAS and PANAS-X scales can be used both as measures of state and trait affect. When used with short-term instructions (e.g., *right now* or *today*), PANAS scales are sensitive to fluctuations in mood (Watson et al., 1988). When used with longer-term instructions (e.g., *past year* or *general*), they showed traitlike stability.

### Psychometric Properties

Both PANAS-X and PANAS are reliable, valid measures and largely independent measures of the higher-order PA and NA dimensions, regardless of the subject population or time frame used (Watson et al., 1988; Watson & Clark, 1994).

### Validity

- The PANAS scales have good convergent and discriminant correlations with other scales measuring mood and with other brief affect measures (Roesch, 1998).

- The PANAS-X scales show convergent and discriminant validity when correlated with peer judgments. The scales are also strongly and systematically related to measures of personality and emotionality.

#### Reliability

Both PANAS-X and PANAS scales have good test-retest and internal reliability (Watson et al., 1988; Watson & Clark, 1994).

#### Test-Retest

- PANAS-X (as trait measure): Test-retest reliabilities were obtained for two independent student samples (502 and 399) in a 2-month retest interval. For PA coefficients ranged from .64 to .70, while for NA scale the coefficients ranged from .59 to .71.
- PANAS (as trait measure): The alpha coefficient of .68 was obtained for PA scale and .71 for NA scale in a sample of 663 respondents.

#### Internal Consistency

- PANAS-X: In six samples comprised of students, adults, and clinical samples (N = 5091) across different time frames, Cronbach's alphas ranged from .83 to .90 for PA and from .85 to .93 for NA.
- PANAS: Cronbach's alphas range from .84 (NA) to .90 (PA) across different time frames. For PANAS-X, these coefficients range from .84 (NA) to .93 (NA).

#### Discussion

##### Independence of PA and NA

Two-factor structure was replicated in many studies, both using exploratory (Krohne, Egloff, Kohlmann, & Tausch, 1996) and confirmatory factor analyses (Crawford & Henry, 2004; Terracciano, McCrae, & Costa, 2003). PA and NA are not opposite ends of a bipolar dimension but highly distinctive dimensions (Huebner & Dew, 1995; Watson et al., 1988).

However, there are some disagreements regarding the independence of PA and NA dimensions and the bipolarity issue. The labels *positive affect* and *negative affect* are in part responsible for these disagreements (Larsen & Diener, 1992). In addition, the reference to the circumplex model of affect explains part of the dispute (Russell, 1980; Watson & Tellegen, 1985). Within this model, pleasantness (happy, content) and unpleasantness (unhappy, sad) are placed at the opposite ends of a bipolar dimension (Tellegen, Watson, & Clark, 1999). Nevertheless, affective experience may typically be bipolar, but the underlying processes, and occasionally the experience of emotion, are better characterized as bivariate (Larsen, McGraw, & Cacioppo, 2001).

#### Gender Differences

Although Watson et al. (1988) have not found any large or consistent gender differences, some studies suggest that the PANAS scales may not possess factorial invariance across gender. Their findings indicate that women score higher than men on the NA scale (Crawford & Henry, 2004; Terracciano et al., 2003). For practical purposes, gender differences can be ignored because the effect sizes are very modest (Crawford & Henry, 2004). Yet, it would be important to test measurement and [▶ factorial invariance](#) across cultures and across healthy and clinical populations in future studies.

#### Cross-References

- ▶ [Confirmatory Factor Analysis \(CFA\)](#)
- ▶ [Convergent Validity](#)
- ▶ [Cronbach's Alpha](#)
- ▶ [Discriminant Validity](#)
- ▶ [Exploratory Factor Analysis](#)
- ▶ [Factorial Invariance](#)
- ▶ [Likert Scale](#)
- ▶ [Mood](#)
- ▶ [Negative Affect](#)
- ▶ [Positive Affect](#)
- ▶ [Test-Retest Reliability](#)

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## Positive Attitudes and God

- ▶ [Health-Related Quality of Life and Reliance on God's Help](#)

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## Positive Change

- ▶ [Development](#)

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## Positive Emotions

- ▶ [Eudaimonic and Hedonic Happiness](#)
- ▶ [Positive Affect](#)

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## Positive Illusions

- ▶ [Self-Enhancement](#)

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## Positive Indicators of Child Well-Being

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## Synonyms

[Children's assets](#)

## Definition

Positive indicators of child well-being are defined as measures of the behaviors, habits, ▶ [attitudes](#), skills, and competencies that indicate desirable, healthy, satisfying, prosocial, or constructive development in children and adolescents. Because well-being is intimately linked to the quality of children's and adolescents' contexts and relationships, positive indicators can also include measures of the quality of family, peer, school, neighborhood, and the media environments, as well as the relationship between the

child or adolescent and each of those contexts. Positive indicators include both subjective and objective indicators. As more is learned about which qualities and aspects of the child, as well as their environments and relationships, contribute to ► [flourishing](#) among children and adolescents, the set of positive indicators will change and expand.

## Description

Positive indicators of child well-being (along with indicators of child ill-being) are used by governments, international agencies, schools, and private organizations and foundations to describe and monitor child well-being, as well as to set goals, evaluate programs and policies, and guide interventions aimed at enhancing child well-being (Lippman, Moore, & McIntosh, 2009; Moore, Brown, & Scarupa, 2003). In addition, the process of conceptualizing, developing, and monitoring positive indicators helps nations, as well as organizations that serve children and adolescents, to clarify their purpose and to focus on developing the strengths of children and adolescents, rather than on simply minimizing their deficits. Researchers, practitioners, and policy makers generally agree that positive indicators of child well-being can provide a common metric which societies can use to measure social progress.

## The Evolution of Positive Indicators of Child Well-Being

Contemporary positive indicators of child well-being grew out of the social indicator movement of the 1960s that arose in response to the great social changes of the times (Lippman, 2007). At first, indicators tended to focus solely on child survival but soon evolved toward covering an expanding array of skills and abilities across child well-being domains such as ► [health](#), ► [education](#), and social behaviors (Ben-Arieh, 2008; Lippman, 2007; Rychen & Salganik, 2003). This evolution in the development of child well-being indicators was paralleled by related theoretical advances

in understanding the growth, needs, and behaviors of children and adolescents and, consequently, how to foster their development over the life course (Larson, 2000; Lerner & Benson, 2004; Lerner & Steinberg, 2004; Scales & Benson, 2005; Scales et al., 2001). This new conceptual approach explicitly focuses on developing children's internal assets, as well as their positive relationships and supportive environments. Research based solely on negative outcomes not only ignores the positive aspects of child development but fails to represent good science (Bornstein et al., 2002; Eccles & Gootman, 2002; Huston & Ripke, 2006; Shonkoff & Phillips, 2000).

Scholars have had difficulty agreeing on how to define positive development and, thus, knowing how to measure it (Peterson & Seligman, 2004). Whereas negative behaviors, such as dropping out of school and smoking cigarettes, are easily counted, it is more difficult to quantify good experiences and strengths such as school engagement and ► [social competence](#). Nonetheless, knowledge derived from fields such as developmental science, health and safety, education, character education, workforce readiness and ► [human development](#), child welfare, child and adolescent rights, ► [positive psychology](#), and sociology can be gleaned to identify key indicators of positive development.

## Conceptual Frameworks of Positive Indicators of Child Well-Being

The development of positive indicators of child well-being is guided by conceptual frameworks that organize existing theory and research. In 2009, the authors identified and reviewed 43 such frameworks in a paper commissioned by the UNICEF Innocenti Research Centre for the Child Well-being Expert Consultation sponsored by UNICEF, the Organization for Economic Cooperation and Development (OECD), and the European Commission (Lippman et al., 2009). Their findings demonstrate how conceptual frameworks are developed for a wide variety of uses, from cross-national surveys to local school assessments. Following are examples of four different uses of conceptual frameworks that

have been created in recent years. While some of these frameworks include negative indicators, overall, the frameworks reflect a positive approach to child well-being.

*International.* The DeSeCo (Definition and Selection of Key Competencies) project is one of several international frameworks that have been developed and was designed to complement the work of an educational survey (► [Program for International Student Assessment](#)) run by the OECD (OECD 2005; Rychen & Salganik, 2003). The three broad competencies identified by DeSeCo are consistent with principles of positive youth development and represent basic prerequisites for success in work, health and safety, social interactions, and ► [political engagement](#). The overarching competencies are (a) acting autonomously, (b) using tools interactively, and (c) functioning socially in heterogeneous groups. Within each of these overarching competencies, the project identifies specific competencies that are deemed necessary for success in work and life.

*National.* *The Progress of Canada's Children and Youth 2006* (Canadian Council on Social Development, 2006) reflects a trend toward increased use of positive indicators in periodic national reports that monitor child and adolescent well-being. The underlying framework includes both positive and negative indicators. It also distinguishes between individual well-being and the contexts that influence it. In the area of individual well-being, the report includes indicators in the domains of (a) health, (b) social engagement, (c) learning, and (d) labor force profiles of youth. It also includes contextual indicators in the domains of (a) family life, (b) economic security, (c) physical safety, (d) community resources, and (e) civic vitality.

*Community.* A number of conceptual frameworks have emerged from work in the area of youth development that generally focus on the local community. A conceptual framework created by the Search Institute organizes 40 developmental assets that children and youth need in order to thrive (Benson, Lefert, Scales, & Blyth, 1998; Search Institute, 2008). Assets, by definition, are positive. The framework groups 20 assets

in four domains of individual well-being and 20 in four other domains of community context. The domains pertaining to individual well-being (internal assets) are (a) commitment to learning, (b) positive values, (c) social competencies, and (d) positive identity. Domains focusing on community context (external assets) are (a) support, (b) ► [empowerment](#), (c) boundaries and expectations, and (d) constructive use of time.

*School/Neighborhood.* The School Success Profile (SSP; Bowen, Rose, & Bowen, 2005) illustrates conceptual frameworks of positive indicators designed for use at the neighborhood level by schools and school districts. The SSP is used to evaluate schools and school programs, as well as to assess the well-being of individual students. The indicators are predominately positive and aggregated into domains in the areas of individual well-being and context. Individual well-being domains include (a) personal beliefs and well-being, (b) school attitudes and behavior, and (c) academic performance. Contextual domains are (a) neighborhood, (b) school, (c) friends, and (d) family.

*A New Conceptual Framework.* Based upon the review of frameworks outlined above, Lippman et al. (2009) proposed a new comprehensive framework that could be used for further development of positive indicators. [Table 1](#) presents that framework, including recent modifications. The new revised framework identifies indicators of individual child well-being in the domains of (a) physical health and safety, (b) cognitive development and education, (c) psychological/emotional development, (d) social development and behavior, and (e) spiritual development. This framework diverges from others in that it (a) distinguishes between indicators of child well-being per se and indicators of the child's context, (b) includes a separate category for indicators of the quality of relationships between the child and each context, and (c) includes a separate domain for ► [spirituality](#), which is increasingly found to be linked to positive outcomes in youth (Lerner, Roeser, & Phelps, 2008; Roehlkepartain, Ebstyn-King, Wagner, & Benson, 2006).

**Positive Indicators of Child Well-Being, Table 1** Positiveindicator framework (Lippman et al., 2009)

Domains/constructs	Indicators
<i>Individual</i>	
Physical health, development, and safety	
Overall health	Positive health status, health maintenance care
Healthy habits	Eating, exercise, sleep habits
Safe from accident, injury	Wearing bicycle helmets, seat belts, etc.
Risk management skills	Skills and knowledge to avoid drug and alcohol use and risky sex
Cognitive development and education	
Educational attainment	Secondary and postsecondary enrollment and completion, career and technical training, licenses, attainment expectations
Educational achievement	In language, math, science, reading, writing, etc.; curricular-based achievement and literacy
Academic self-concept	Self-perception of academic performance, ability
Critical thinking	Evaluation/analytical/problem-solving skills
Knowledge of essential life skills	Financial management, decision-making skills, home maintenance, etc.
Positive attitude toward learning	Curiosity, active learning strategies, mastery motivation, study skills
School engagement	Behavioral, emotional, and cognitive engagement
Interactive use of technology	Able to use computers and communication technology, Internet, networking sites
Creativity	Arts: music, writing, art, theater, dance, etc.; ability to develop new views, approaches to tasks
Civic knowledge	Knowledge of tenets of democracy, government, laws, justice, tolerance
Career and technical knowledge	Knowledge of occupations, salary ranges, requirements needed
Psychological/emotional development	
Overall psychological, emotional well-being	Happiness, subjective well-being, flourishing, life satisfaction
Self-management	Age-appropriate autonomy, emotional self-regulation, persistence, constructive time use
Agency	Planfulness, resourcefulness, positive risk-taking, realistic goal setting, motivation
Confidence	Positive identity and self-worth
Optimism and resilience	Positive outlook and constructive adaptation to adverse events
Sense of purpose	Sustained and broad intention organizing goals and behaviors. Creating meaning for the self and mattering beyond the self
Spirituality	
Transcendence	Seeking or experiencing transcendence, connectivity of all life, awe, awareness of a universal unity. Practices such as meditation, chant, body movements, experiencing natural beauty, etc., to bring about such states
Self-awareness	Seeking or experiencing inner harmony, awareness of sanctity of one’s life, guidance for one’s life. Engaging in contemplative practices such as meditation and breathing that bring about such an awareness
Religiosity	Beliefs, practices, worship, rituals, and engaging in communities that belong to a specific religious tradition
Connectedness	Seeking to personally connect to one’s understanding of divinity or source of life through practices such as personal prayer or meditation, seeking to connect to others with this awareness
Social development and behavior	
Moral character	Ethical behavior, integrity
Prosocial values	Caring, empathy for others
Social intelligence	Communication, cooperation, conflict-resolution skills, trust, intimacy
Cultural intelligence	Cross-cultural competence

(continued)

**Positive Indicators of Child Well-Being, Table 1** (continued)

Domains/constructs	Indicators
Environmental awareness and behavior	Knowledge, positive behaviors
Civic awareness, motivation	Age-appropriate concern and motivation regarding community, social, or public issues; civic knowledge, civic self-image and self-efficacy, and connectedness
<i>Relationships</i>	
<i>Family</i>	
Positive relations w/parents	Warmth, closeness, communication, support, positive advice
Positive relations w/siblings, extended family	Warmth, closeness, communication, support, positive advice
Positive functioning of family as a whole	Outings, celebrations, vacations, family meals together
<i>Peers</i>	
Positive friendships	Supportive friendships, quality of relationship with peers, opportunity to meet friends or invite friends home
<i>School</i>	
Positive relations w/teachers	Student report of teacher support
Positive engagement and connection	Participation in school clubs and extracurricular activities at school Sense of belonging at school and peer acceptance
<i>Community</i>	
Positive relations w/nonfamily adults	Advice, support, communication
Engagement in community institutions	Participates in organized recreation activities
Sense of belonging in community	Participates in activities at community orgs/institutions
Civic engagement	Current or past participation with organizations such as human rights groups, religious associations, or youth clubs Intentions regarding future political and civic participation as adults (e.g., voting, campaigning, volunteer work)
Constructive and nontaxing employment	Hours worked
Positive digital/electronic relationships	Hours spent and content of media interactions
<i>Macrosystems</i>	
Positive group identity	Relates positively to own group membership without disparaging others
Engages w/positive ideologies, movements	Cultural, spiritual, political, economic
<i>Context</i>	
<i>Family</i>	
Positive parenting	Warmth, communication, role modeling, time/discussion with children, appropriate structure/monitoring, high expectations
Parental activities and enrichment	Read books to child, go to the library, go on outings
Parent involvement in community	School, religious institution, community organizations
Resources	Steady parental employment and adequate income/benefits, adequate housing, child care, parent education, number of adults in household, health services, cognitive/developmental resources (books, phone, Internet, magazines, newspapers)
Social capital	Quantity and quality of social, family, and business networks
Safe household	Absence of smoke, in good repair, no lead, etc.

(continued)

**Positive Indicators of Child Well-Being, Table 1** (continued)

Domains/constructs	Indicators
Peers	
Positive peers	Peers who do not engage in risky behavior and who are good students
School	
Access to good schools	Parent satisfaction with school or wishing to transfer
Safe schools	Safe from bullying, discrimination, crime
Community	
Safe neighborhoods	Safe from violence, crime, environmental toxins
Positive physical environment	Recreation facilities and spaces
Caring adults	Appropriate structure, high expectations
Activities	Organized child/youth/recreational activities
Community institutions/ organizations	Active religious, social, political, environmental organizations and civic institutions
Services	Adequate social/economic services
Positive social norms	Values support diversity, tolerance, work, families
Macrosystems	
Cultures/subcultures	Societal values, lifestyles, spending patterns
Belief systems	Spiritual, philosophical, political, economic

Source: Lippman et al. (2009)

It is critical to separate indicators of the child's context and relationships from indicators of the child's well-being. In research studies, context-related factors such as family poverty have been found to influence child well-being outcomes. However, family poverty is an indicator of the context in which the child develops, not an indicator of child well-being per se. Furthermore, trends in family-context indicators are only moderately correlated with individual child well-being indicators (Moore et al., 2008). Thus, it is essential to monitor family context and child well-being separately. It is also essential to monitor the quality of contexts and relationships separately from individual child well-being in order to inform policy and program interventions. The [Table 1](#) framework identifies contexts involving (a) family, (b) peers, (c) school, (d) community, and (e) the larger macrosystem (e.g., culture, societal values, belief systems). The framework also identifies a separate category for the relationships that link a child or adolescent to each context, emphasizing the critically important contributions children make to the quality of these relationships (Theokas & Lerner, 2006).

Each category of the [Table 1](#) framework has four to five domains, and each domain has several constructs that, together, provide a comprehensive assessment of well-being. Many of these constructs are supported by empirical research linking them to positive child and adolescent outcomes (Lippman et al. (2009) provide an annotated bibliography of these data sources; see also Lippman et al. (2012)). The positive indicators presented in the framework are examples of indicators in each category and are not meant to be exhaustive. When used with traditional deficit-oriented child well-being indicators, positive indicators can provide a balanced, comprehensive portrait of child and adolescent well-being.

### Measurement, Data, and Methodological Issues

Measures that can be used to develop indicators are available for most of the constructs and indicators displayed in the conceptual framework in [Table 1](#), including data from international sources (see Lippman et al. (2009), for a detailed discussion of data sources). Data from these sources, however, often come from

different countries, focus on different age groups of children, are collected in different years, and use different measures for the same construct. Ideally, surveys on child well-being would collect microdata (i.e., data for individual children) for both positive and negative measures of child well-being at one point in time. The development and use of positive child well-being indicators also face several other measurement, data, and methodological issues (see Lippman et al., for a more detailed discussion), including the following:

*Consensus of Definition.* Some positive indicators, such as hope and spirituality, lack a clear consensus in the research on their definitions and, thus, on their measurement.

*Subpopulations with Special Needs or Perspectives.* The strengths and positive development of important subpopulations such as race/ethnicity groups, migrants, and populations with health conditions or special needs have often been ignored. It is therefore critical to have measures that provide information on the development and well-being of such groups.

*Assessing Cross-Cultural and Cross-National Validity.* Child well-being indicators may mean different things to different social, cultural, and national groups, so getting input from these groups is important to ensuring the validity of indicators used in international and cross-cultural studies.

*Collecting Data from Children and Adolescents.* Indicators of children's and adolescents' subjective perceptions of their own well-being are becoming increasingly common. In addition to the traditional safeguards in collecting data from children and adolescents, it is challenging to create indicators that are not positively skewed and for which there is agreement across respondents on the meaning of the points on a scale, thus, to ensure validity.

*Indicator Complexity.* As constructs of positive child well-being have evolved, they have become increasingly complex and are now often measured using comprehensive, multi-item scales for individual assessments that are

too lengthy for large national or international surveys (Moore & Lippman, 2005). Research is needed to develop these scales into smaller, yet valid measures suitable for inclusion in such surveys.

*Cut Points.* Because journalists and policy makers want data that are easy to understand, cut points have been established for many indicators to show the proportions of children above and below a critical threshold. Although cut points for negative indicators such as juvenile crime and teen births are fairly easy to formulate, those for positive indicators such as educational engagement are more challenging. Establishing how much is enough to produce a positive outcome is the subject of current research.

## Cross-References

- ▶ [Child Indicators Research](#)
- ▶ [Child Rights](#)
- ▶ [Child Participation](#)
- ▶ [Life Satisfaction and Youth Developmental Assets](#)
- ▶ [Positive Psychology](#)
- ▶ [Strengths-Based Approaches](#)
- ▶ [Youth/Adolescent Rights](#)

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## Positive Psychology

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## Definition

Positive psychology is a subfield of general psychology in which the scientific method is used to research and explain positive aspects of life and in which clinical interventions that promote well-being are developed based on this research. Positive psychology is concerned with understanding and facilitating (1) ► [happiness](#) and well-being, (2) positive traits and engagement in absorbing activities, and (3) the development of meaningful positive relationships, social systems, and institutions (Lopez & Snyder, 2009).

## Description

### The Development of Modern Positive Psychology

The modern positive psychology movement was inaugurated by Martin E.P. Seligman in his presidential address to the 107th American Psychological Association convention in Boston. He proposed to use his presidency to shift the focus of psychology from diagnosing and remediating deficits and disorders to identifying and building strengths. Over the next 3 years, Seligman worked intensively with a group of experts to develop the conceptual foundations of positive psychology, raise millions in philanthropic funding to support positive psychology research, and disseminate positive psychology. Dissemination was achieved through annual positive psychology international summits, numerous academic publications, press coverage, TV appearances, and the Internet. Seligman's colleagues in this venture – the Positive Psychology Network – included outstanding early career scientists such as Barbara Fredrickson and Sonja Lyubomirsky (who are now leaders in the field) as well as established luminaries including Mihaly Csikszentmihalyi, Ed Diener, Chris Peterson, and George Vaillant. The most important academic publications in the emerging field of positive psychology were the Handbook of Positive Psychology (Lopez & Snyder, 2009; Snyder & Lopez, 2002), the new Journal of Positive Psychology, a special millennial issue of the American Psychologist (American Psychological Association, 2000), and Seligman's popular science book – Authentic Happiness (Seligman, 2002). In the decade following Seligman's inaugural address, positive psychology associations were set up around the world. These include the International Positive Psychology Association, the European Network for Positive Psychology, and the national positive psychology associations of China, Australia, and New Zealand. During this same decade, the first master's programs in positive psychology were established at the University of Pennsylvania in the USA and the University of East London in the UK.

While modern positive psychology is a new movement, it draws on a rich intellectual heritage that may be traced back to early Greek philosophers, such as Plato and Aristotle who wrote about virtue and the good life, and twentieth-century psychologists such as Abraham Maslow and Carl Rogers who researched positive aspects of human experience. The distinguishing features of the modern positive psychology movement are its commitment to the scientific study of positive aspects of human experience, the academic infrastructure that has been established to support this research, and the intellectual leadership provided by the founders of the movement.

### The Scope of Positive Psychology

The first and second editions of the Handbook of Positive Psychology indicate the scope of this field of inquiry (Lopez & Snyder, 2009; Snyder & Lopez, 2002). These handbooks contain chapters on happiness, well-being, and positive emotions. There are also chapters on positive traits and strengths such as resilience, optimism, hope, forgiveness, courage, humility, ► [flow](#), curiosity, creativity, wisdom, and emotional intelligence. In the domain of identity, the following topics are covered: self-esteem, self-efficacy, self-determination, self-regulation, self-verification, and authenticity. There are chapters on various approaches to coping, including coping through emotional approach, problem-solving appraisal, humor, ► [mindfulness](#), therapeutic writing, benefit finding, posttraumatic growth, and spirituality. There are also chapters on positive relationships and institutions. In this context, the processes of love, attachment, compassion, empathy, and altruism are considered, as well as the application of positive psychology in family, school, college, and work settings. Applications of positive psychology within the fields of physical and mental health, disability, and youth development are also considered.

Separate handbooks on positive psychology applied to education (Gilman, Huebner, & Furlong, 2009) and work (Linley, Harrington, & Garcea, 2010) settings have been published as well as positive psychology handbooks on assessment (Lopez & Snyder, 2003) and research

methods (Ong & VanDulmen, 2007). Lopez (2009) has produced a two-volume encyclopedia on positive psychology. The field has matured sufficiently for introductory textbooks on positive psychology to have been written (e.g., Carr, 2004, 2011; Peterson, 2006; Snyder & Lopez, 2007). There has also been a proliferation of evidence-based positive psychology self-help books (e.g., Fredrickson, 2009; Lyubomirsky, 2007; Warr, 2010). These are quite distinct from traditional non-evidence-based, pop-psychology self-help manuals, insofar as the advice contained in them for improving quality of life is based on empirical research.

In the remainder of this entry, research results from studies of happiness and well-being, character strengths, and ► [positive psychotherapy](#) will be given to illustrate the type of knowledge generated by positive psychology research.

### Happiness and Well-Being

Are most people happy? Ed Diener from Minnesota University aggregated data from 916 surveys of happiness, ► [life satisfaction](#), and ► [subjective well-being](#) involving over a million people in 45 nations around the world (Myers & Diener, 1996). He transformed all the data onto ten point scales. He found that the average happiness rating was not 5, which would be a neutral rating, but 6.75. This indicates that most people are moderately happy.

What are the positive effects of happiness? Barbara Fredrickson at the University of Michigan has developed the broaden-and-build theory of positive emotions to explain how positive affective experiences not only signal personal well-being but also contribute to personal growth and development (Fredrickson, 2009). Negative emotions, such as ► [anxiety](#) or anger, narrow people's momentary thought-action repertoires so that they are ready to act in self-protective ways. Positive emotions, in contrast, broaden momentary thought-action repertoires. This broadening of momentary thought-action repertoires offers opportunities for building enduring personal resources, which in turn offers the potential for personal growth and transformation by creating positive or adaptive spirals of

emotion, cognition, and action. A large body of evidence shows that positive mood states help people build enduring personal resources. In a meta-analysis of 225 cross-sectional, longitudinal, and experimental studies, Lyubomirsky, King, and Diener (2005) found that positive emotions led to better adjustment in the broad domains of work, relationships, and health and also to greater positive perceptions of self and others, sociability, likability, cooperation, ► [altruism](#), coping, conflict resolution, creativity, and problem-solving. Using data from ten European countries, Veenhoven and Hagerty (2006) found that happiness improved significantly from 1973 to 2002 and this increase in happiness was associated with increased longevity.

What causes happiness? Sonja Lyubomirsky has argued that happiness is determined by three classes of factors: (1) happiness set point, (2) circumstances, and (3) intentional activities (Lyubomirsky, 2007; Lyubomirsky et al., 2005). With regard to the happiness set point, Lyubomirsky has marshalled evidence from twin studies to show that about 50 % of individual differences in happiness may be accounted for by genetic factors. Genetic factors influence happiness through their effects on personality traits. The weight of current evidence shows that in western industrialized cultures, happy people have personalities characterized by extraversion, stability, conscientiousness, agreeableness, optimism, high self-esteem, and an internal locus of control (Diener, Suh, Lucas, & Smith, 1999; Steel, Schmidt, & Shultz, 2008). Lyubomirsky concluded that about 10 % of individual differences in happiness may be accounted for by environmental circumstances. One reason why environmental factors have such a limited impact on happiness is because in the long term most people adapt to most (but not all) positive and negative environmental changes. Brickman and Campbell (1971) coined the term "hedonic treadmill" to describe this process of rapid adaptation whereby people react strongly to both positive and negative recent events with sharp increases or decreases in happiness but in most instances return to their happiness set point over relatively short periods of time (e.g., a few weeks or months).

**Positive Psychology, Table 1** Values in action (VIA) classification of character strengths and virtues

Virtues	Defining features	Character Strengths	Defining features
1. <i>Wisdom</i>	Acquisition of and use of knowledge	1 <i>Creativity</i>	Thinking of novel and productive ways to do things
		2 <i>Curiosity</i>	Taking an interest in all of ongoing experience
		3 <i>Open mindedness</i>	Thinking things through and examining them from all sides
		4 <i>Love of learning</i>	Mastering new skills, topics and bodies of knowledge
		5 <i>Perspective</i>	Being able to provide wise council to others
2. <i>Courage</i>	Will to accomplish goals in the face of internal or external opposition	6 <i>Authenticity</i>	Speaking the truth and presenting oneself in a genuine way
		7 <i>Bravery</i>	Not shrinking from threat, challenge, difficulty or pain
		8 <i>Perseverance</i>	Finishing what one starts
		9 <i>Zest</i>	Approaching life with excitement and energy
3. <i>Humanity</i>	Interpersonal strength	10 <i>Kindness</i>	Doing favors and good deeds for others
		11 <i>Love</i>	Valuing close relations with others
		12 <i>Social intelligence</i>	Being aware of the motives and feelings of self and others
4. <i>Justice</i>	Civic strengths	13 <i>Fairness</i>	Treating all people the same according to notions of fairness and justice
		14 <i>Leadership</i>	Organizing group activities and seeing that they happen
		15 <i>Teamwork</i>	Working well with members of a group or team
5. <i>Temperance</i>	Strengths that protect us against excesses	16 <i>Forgiveness</i>	Forgiving those who have done wrong
		17 <i>Modesty</i>	Letting one's accomplishments speak for themselves
		18 <i>Prudence</i>	Being careful about ones choices and not saying or doing things that might be regretted
		19 <i>Self-regulation</i>	Regulating what one feels and does
6. <i>Transcendence</i>	Strengths that connect us to the larger universe	20 <i>Appreciation of beauty and excellence</i>	Noticing and appreciating beauty, excellence and skilled performance in all domains of life
		21 <i>Gratitude</i>	Being aware of and thankful for the good things that happen
		22 <i>Hope</i>	Expecting the best and working to achieve it
		23 <i>Humor</i>	Liking to laugh and joke and bring smiles to other people
		24 <i>Religiousness</i>	Having coherent beliefs about the higher purpose and meaning of life

Adapted from Peterson, C., & Park, N. (2009). Classifying and measuring strengths of character. In S. Lopez & C. R. Snyder (Eds.), *Oxford handbook of positive psychology* (2nd ed., pp. 25–33, Table 4.1., p. 28). New York: Oxford University Press; and Peterson and Seligman (2004)

Lyubomirsky's most hopeful proposal is that 40 % of individual differences in happiness are due to activities that people intentionally carry out. Thus, there is considerable latitude to enhance well-being through intentional activities, such as making and maintaining valued relationships and friendships, engaging in meaningful, challenging skillful work, and pursuing absorbing recreational activities that involve the use of personal strengths.

### Character Strengths

A major milestone in the development of modern positive psychology was the publication of Peterson and Seligman (2004) *Character Strengths and Virtues*. This presents a taxonomy of 24 human strengths related to 6 universal human virtues, a review of psychological literature relevant to each of the strengths, and key questions that require investigation in future research. Virtues are core characteristics valued by moral philosophers, such as wisdom or courage. Strengths, such as creativity and ► [gratitude](#), are less abstract personality traits which may be used to achieve virtues. The taxonomy of virtues and strengths is presented in [Table 1](#). The strengths in the taxonomy may be assessed with the Values in Action Inventory of Strengths (VIA-IS), which can be accessed through the weblink in the reference section of this entry. In an Internet VIA-IS study of 50 US states and 54 nations involving over 117,000 participants, Park, Peterson, and Seligman (2006) found that kindness, fairness, honesty, gratitude, and judgment were the most commonly endorsed strengths in the USA. They also found that the strengths ranked lowest were prudence, modesty, and self-regulation. This US profile of character strengths converged with profiles of respondents from the other nations. A series of studies has shown that of the 24 character strengths assessed by the VIA-IS, zest, hope, love, and gratitude are the most strongly associated with well-being in children, adolescents, and adults (e.g., Park, Peterson & Seligman, 2004).

### Positive Psychotherapy

Positive psychotherapy is one of the most important applications of positive psychology

(Rashid, 2008; Rashid & Anjum, 2008; Seligman, Rashid, & Parks, 2006). While traditional approaches to psychotherapy are primarily concerned with alleviating distress, positive psychotherapy aims to cultivate positive emotions, build strengths, and enhance meaningful relationships. Positive psychotherapy, which was developed and evaluated by Rashid and Seligman, includes interventions such as savoring which enhance pleasure and promote the pleasant life; interventions that encourage the use of signature strengths, such as gratitude and forgiveness to foster the engaged life; and interventions that enhance relationships within families and institutions to promote the meaningful life. The pleasant life, the engaged life, and the meaningful life – three distinct orientations to happiness – are associated with well-being. For example, in an Internet study of 24,836 people from 27 different nations, Park, Peterson, and Ruch (2009) found that each of these three orientations was associated with life satisfaction, but orientations to engagement and meaning were more strongly associated with life satisfaction than an orientation to pleasure. Results of a series of preliminary trials of positive psychotherapy show that group and individual positive psychotherapies reduce depression and enhance well-being for people with mild to moderate depression and Internet-based positive psychotherapy increases well-being in healthy adults and children (Rashid, 2008; Rashid & Anjum, 2008; Park et al., 2006).

### Cross-References

- [Altruism](#)
- [Anxiety](#)
- [Character Strengths](#)
- [Flow](#)
- [Gratitude](#)
- [Happiness](#)
- [Life Satisfaction](#)
- [Mindfulness](#)
- [Optimism](#)
- [Positive Psychotherapy](#)
- [Resilience](#)
- [Subjective Well-Being](#)

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- International Positive Psychology Association. <http://www.ippanetwork.org/IPPANETWORK/IPPANETWORK/Home/Default.aspx>
- Journal of Positive Psychology. <http://www.tandf.co.uk/journals/titles/17439760.asp>
- New Zealand Positive Psychology Association. <http://www.positivepsychology.org.nz/index.html>
- Positive Psychology Centre, University of Pennsylvania. <http://www.positivepsychology.org/>
- Values in Action Inventory of Strengths. <http://www.viacharacter.org/VIASurvey/tabid/55/Default.aspx>

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## Positive Psychology in Schools

- ▶ [School-Based Interventions](#)

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## Positive Psychology Intervention

- ▶ [Quality of Life-Therapy](#)

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## Positive Psychotherapy

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### Synonyms

PPT

### Definition

Positive psychotherapy is a therapy intervention aimed at bolstering pleasure, engagement, and meaning. Components of the therapy include making use of character strengths, expressing gratitude, and savoring positive experiences (Rashid & Anjum, 2008).

### Description

Positive psychotherapy (PPT) is a therapeutic endeavor within positive psychology to broaden the scope of traditional psychotherapy. Its central premise is to address positive resources of clients such as positive emotions, character strengths, and meaning – in addition to treating symptoms – in treating psychopathology. Accentuating positive resources may serve clients best not when life is easy but when life is difficult. Because the human brain is hardwired to attend and respond more strongly to negatives than to positives. Psychopathology exacerbates this propensity. Therefore, accentuation of strengths, along with amelioration of symptoms, is a better therapeutic approach. PPT seeks to balance attention and resources by engaging clients in discussions about, say, an injustice done while also focusing on recent acts of kindness. Similarly, along with insults, hubris, and hate, experiences of genuine praise, humility, and harmony are also deliberately elicited. Pain associated with the trauma is empathetically attended to while also exploring the potential for growth.

PPT is based on three assumptions. First, clients inherently aspire growth, fulfillment, and ► [happiness](#) not just seek to avoid misery, worry, and anxiety. Psychopathology engenders when the growth is thwarted by a myriad of sociocultural factors. Hence, instead of locating psychopathology entirely inside clients, PPT views it as a complex interaction between clients and their environment.

Second, positive resources such as strengths are authentic and as real as symptoms and disorders. These are not defenses, Pollyannaish illusions, or clinical by-products of symptom relief that lie at the clinical peripheries without needing attention. PPT regards positive emotions and strengths of clients as authentic and values them in their own right. The function of psychotherapy is not only to help clients to eliminate or manage symptoms but also to restore and nurture courage, kindness, modesty, perseverance, and emotional and social intelligence. The former may make life less painful, but the latter are what make it fulfilling. Furthermore, repairing weaknesses will not make clients stronger and happier, but enhancing their strengths will.

The final assumption is that effective therapeutic relationships can be formed through the discussion and manifestation of positive resources. Traditional therapeutic discourse focuses mostly on lengthy analysis of weaknesses and deficits, making clients to believe that psychotherapy exclusively entails talking about troubles, ventilating bottled up emotions, and recovering ► [self-esteem](#). Discussion of mostly negatives maintains an unhelpful stigma about the mental health and portrays clients as somehow flawed, fragile or damaged, with the only way “out” being several sessions of painful discussion about one’s childhood traumas, dissatisfactions, unmet needs, etc. Undoubtedly, for a distressed client, discussing troubles is critical and cathartic, but it is not the sine qua non of building a strong therapeutic relationship. Powerful therapeutic bonds can also be built by discussing positive emotions and other positive experiences which in turn can make the therapeutic process more congenial and effective.

PPT is primarily based on Seligman's (2002) conceptualization of happiness. Seligman decomposes the vague and fuzzy notion of "happiness" into scientifically measurable and manageable components such as positive emotion (the pleasant life), engagement (the engaged life), and meaning (the meaningful life).

The pleasant life in PPT primarily entails cultivation of positive emotions. Compared to negative emotions, positive emotions, although transitory, play a key role in making thought processes more flexible, creative, and efficient. Research has also shown that positive emotions build resilience by "undoing" the effects of negative emotions and are robustly associated with longevity, marital satisfaction, friendship, income, and ► [resilience](#) (Fredrickson, 2009). Clients seeking psychotherapy tend to experience a lower than 0.5–1 ratio of positive to negative emotions (Schwartz et al., 2002) while Fredrickson (2009) has reported findings that experiencing three positive emotions for every single negative emotion may be a threshold for flourishing. It appears, then, that lack of positive emotions and pleasure is not just symptoms of psychopathology but may partly cause it. Enhancing the pleasant life by cultivating positive emotions could be a goal of psychotherapy, and it could be appealing for clients in a way that exploring the details of childhood traumas, arguing against catastrophic cognitions, or taking medication with potential adverse side effects may not be.

The engaged life in PPT relates to the pursuit of engagement, involvement, and absorption in work, intimate relations, and leisure. The notion of engagement stems from Csikszentmihalyi's work on ► [flow](#) (1990) which is the psychological state brought about by intense concentration and that typically results in temporal distortion (i.e., lost sense of time) for the performer. Provided one's skill levels are sufficient to meet the challenge of the task, individuals are likely to become deeply absorbed or "at one" with the experience. Seligman (2002) proposes that one way to enhance engagement is to identify clients' salient character or "signature" strengths and then help them to find opportunities to use

them more. Every client possesses signature strengths that are self-consciously owned and celebrated and which feel authentic when used. In PPT, clients learn about undertaking intentional activities that use their signature strengths to create engagement. These activities are relatively more time-intensive and might include rock climbing, chess, basketball, dancing, creating or experiencing art, music, literature, spiritual activities, social interactions, and other creative pursuits like baking, gardening, playing with a child, and so on. Compared with sensory pleasures which fade quickly, these activities last longer, involve more thinking and interpretation, and do not habituate easily.

Engagement can be an important antidote to boredom, ► [anxiety](#), and depression. Anhedonia, apathy, boredom, multitasking, and restlessness – hallmarks of many psychological disorders – can be viewed, in part, as problems of modulating attention appropriately. Intense engagement typically eliminates boredom and rumination, because engagement in a challenging task can activate and direct attentional resources at hand, thus leaving less time and capacity available for maladaptive mental and behavioral activities. Furthermore, engaging in challenging tasks offers a sense of accomplishment which often tends to be self-motivating for further exploration and expansion.

The third dimension of Seligman's conceptualization is the pursuit of meaning. This consists of using signature strengths to belong to and serve something that is bigger than oneself. Viktor Frankl (1963), a pioneer in the study of meaning, emphasized that happiness cannot be attained by desiring happiness. Rather, it must come as the unintended consequence of working for a goal greater than oneself. People who successfully pursue activities that connect them to such larger goals achieve a "meaningful life." There are a number of ways to achieve a meaningful life: close interpersonal relationships, pursuing artistic, intellectual or scientific innovations, philosophical or religious contemplation, social or environmental activism, careers experienced as callings, and ► [spirituality](#). Regardless of the way in which a person establishes a meaningful

**Positive Psychotherapy, Table 1** Brief description of a session by session summary of PPT (Rashid, 2013)

Session and topic	Homework
1 Orientation to PPT Lack of positive resources in maintaining psychopathology	Positive introduction: Client writes one page real-life story which shows her/him at her/his best and which ends positively, not tragically
2 Character strengths, flow, and engagement	Values in Action (VIA) questionnaire: Client completes on-line VIA
3 Signature strengths and positive emotions; client devises specific, measureable goals, which utilize signature strengths	Blessing journal: The client starts a journal to record three good things every night (big or small)
4 Bitter memories and their role in perpetuating symptoms; recall of good memories	Memories: The client writes about feelings of anger and bitterness and their impact in perpetuating distress
5 Forgiveness and its role in transforming anger and bitterness	Forgiveness letter: The client describes a transgression and its related emotions and pledges to forgive the transgressor. Does not necessarily deliver the letter
6 Gratitude as an expression of enduring thankfulness	Gratitude letter: The client writes and delivers in person a gratitude letter to someone he/she never properly thanked
7 Mid-therapy check to ascertain therapeutic progress	Client complete the forgiveness and gratitude assignments
8 Satisficing (good enough) vs. maximizing	Satisficing: Client reviews ways to increase satisficing and devises personal action plan
9 Hope and optimism	One door close, one door opened: Client thinks of three doors that closed and then asks: What doors opened?
10 Positive communication	Active-constructive responding: The client to look for active-constructive opportunities
11 Recognizing signature strengths of others	Family strengths tree: Client asks family members to take the VIA. A family tree of strengths is drawn up and discussed at a gathering
12 Savoring and its role to safeguard against adaptation	Savoring activity: Client plans a savoring activity using specific techniques
13 Therapeutic benefits of helping others	Gift of time: Client makes plans to give the gift of time doing something that also uses his/her signature strengths
14 The full life: integration of pleasure, engagement, and meaning	

life, doing so produces a sense of satisfaction and the belief that one has lived well (Hicks & King, 2009). Meaning and purpose can motivate psychologically distressed clients to set and then steadily pursue goals. Therapy can be a useful venture to help clients define and set concrete goals and clarify the overarching meaning associated with such goals, in ways that increase the likelihood of goal attainment. There is also good evidence that having a sense of meaning and purpose helps individuals to recover or rebound quickly from adversity and buffers against feelings of hopelessness and uncontrollability

(Graham, Lobel, Glass, & Lokshina, 2008). Furthermore, clients whose lives are imbued with meaning are more likely to persist rather than quit in the face of a difficult situation (McKnight & Kashdan, 2009). Putting together PPT steers clients from the empty to a full life which entails pleasure, engagement, and meaning.

Table 1 shows a brief description of a session by session summary of PPT. From the outset of PPT, clients deeply explore their strengths and other positive attributes. The therapist initiates this in the first session by building a congenial and positive relationship with the client by

encouraging them to introduce themselves through a real-life story that shows them at their best (Rashid & Ostermann, 2009). Clients are asked to identify their signature strengths by completing an on-line strength measure – *Values in Action* (VIA; Peterson & Seligman, 2004). The therapist then helps clients devise ways to use signature strengths to foster engagement and solve problems that might be maintaining their symptoms. Clients are encouraged to develop their practical intelligence through the careful consideration of which signature strength is relevant to the problem, whether it conflicts with other strengths (e.g., should one be honest or kind?) and how to translate abstract signature strengths into concrete actions (Schwartz & Sharpe, 2006). Clients are then encouraged to write down grudges, bitter memories, or resentments and then discuss in therapy the effects of holding onto them, while also consider the use of what PPT refers as positive cognitive strategies such as narrating from a third person vantage point, recalling positive details-if any, keeping a mindful focus, intentional forgetting or diversion, and finally forgiveness (Rashid & Seligman, 2013).

It is not uncommon for exercises employed in PPT to generate negative and uncomfortable emotions, and the therapist attends to these empathically. Despite what might be implied by the name, the focus of positive psychotherapy is not *exclusively* on the positive aspects of human experience. It would be naïve and utopian to conceive of a life without negative experiences. As such, PPT does not deny negative emotions nor encourage clients to see the world through rose-colored glasses. Rather, it aims to validate these experiences, while gently encouraging clients to explore their effects and seek out potential positives from their difficult and traumatic experiences. This is encouraged because research has shown that doing so tends to yield health benefits and promote psychological growth (Calhoun & Tedeschi, 2006). During these explorations the therapist needs to be careful to avoid offering empty platitudes, such as pointing out the positive opportunities that trauma, loss, or adversity may present for a person's development and growth. Amid the warmth, understanding, and

goodwill created in the therapeutic milieu of PPT, listening mindfully, and facilitating affective expression allows the therapist to help the client explore, reflect upon, and notice both successes and setbacks. In so doing, clients can learn how to encounter negative experiences with a more positive mindset and reframe and label those experiences in ways that are helpful. By working diligently to articulate the genuine and authentic positives of the client's experience, the PPT therapist does not create a Pollyannaish or Panglossian epitome of happiness or a caricature of positive thinking. The therapist neither minimizes nor masks as positives, unavoidable negative events and experiences such as abuse, neglect, and suffering. Such issues are dealt with in PPT using standard clinical protocols.

A number of validation studies of PPT and PPT-based exercises have been completed (Seligman, Rashid, & Parks, 2006; Seligman, Steen, Park, & Peterson, 2005; Rashid & Anjum, 2008; Vella-Brodrick, Park, & Peterson, 2009; Schueller, 2010; Akhtar & Boniwell, 2010). Across samples and settings, these studies have found effectiveness of PPT. An outcome measure, the Positive Psychotherapy Inventory (PPTI), to assess the specific active ingredients of PPT has been devised and validated.

Psychologically disturbed individuals exaggerate the natural tendency to focus on and recall negative aspects of their experience (Nolen-Hoeksema, 2000). Several PPT exercises aim to reeducate attention, memory, and expectations away from the negative and catastrophic and toward the positive and the hopeful. For example, when a client keeps a gratitude journal, the bias toward ruminating only about what has gone wrong is counteracted. The client is more likely to end the day remembering positive events and completions, rather than troubles and unfinished business. Similarly, the ► [gratitude](#) visit may shift a client's memory away from the unfavorable aspects of past relationships to savoring the good things about interactions with friends and family. This reeducation of attention, memory, and expectation is accomplished verbally as well as via journal writing. As noted previously, the cultivation of positive emotions helps

individuals to flourish. The identification and use of signature strengths allows them to think more deeply about their positive qualities, this is likely to bolster self-confidence, enhance resilience, and help clients to deal more effectively with psychological distress (Linley, Nielsen, Gillett, & Biswas-Diener, 2010).

In conducting PPT, some caveats are in order. First, PPT is not prescriptive. Rather, it is a descriptive approach based on converging scientific evidence which documents the benefits of attending to the positive aspects of human experience. Second, PPT is not a panacea, nor is it appropriate for all clients in all situations. Simply put, PPT is not a “one size fits all” approach.

Last, in PPT, therapists should not expect a linear progression of improvement, as the motivation to change long-standing behavioral and emotional patterns fluctuates during the course of therapy. Finally, results of pilot studies, although promising, should be viewed cautiously. Rigorous outcome studies are needed to extrapolate generalizability and articulate the role of mediating variables.

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Character strengths](#)
- ▶ [Flow](#)
- ▶ [Goal achievement](#)
- ▶ [Gratitude](#)
- ▶ [Happiness](#)
- ▶ [Resilience](#)
- ▶ [Self-Esteem](#)
- ▶ [Spirituality](#)

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## Positive Work-Life Spillover

- ▶ [Work-Life Harmony](#)

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## Positive Youth Development

- ▶ [Developmental Assets](#)

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## Positive Youth Development Program

- ▶ [Project P.A.T.H.S. \(Promotion of Quality of Life in Chinese Adolescents\)](#)

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## Positivity Bias

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## Synonyms

[Pollyanna principle](#); [Wishful thinking](#)

## Definition

*Positivity bias* may denote three phenomena: a tendency for people to report positive views of reality; a tendency to hold positive expectations, views, and memories; and a tendency to favor positive information in reasoning.

## Description

In its most phenomenological and least controversial meaning, positivity bias denotes a tendency for people to judge reality favorably. To the extent that their positive judgments reflect genuinely held positive views, positivity bias may be thought of as the tendency to construe, view, and recall reality flatteringly, including a tendency to approach unknown objects (such as individuals, situations, events, and life in general) with positive rather than with neutral expectations. Positivity bias may also (more controversially) refer to the phenomenon that people favor positive data in information processing. Reflecting this hybrid nature of what may be named “positivity bias,” the subtitle of the landmark publication that coined the synonym “Pollyanna principle” was selectivity; in language, memory, and thought (Matlin & Stang, 1978).

## Positivity Bias in Self-reports, Views of Reality, and Information Processing

Surveys of ▶ [life satisfaction](#) typically reveal that people are predominantly happy with life, with population standards clustering around three-fifth to three-quarters of the scale maximum (e.g., Cummins & Nistico, 2002; Walker, Skowronski, & Thompson, 2003). This positivity bias was demonstrated in surveys of ▶ [well-being](#) conducted in a variety of countries (except for extremely poor countries) and regardless of the objectively disadvantaged status of specific respondent groups due to low income, minority status, or poor health (except for depressed people). It occurs in surveys on ▶ [satisfaction with life](#) as well as in surveys on satisfaction with a great variety of specific aspects of life. People

describe such varying targets as their relationships, experiences, life circumstances (such as their financial situation), and both tangible and intangible possessions predominantly positively. They also show a positivity effect in how they describe other people, often systematically omitting negatively valenced knowledge about groups and individuals (Bergsieker, Leslie, Constantine, & Fiske, 2012).

To the extent that the positivity bias in self-reports reflects a genuinely positive outlook in life, this rosy outlook seems to pertain to the past, the present, and the future. Most people seem to be content with their life as it currently is. While contemplating the past, people also remember events from their autobiographies as predominantly pleasant. One reason may be that negative emotions fade more over time than positive emotions do. Thus, people generally remember the positive emotions they had while experiencing pleasant events better than the negative emotions they had while experiencing unpleasant events (e.g., Walker, Vogl, & Thompson, 1997). Positivity biases also characterize future expectations, rendering people generally optimistic (Lench & Bench, 2012). They may take either the form of overestimating the likelihood of pleasant events and/or underestimating the likelihood of unpleasant events or the form of holding exaggerated expectations of the events' utility.

As an imbalance in information processing, the positivity bias refers to a tendency for people to focus on positive information and relatively neglect negative information, to weight positive information more heavily in general impressions, and to one-sidedly attribute morally, socially, or personally desirable characteristics and behaviors to internal, stable, and/or global causes (e.g., Mezulis, Abramson, Hyde, & Hankin, 2004). This type of positivity bias has been debated because negativity effects in information processing have also been shown, leading Baumeister, Bratslavsky, Finkenauer, and Vohs (2001) to state that "bad is stronger than good" and Rozin and Royzman (2001) that the human view of reality shows a negativity bias ("negativity dominance"). For instance, while forming a person's impression, adults (but not young

children) disproportionately weight information about negative behaviors or traits (Skowronski & Carlston, 1989). Yet a positivity bias does not preclude that people respond more intensely to negative experiences than to positive experiences or systematically weight negative information more heavily. When perceivers expect unknown targets to predominantly have desirable characteristics, any information that suggests undesirable characteristics is unexpected and thus highly salient. Relative to positive information, moreover, the negative information then deviates more from perceivers' subjective baseline and therefore seems more diagnostic. Moreover, negativity effects in person perception are less general than once thought. They occur when people judge targets' personalities (or adjust initial impressions) on the basis of the targets' interpersonal behaviors. Positivity effects occur when people derive targets' abilities from targets' performances (Skowronski & Carlston, 1989) and when perceivers derive targets' personalities from other people's behaviors toward them (Hoorens & Maris, 2012).

### Special Types of Positivity Biases

People value personal control higher than a lack of control. Therefore, the so-called *illusion of control* or the tendency to perceive events as more under one's personal control than they objectively are may be considered a special case of the positivity bias (Langer, 1975). Another famous positivity bias is the *person-positivity bias* or the tendency to judge individuals favorably (Sears, 1983). The person-positivity bias implies that individual group members are not only judged more favorably than the groups to which they belong but also than their specific attributes.

Viewing one's own group in a particular positive light is generally called the *in-group bias*. Positive biases in self-evaluation may be subsumed under the label ► *self-enhancement*. When the latter occurs within the context of ► *social comparison*, they may take the form of illusory superiority (above-average or better-than-average effect) and comparative optimism (unrealistic optimism, optimistic bias). In one

study, for instance, participants listed events that could happen in their future or in the future of the average other and then rated the events' desirability and likelihood in their own life and in the life of the average other. Participants listed more desirable events that might happen to them than that might happen to the average other. They also expected that the desirable events were more likely and the undesirable events were less likely to happen in their life than in the life of the average other (Hoorens, Smits, & Shepperd, 2008).

### Explanations

Researchers who believe that the positivity bias in self-reported satisfaction resides in verbal communication without reflecting an underlying positive view of reality assume that it is driven by social desirability. If conceived as such, the positivity bias may be considered a specific type of response bias. Supporting the idea that social norms favor positivity, people tend to believe that individuals who display positivity in judgments and expectations possess desirable characteristics such as interpersonal warmth, a positive mood, or great psychological resources. In contrast, they tend to infer that individuals who display negativity in judgments and expectations possess undesirable characteristics (except, perhaps, that they attribute strong critical abilities to these individuals). Reporting a positive outlook thus seems to have social value indeed. Yet one question that the social desirability interpretation of the positivity interpretation leaves unanswered is where the social norm of positivity itself comes from.

Researchers who believe that the positivity bias in self-reports reflects a genuine positive outlook, perhaps associated with a tendency to favor positive information over negative information, set to explain why such a genuinely positive outlook occurs. Some researchers have suggested that positivity bias reflects a half-conscious or unconscious mechanism of self-protection or even resignation. Others view it as an effect of desire on thinking. For instance, Lench and Bench (2012) proposed that people routinely respond to future prospects with "automatic optimism"

stemming from their desire to achieve desirable outcomes and avoid negative ones.

One particularly intriguing view is that the positivity bias as an outcome and as a characteristic of information processing has survival value and hence may be evolutionary based (Peeters, 1971). Positive expectations are associated with behavioral approach tendencies. As such, they encourage the exploration of a social and physical environment that, besides promise, also holds dangers. This exploration is essential because it is the only way to reap the benefits and seize the opportunities that the environment has in store. Once the exploration of the environment is underway or has partially taken place, focusing on positive experiences serves to increase the likelihood of additional beneficial experiences and to reduce the likelihood of harmful ones. At first sight, individuals may avoid additional unpleasant encounters by remembering unpleasant experiences that they have gone through in the past. Yet the sheer multitude and variety of harmful interactions render that a daunting task. It is more economic and efficient to selectively remember pleasant experiences such that one can seek out situations that were associated with them in the future.

Of course, despite all efforts to experience desirable outcomes, harmful experiences may happen. If they do, they require quick and efficient action. As compared to positive experiences, negative experiences also provoke the mobilization of more biological, psychological, and social resources to cope with them. Allowing this mobilization, people are extra vigilant for and overemphasize the negative. For instance, they typically respond faster and more intensely to negative than to positive experiences (Taylor, 1991). Yet such an extra vigilance is possible only to the extent that negative stimuli stand out as a figure against a background and, hence, when the baseline is positive.

### Cross-References

- ▶ [Happiness](#)
- ▶ [Relationship Satisfaction](#)
- ▶ [Response Bias\(es\)](#)

- ▶ [Satisfaction with Life](#)
- ▶ [Self-enhancement](#)
- ▶ [Social Comparison](#)
- ▶ [Social Desirability Bias](#)
- ▶ [Subjective Well-Being](#)
- ▶ [Survey Research](#)

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## Possession Satisfaction

- ▶ [Aspiration Theory](#)

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## Post Hoc Tests

- ▶ [Pairwise Comparisons](#)

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## Post-conflict Societies

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## Synonyms

[Recovering societies](#)

## Definition

Post-conflict societies are societies that have recently undergone armed conflict. While sometimes those conflicts are international in nature, in more recent history, those conflicts tend to be domestic and civil in nature. Post-conflict societies face a myriad of challenges in different forms. The success of societies in grappling with these problems affects the post-conflict well-being of the country and the potential of

the country to relapse into war. While the issues that any one society faces are unique to its own situation, history, culture, and conflict, there are a number of categories that we can consider when looking at post-conflict societies.

## Description

In post-conflict societies, establishing effective law and order presents a pressing and difficult problem. Sometimes the very basic structures that keep order in society and work to restore balance when transgressions occur have been destroyed in a conflict, even if such structures existed in the first place. These structures sometimes take the form of instruments of the state, while in other cases, they are at least partially the result of traditional societal structures at the local level. Even in the best situation, building up effective institutions is difficult. In the case of traditional structures, if the existing social order has been disrupted by the conflict, sometimes this has resulted in these traditional forms of law and order due to the damage to trust that is critical to their functioning (Kritz, 2002).

In cases of civil wars, the reconstruction of law and order is wrought with great challenges because in many cases these institutions were systematically used against the population in order for authoritarian regimes to maintain control. In such cases, the degree of societal trust that is needed to bestow legitimacy upon the criminal justice system does not exist. Therefore, rebuilding it presents both a practical, institutional challenge and a social one. If an effective system of law and order cannot be built, then this increases distrust in the formerly warring parties because they are less likely to trust their security to the formal entities of the state (Ball, 2001). Therefore, the new system of security and law must protect all of the parties that were involved in a conflict as well as the general civilian population in order to provide the best opportunity for peace (Ball, 2001; McCall & Stanley, 2002; Putnam, 2002).

The process of disarmament, demobilization, and reintegration (DDR) is critical in any post-conflict society, but this is especially in the case of post-civil war societies. Former combatants need to be reintegrated into society not only so that they can live full lives themselves but also so that they do not threaten the peace. Former warring groups must disarm and demobilize (or at least fold into official state mechanisms of order such as military and police). While formal demobilization of armed groups can perhaps be accomplished from the top-down, disarming and reintegrating former fighters are critical in fragile post-conflict societies. Without disarmament, rebel groups have greater capability to return to fighting if they choose, and there are many loose weapons in society, and this can lead to a great increase in armed crimes. This is especially problematic when many young men are armed and/or cannot effectively move on to unarmed professions. In this case, many of these individuals may use the skills and tools that they have gained in a life of conflict in the pursuit of criminal activities in one way or another (Spear, 2002).

The involvement of outside actors can play a key role in post-conflict situations. For example, peacekeeping forces can play a key role in helping to maintain the postwar peace by providing an outside force that can establish law and order in the initial stages. In addition, if this force is trusted by both parties that were involved in a civil war, it can help overcome the issues of trust in order to allow warring sides to disarm and demobilize their forces.

## Economic Issues

One major problem is physically rebuilding that which was destroyed during conflict (buildings, infrastructure, homes, etc.). Also, the normal functioning of a society's economy has often been disrupted by war. Governments and societies in post-conflict situations face the challenge of building a healthy economy to provide jobs and income to individuals and revenues for the government. Economic opportunity is essential to giving individuals a brighter picture of the future and better opportunities in the present.

If such an environment can be fostered, this works to further the process of integrating former combatants and toward undermining support for those who might wish to return to armed conflict (Paris, 2004; Woodward, 2002).

In the modern era, the economic interactions of a country with the outside world are absolutely critical. In the case of post-conflict societies, this presents a more challenging, as the economy of these societies has been devastated by conflict, and the state or local companies often lack the necessary capital for the rebuilding efforts. Therefore, outside aid, capital, and trade are an important part of the picture of economic rebuilding. Economic assistance in the form of foreign aid can be useful in the rebuilding efforts. However, if this becomes too permanent a part of a country's economy, it can create a situation of dependency and potentially an environment where the aid contributes to inflation and potentially an economic crash once it is later withdrawn or reduced.

Economic regulation and trade policy are critical in post-conflict governance. Effective regulation of a country's economy plays an important role in the health and size of businesses. This includes establishing a system for enforcing contracts and regulating businesses. Trade policy is also critical, as foreign markets may be critical for the goods produced within a country. In addition, post-conflict countries are often capital poor and may need the foreign capital to flow into the country for economic growth (Boyce, 2002). In setting up these arrangements, post-conflict governments are often at a disadvantage in negotiating favorable terms for their countries, and if they are not careful, they can end up in a situation where foreign businesses have undue influence or where the state falls into a debt trap if it relies on loans from international banks or countries in large amounts and/or for long periods of time.

### Governing System

The structure of the political system in a post-conflict society plays a key role in the prospects for peace and the ability of the people to collectively move beyond their violent past. In some

cases, a caretaker government is placed in power in the immediate term. In putting together this temporary government, it is critical to select individuals to manage the difficult transition of the country and to make sure that it will surrender power when transition to a more permanent government (Doyle, 2002).

One key question with regard to post-conflict government is that of who will be included in the ruling order. In cases where conflict ends as the result of a negotiated settlement, this question becomes more complicated. In the post-Cold War era, democratic institutions are often put into place in post-conflict situations. One advantage that democracy and elections bring to a post-conflict situation is that they allow for formerly warring parties to compete for power in another format. It is for this reason that electoral competition is often part of negotiated treaties that settle civil wars (Lyons, 2002). However, this competition has the potential to open up old societal wounds, especially in situations where political parties are drawn along the lines of the warring parties (Baker, 2002; Sisk, 2002). While such a situation does not necessarily preclude the possibility of sustainable peace (see: Mozambique), it can lead to high levels of violence surrounding the elections. In the worst case scenarios, a lost election by one side, especially if it has not yet disarmed and demobilized its forces, can lead to a renewal of armed conflict (see: Angola).

Even for those that might favor democracy generally, some (such as Paris, 2004) raise the question of whether political liberalization should follow establishment of strong and effective institutions instead of happening alongside it. The argument is that democracy without effective bureaucratic institutions and economic development and regulation will often result in fragile regimes.

### Rebuilding Societal Relations and Seeking Post-conflict Justice

While structural and institutional factors pose serious challenges to post-conflict situations, societal factors can be at least as challenging. Post-conflict societies often suffer from patterns

of victimization and strongly drawn lines that divide groups and make it difficult for them to trust one another as partners in peace. This trust is not built quickly if at all, but without healing the cleavages, whether through positive cross-sectional actions or simply the passage of time (Elster, 2004; Lederach, 2002).

Post-conflict societies face difficult challenges in deciding how to deal with transitional justice. In many post-conflict societies, horrible violations against civilian populations happened, including acts of genocide, war crimes, and crimes against humanity. How societies deal with issues of transitional justice significantly affects the shape of societal relations (Lederach, 2002). Decision-makers must find the proper balance between punitive justice, in which violators are punished, and restorative justice, which focuses on responsibility, accountability, communication, and healing wounds caused by past offenses. Ignoring these questions or focusing too heavily on restorative justice can lead to violators going free without facing justice, but focusing too heavily on punitive justice can reopen societal wounds and force societal cleavages to linger longer. It is important that societal balance is restored in one way or another and that victims can find some sense of closure and/or justice. Sometimes international tribunals become involved in prosecuting war criminals, which takes the process out of the hands of the national court systems, for better or worse, with the goal of achieving justice in some sense and creating strong international precedents against the commission of egregious crimes (Elster, 2004).

## Cross-References

- ▶ [Human Rights](#)
- ▶ [Political Rights and Civil Liberties](#)

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## Post-materialism

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### Definition

Post-materialism is the new values, related with the environment, participation, women's movement, freedom of expression, and quality of life.

### Description

Value, based on individual's life experiences, is fundamental factors to determine the cognitive or perceptive attitude. Among a variety of values, materialism/post-materialism value has been applied, as most popular theoretical concept, to explain the different attitude across countries and generations. Inglehart (1971, 1990, 1995) and Abramson and Inglehart (1986), based on data from World Value Survey, explained that the change at the societal level from materialistic societies to post-materialistic societies linked with value changes at individual level. Post-materialism gives less stress to the old political agenda, such as economic development and physical security, which is considered important by conventional politics. Rather, it is much more regard with new values, such as the environment, participation, women's movement, freedom of expression, and quality of life.

Between materialistic and post-materialistic society, different factors contribute to increasing the subjective well-being. In society of scarcity, economic growth dramatically increases in subjective well-being. However, after threshold of economic development, entering into post-materialistic society, such factor did not significantly increase subjective well-being. From this point, in post-material age, noneconomic factors become significant influences on how people live (Inglehart, 1997, pp. 64–65).

Inglehart et al. (2008) empirically showed that those in post-material age, not economic development but wide spread democratization, and increasing tolerance of social diversity change expanded freedom of choice, which was conducive to rising levels of SWB. Based on data for 48 countries from wave 5 of the World Values Survey, Delhey (2009) analyzed the main assumption that personal autonomy and job creativity that served as indicators for post-materialist concerns increase the life satisfaction in the rich postindustrial societies such as Finland, the Netherlands, Sweden, Switzerland, and Andorra. But the income related to indicator for materialist concerns brings out the more satisfaction in the materialistic societies like African and Asian countries. Mastekaasa (1983) found that materialists, as Inglehart's claims, give more weight to such concerns as income or housing standard and less to broader social and political issues.

### Cross-References

► [Materialism](#)

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## Postmodern

► [Postmodernism](#)

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## Postmodernism

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### Synonyms

[Postmodern](#); [Postmodernist](#); [Postmodernity](#)

### Definition

Postmodernism is both an individual and cultural response that highlights the complexities, fragmentation, ambiguities, and ironies in our present social and cultural condition and calls attention to different ways of knowing and thinking and to new forms of representation and communication; as such, it is not “theory,” but a collection of themes or ideas and a definition itself is ambiguous.

### Description

Perhaps the best way to take up ideas of postmodernism is to think of it as an embodiment or sensibility of being that incorporates a complex set of ideas, aesthetic values, and ethics different from those that predominate in modernism. As Seidman (1994) describes, postmodern knowledge “contests disciplinary boundaries,

the separation of science, literature, and ideology, and the division between knowledge and power” (p. 2). Postmodernism requires embodiment of a way of thinking and knowing, and new forms of representation and communication which emphasize an “unmaking” through ideas such as difference, deconstruction, decentring, and discontinuity (Crotty, 1998).

Postmodernism stems from a different epistemological foundation than modernism. Rather than subscribing to the idea that there is an absolute truth or a universally shared truth and set of objective values, postmodernism instead suggests the idea of epistemological pluralism in which each way of knowing has value. As such, postmodernism is a celebration of all knowledges including those which are local, subordinated, and deemed nonrational. Consistent with this, postmodernism is not a “theory” as it rejects modernist assumptions about the existence of a grand theory or metanarrative (Crotty, 1998; Seidman, 1994) and instead emphasizes ambiguity, fragmentation discontinuity, relativity and particularity. Identity, rather than being viewed as fixed and stable, is considered blurred, fractured, plural, and porous (Seidman, 1994). Postmodernism then is the exploration and celebration of difference in which we are all both the subject and object of the other’s gaze. As such, there is an emphasis on decentring. Here, Lyotard raises the charge arguing for a decentring of both subject and social world. As Seidman (1994) notes:

we imagine multiple minds, subjects, and knowledges reflecting different social locations and histories. A parallel process of decentring is evident in the social world. Whether we speak of the self or politics Lyotard insists that there is no center, no unifying ground of order, coherence, and purpose. (p. 5).

In the quest for “unmaking,” deconstruction—an approach, introduced by French philosopher Jacques Derrida – rigorously pursues the meaning of a text to the point of exposing the supposed contradictions and internal oppositions upon which it is founded, showing that those foundations are irreducibly complex, unstable, or impossible.

Deconstruction generally tries to demonstrate any text is not a discrete whole and has more than one interpretation with some interpretations being irreducible or incompatible.

In postmodernism, there is a shift away from the rational and linear and the taking up of messiness, playfulness, and pastiche. Postmodernism attempts to achieve a moment of irony, a humor based on opposites and contradictions or incongruity. This may be an incongruity between what actually happens and what might be expected to happen, especially when this disparity seems absurd or laughable. Postmodern parody or pastiche is “parody without fun... Pastiche is a mimicking of various styles... ‘dead’ styles,” but there is “playfulness and carnival spirit in postmodernist work – the ludic element. Irony is forever to the fore, along with allegory, artifice, asymmetry, anarchy” (Crotty, 1998, p. 213).

Postmodernism involves a mixing of codes which often deletes the boundary between art and everyday life, between elite and popular culture, and between virtual and real. Crotty (1998) describes postmodernism as cultural response which seeks to reveal the cultural logic inherent in literary and cultural movements. As Crotty notes:

with the dissolution of differences and distinctions, the process moves inexorably on. Fragmentation takes the place of totality and completeness. Ambiguity reigns where once there was clarity. The old certainties vanished, leaving us with the tentative, the provisional, the temporary, and the contingent. Even our cherished antinomies are denied to us, those hierarchical oppositions between thought and language, nature and culture, reason and emotion, theory and practice, white and black, and men and women. In the place of clear-cut distinctions and earnest logic, there is widespread irony, parody, pastiche, and playfulness (p. 194).

As Crook (2001) describes, “[t]hemes strongly associated with the postmodern are now inescapable problems and resources for any serious attempt to engage theoretically (or empirically) with the contemporary social world” (p. 308). As such, postmodernism focuses on aesthetic and

cultural issues central to quality of life, shifting the way we think about sexuality, art, literature, film, leisure, performance, and the very culture and politics of medicine, psychoanalysis, prisons, and ideas of technology and democracy. Postmodernism came to fruition through artistic movements of the 1960s, the avant-garde in the 1980s, and in intellectual discourse in the 1990s (Crook, 2001; Crotty, 1998; Seidman, 1994). Postmodernism bears some relationship to French post-structuralism, and as Crook (2001) notes, postmodernism was a “New York based artistic movement of the 1960s” which was “exported to France where it was taken up by intellectuals such as Kristeva and Lyotard. It was eventually re-exported to the USA” (p. 309). Michel Foucault explores the intertwining of power and subjugated knowledges and the making of selves, identities, social norms, and institutions in works such as *Madness and Civilisation* (1967), *Discipline and Punish* (1977), and the *History of Sexuality* (1978). Jacques Derrida elaborates on the deconstruction of text in *Of Grammatology* (1974) and *Writing and Difference* (1978). Julia Kristeva explores semiotics in areas such as art, literature, psychoanalysis, and social theory in books such as *Desire in Language* (1980), *Revolution in Poetic Language* (1984), and *Tales of Love* (1987). Jean-Francois Lyotard articulated his position in texts such as *The Postmodern Condition* (1984) and *The Inhuman: Reflections on Time* (1991). The postmodern position is further articulated in works by Jean Baudrillard in *Simulacra and Simulation* (1994) and *The Consumer Society* (1998) and Zygmunt Bauman in *Liquid Modernity* (2000), *Postmodern Ethics* (2000), and *Consuming Life* (2007). Postmodernism has also been taken up by feminist and race scholars such as Donna Haraway in *Simians, Cyborgs and Women* (1991), Cornell West in *Race Matters* (2001) and *Democracy Matters* (2004), and bell Hooks in *Yearning* (1990), *Reel to Real* (1996), and *The Will to Change* (2004).

The connection between postmodernism and modernism continues to be a source of debate. As Crook (2001) describes, “[c]lear formal or

historical ruptures between modern and postmodern are difficult to draw and to defend” (p. 308). When we view modernity and postmodernity as historical time periods, there is disagreement as to whether the period of modernity has ended and we have clearly entered into a space of postmodernity. When we view postmodernism as a set of ideas or themes which differ from modernism, there is further debate with some articulating postmodernism as a rupture with ideas within modernism and others who argue that postmodernism emerged from ideas within “modernism” such as the ideas of ambiguity and critiques of modernity (Crook, 2001; Crotty, 1998). In terms of politics and development, postmodernists “reject the model of an unfolding and unitary ‘logic of development’ that they discern in modernism” (Crook, 2001, p. 310). Similarly, modernist notions of emancipation and progress are also suspect. Consequently, totalizing modernist assumptions about social democracy are contested by the many postmodernist resistances of diverse new social movements (Crook, 2001).

Postmodernism grapples with two competing claims of nihilism and hope. Rather than complete nihilism, there is an emphasis on hope within the ideas of postmodernism. While many postmodernists preserve values of autonomy, tolerance, pluralism, and democracy, they also insist that a reconfiguring of our understanding of knowledge and our social world is required (Seidman, 1994). Critiques of postmodernism raise the “charge that postmodernism relativizes truth has been broadened to include the relativization of all values, and hence nihilism” (Crook, 2001, p. 313). Crook (2001) articulates two variants on this argument: (1) “nihilism results from the inability of deconstructionist and post-structuralist postmodernisms to set limits to the scope of their radical critiques of knowledge and value” (p. 313), and (2) postmodernist physicalisms (e.g., Foucault’s notion of power, Baudrillard’s discussion of the masses, and the various dialogues on desire) are “all versions of monistic, physicalistic meta-physics incapable of sustaining distinctions of value” (p. 313).

## Cross-References

- ▶ [Art](#)
- ▶ [Sexuality](#)

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## Postmodernist

► [Postmodernism](#)

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## Postmodernity

► [Postmodernism](#)

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## Postnatal Women, Quality of Life

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### Synonyms

MAPP-QOL; [Maternal Postpartum Quality of Life](#); [PQOL](#)

### Definition

The questionnaire for evaluating the quality of life in postnatal women (PQOL) and Maternal Postpartum Quality of Life Questionnaire (MAPP-QOL) are two specific instruments for measuring ► [QOL](#) of postpartum women. Being different from generic measures, such as the World Health Organization Quality of Life Scale, PQOL and MAPP-QOL emphasize women's experience after delivery. These two questionnaires were developed by Hill et al., (2006) and Zhou et al. (2009).

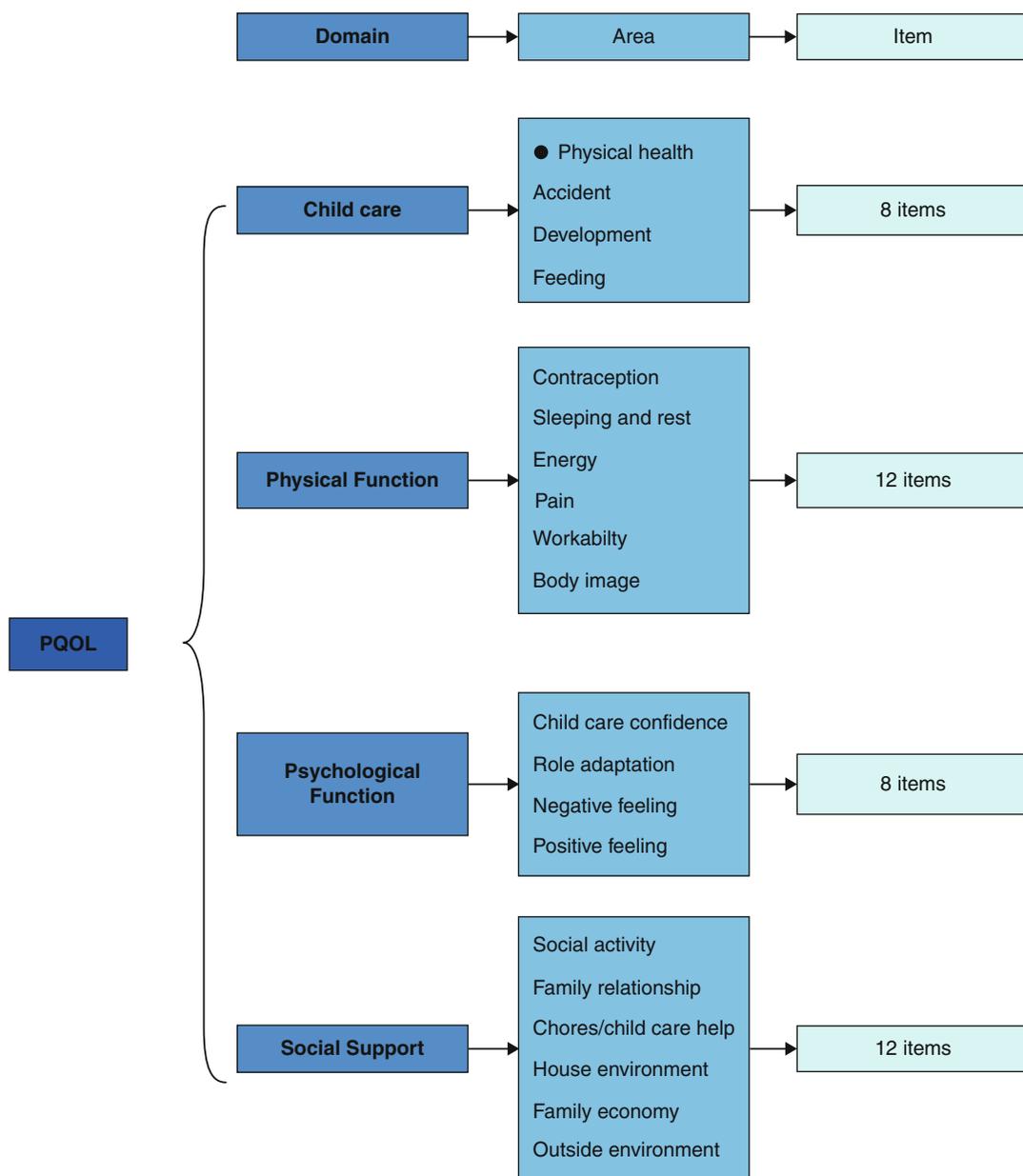
### Description

With the increasing recognition of postnatal morbidity, the tool, especially to measure the

women's QOL, was quite important, but until 2002, Symon (2002) designed the first specific QOL scale for postpartum women, the ► [Mother-Generated Index \(MGI\)](#) in 2002. MGI is an open-subjective self-administered scale which allows the mother to determine both content and scoring. Although completely appropriate for assessment of individual clients, the MGI does not seem well suited for use in research because of its qualitative nature and need for one-on-one administration (Hill et al., 2006). Suizan Zhou also found even helped by investigators, participants still needed to have sufficient cognitive skills to understand the questions well and write informative answers, and the answers might be easily influenced by the environment and emotional state of the participants. Thus, to develop the reliable and valid, self-administered, paper-and-pencil tool that would measure mothers' perceptions of QOL during the early postpartum period was very essential.

Maternal Postpartum Quality of Life Questionnaire (MAPP-QOL) was developed by Pamela D Hill et al. (2006) in America. This instrument consisted of 40 items, and the five components underlying the 40-item MAPP-QOL were named: psychological/baby (9 items), socio-economic (9 items), relational/spouse-partner (5 items), relational/family-friends (9 items), and health and functioning (8 items). The definition, domains, and conceptual model by Ferrans and Powers (1990b, 1992, 1996) were used to develop MAPP-QOL. A convenience sample of 184 mothers completed the MAPP-QOL at week 1 and 3 postpartum time.

The questionnaire for evaluating the quality of life in postnatal women (PQOL) was designed by Suizan Zhou in China (2009). A standardized procedure (Carmines & Zeller 1991) included the following activities: (1) item pool development by in-depth interview and focus group discussion with postpartum women, consultation with experts, participant observation, and literature review; (2) item pool modification by experts and postpartum women; and (3) item selection used multiple methods including expert scoring, factor analysis, coefficient of variation, item-removed Cronbach



**Postnatal Women, Quality of Life, Fig. 1** Structure of the PQOL

alpha, item-expected domain correlation, item-unexpected domain correlation, and test-retest correlation analysis, based on the data of item pool test among women at 0–12 months after childbirth and maternal health experts (Fig. 1).

Finally, more than 167 items were generated, of which 101 were considered suitable for the

questionnaire pool. Ten experts and 15 women then revised them. The 101-revised-item pool was tested on 200 women, and ten experts scored the importance of each item. Based on these data, 40 items referring to child care, physical function, psychological function, and social support were selected for the final questionnaire (PQOL) (Table 1).

**Postnatal Women, Quality of Life, Table 1** The final items for the PQOL

Code	Item
CH11	Do you worry that your child will fall sick? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH12	How satisfied are you with your child's health? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
CH21	Do you worry that your child will have an accident? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH22	How much do you take pains to prevent an accident to your child? (1) Not at all (2) A little (3) A moderate amount (4) Very much (5) An extreme amount
CH31	Do you worry about the nutrition of your child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH32	Do you worry that your child is not smart? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH41	Do you think that your breast milk is enough for your child? (1) Not enough at all (2) Not enough (3) Sometimes (4) Enough (5) Always enough
CH42	How satisfied are you with current feeding? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH11	Do you worry about unexpected pregnancy? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PH12	How much are you bothered by contraception? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH21	How satisfied are you with your sleep? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH22	Do you have enough time to rest? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PH31	How easily do you get tired? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH32	How satisfied are you with the energy that you have? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH41	Does physical pain influence your daily life? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PH42	How much do you think that your physical health has been affected by childbirth? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH51	How much conflict do you feel between child care and work? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH52	Has your child caused you to be distracted and worried at work? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH61	How satisfied are you with the way your body looks? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH62	Do you feel blue by your looks? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS11	How much confidence do you have in caring for your baby well? (1) Not at all (2) A little (3) A moderate amount (4) Very much (5) An extreme amount
PS12	How much child care skill do you think you have? (1) Not at all (2) A little (3) A moderate amount (4) Very much (5) An extreme amount
PS21	Are you interested in your child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS22	Are you willing to look after your child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS31	Do you regret having had this child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS32	Is caring a baby hard for you? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always

(continued)

**Postnatal Women, Quality of Life, Table 1** (continued)

Code	Item
PS41	Are you happy being a mother? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS42	How much fun is your life after having this child? (1) Not at all (2) Slightly (3) Moderately (4) Very much (5) Extremely
SO11	Do you have enough contact with the outside world? (1) Not at all (2) Slightly (3) Moderately (4) Very much (5) Extremely
SO12	Do you see enough of your neighbors? (1) Not at all (2) Slightly (3) Moderately (4) Very much (5) Extremely
SO21	What do you think your husband's attitude is towards you? (1) Very bad (2) Bad (3) Neither bad nor good (4) Good (5) Very good
SO22	How close is the relationship between you and your husband? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
SO31	How much help do you get caring for your child? (1) None at all (2) A little (3) A moderate amount (4) Very much (5) A great deal
SO32	How much help do you get doing household chores? (1) None at all (2) A little (3) A moderate amount (4) Very much (5) A great deal
SO41	How clean is your house? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
SO42	How satisfied are you with your housing situation? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
SO51	Is the money that yourself can decide how to spend enough? (1) Not enough (2) A little short (3) Just enough (4) Enough (5) Very enough
SO52	Do you worry about your finances? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
SO61	How satisfied are you with your living environment, including pollution, noise, climate and location? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
SO62	How satisfied are you with the transportation available to you? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied

### Reliability and Validity

Component analysis revealed there are five domains in MAPP-QOL: psychological/baby, socioeconomic, relational/spouse-partner, relational/family-friends, and health & functioning. Internal consistency reliability for the five subscales resulted in Cronbach's alpha coefficients ranging from .82 to .96. Stability reliability ranged from .66 to .76. The MAPP-QOL and a single-item measure of life satisfaction correlated ( $r = .69$ ), suggesting convergent validity; discriminant validity was supported by negative correlations with the three negative mood states of the Multiple Affect Adjective Check List-Revised (MAACL-R) as well as poor sleep and fatigue scores. Acceptable reliability and construct validity suggest that the MAPP-QOL may be used in research. Further

testing with larger and more diverse samples is recommended.

PQOL has an interpretable and multi-area factor structure. Four domains appeared: Child Care (8 items), Physical Function (12 items), Psychological Function (8 items), and Social Support (12 items). However, the author took a big step in developing a Chinese QOL questionnaire for postpartum women. The validity and reliability need to be established in the future.

### Discussion

MAPP-QOL and PQOL were the two specific questionnaires to assess a mother's quality of life during the postpartum period. Acceptable reliability and construct validity suggest that the MAPP-QOL may be used in research. However, further testing with larger and more diverse

samples is recommended for both questionnaires, especially for PQOL.

**Cross-References**

- ▶ [Mother-Generated Index \(MGI\)](#)
- ▶ [QOL](#)

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**Postpartum Women Questionnaire (PQOL) in China**

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**Synonyms**

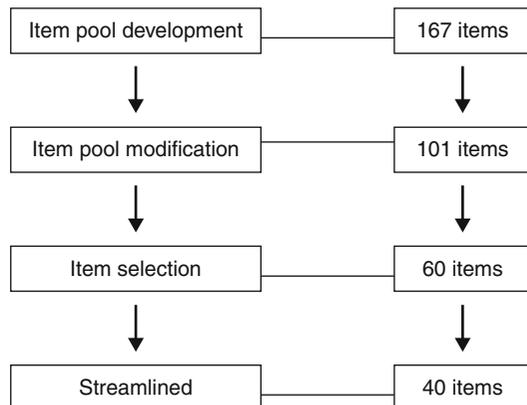
[PQOL](#)

**Definition**

PQOL is a specific instrument for measuring QOL of postpartum women, which included 40 items referring to Child Care, Physical Function, Psychological Function, and Social Support. Being different from generic measures, such as the World Health Organization Quality of Life Scale, PQOL emphasizes women’s experience after delivery. The questionnaire was developed by Suizan Zhou in China (2009).

**Description**

With the increasing recognition of postnatal morbidity, the tool, especially to measure the women’s QOL, was quite important. Symon (2002) designed the first specific QOL scale for postpartum women, the Mother-Generated Index (MGI). MGI is an open subjective self-administered scale which allows the mother to determine both content and scoring. Although completely appropriate for assessment of individual clients, the MGI does not seem well suited for use in research because of its qualitative nature and need for one-on-one administration (Hill, Aldag, Hekel, & Riner, 2006). Suizan Zhou also found, even helped by investigators, participants still needed to have



**Postpartum Women Questionnaire (PQOL) in China, Fig. 1** The process of PQOL design. (Source: Hill, P. D., Aldag, J. C., Hekel, B., & Riner, G. (2006, Winter). Maternal postpartum quality of life questionnaire. *Journal of Nursing Measurement*, 14(3). © 2006 Springer Publishing Company 205)

**Postpartum Women Questionnaire (PQOL) in China, Table 1** Results of different screening methods\*

Item code <sup>#</sup>	Expert scoring	Factor analysis	Coefficient of variation	Item-removed Cronbach alpha	Item-expected domain correlation	Item-unexpected domain correlation	Test-retest correlation
CH11	91.00	0.401	0.3746	0.6666	0.546	0	0.905
CH12	88.88	0.315	0.1675	0.6740	0.510	0	0.862
CH21	79.25	0.385	0.3440	0.6785	0.471	0	0.927
CH22	76.88	0.391	0.3352	0.6849	0.382	0	0.923
C3H1	87.88	0.501	0.4044	0.6675	0.537	0	0.954
CH32	73.50	0.548	0.3813	0.6809	0.464	0	0.877
CH41	85.75	-0.032	0.3923	0.6988	0.402	0	0.940
CH42	91.00	0.292	0.2172	0.6772	0.458	0	0.887
PH11	90.88	0.219	0.3006	0.8336	0.355	0	1.000
PH12	88.13	0.318	0.3058	0.8316	0.389	0	0.929
PH21	89.75	0.225	0.3002	0.8274	0.488	0	0.909
PH22	87.50	0.336	0.3852	0.8239	0.570	1	0.565
PH31	91.75	0.409	0.3408	0.8235	0.580	0	0.818
PH32	89.75	0.350	0.2875	0.8230	0.601	3	0.887
PH41	88.00	0.459	0.2861	0.8235	0.579	0	0.956
PH42	90.63	0.379	0.2770	0.8257	0.530	0	0.864
PH51	88.14	0.644	0.2741	0.8299	0.433	0	0.839
PH52	90.86	0.646	0.2130	0.8289	0.447	0	0.719
PH61	90.13	0.181	0.3831	0.8285	0.467	0	0.917
PH62	85.50	0.079	0.4043	0.8293	0.441	0	0.906
PS11	88.00	0.637	0.3071	0.9001	0.606	1	0.781
PS12	88.63	0.377	0.2676	0.9017	0.504	0	0.968
PS21	89.50	0.697	0.1608	0.9001	0.616	0	0.765
PS22	92.25	0.667	0.1767	0.9007	0.562	0	0.867
PS31	92.25	0.608	0.1654	0.8995	0.639	0	0.968
PS32	90.75	0.358	0.3342	0.9005	0.594	1	0.689
PS41	92.00	0.761	0.1561	0.9005	0.586	0	0.947
PS42	92.63	0.642	0.1751	0.9000	0.611	1	1.000
SO11	79.00	0.479	0.3656	0.8725	0.608	2	0.860
SO12	78.75	0.415	0.3302	0.8739	0.562	1	0.739
SO21	92.00	0.475	0.2180	0.8740	0.556	0	0.950
SO22	93.38	0.475	0.2211	0.8733	0.588	1	0.939
SO31	91.00	0.561	0.3017	0.8715	0.639	0	0.822
SO32	89.13	0.577	0.2899	0.8735	0.575	0	1.000
SO41	85.00	0.539	0.2762	0.8742	0.551	0	0.820
SO42	89.88	0.572	0.2870	0.8724	0.611	0	0.729
SO51	88.00	0.581	0.2782	0.8717	0.634	1	0.981
SO52	93.75	0.529	0.2775	0.8737	0.571	0	0.970
SO61	79.63	0.509	0.2991	0.8771	0.434	0	0.818
SO62	80.75	0.394	0.2526	0.8770	0.433	0	0.973

Source: Hill, P. D., Aldag, J. C., Hekel, B., & Riner, G. (2006, Winter). Maternal postpartum quality of life questionnaire. *Journal of Nursing Measurement, 14*(3). © 2006 Springer Publishing Company 205

\*Data in the expert scoring column is the average score of item importance, data in the factor analysis column is item load on the factor to which the item hypothetically belonged, data in the coefficient of variation column is CV of item, data in the item-removed Cronbach alpha column is the Cronbach alpha of the corresponding domain after removing the item, data in the item-expected domain correlation column is the correlation coefficient between the item and its corresponding domain, data in the item-unexpected domain correlation column is the number of correlation coefficients higher than 0.4, and data in the test-retest correlation column is the correlation coefficient between the test and retest

<sup>#</sup>CH Child Care domain, PH Physical Function domain, PS Psychological Function domain, SO Social Support domain

**Postpartum Women Questionnaire (PQOL) in China, Table 2** The final items for the PQOL

Code	Item
CH11	Do you worry that your child will fall sick? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH12	How satisfied are you with your child's health? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
CH21	Do you worry that your child will have an accident? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH22	How much do you take pains to prevent an accident to your child? (1) Not at all (2) A little (3) A moderate amount (4) Very much (5) An extreme amount
CH31	Do you worry about the nutrition of your child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH32	Do you worry that your child is not smart? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
CH41	Do you think that your breast milk is enough for your child? (1) Not enough at all (2) Not enough (3) Sometimes (4) Enough (5) Always enough
CH42	How satisfied are you with current feeding? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH11	Do you worry about unexpected pregnancy? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PH12	How much are you bothered by contraception? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH21	How satisfied are you with your sleep? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH22	Do you have enough time to rest? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PH31	How easily do you get tired? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH32	How satisfied are you with the energy that you have? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH41	Does physical pain influence your daily life? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PH42	How much do you think that your physical health has been affected by childbirth? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH51	How much conflict do you feel between child care and work? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH52	Has your child caused you to be distracted and worried at work? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
PH61	How satisfied are you with the way your body looks? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
PH62	Do you feel blue by your looks? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS11	How much confidence do you have in caring for your baby well? (1) Not at all (2) A little (3) A moderate amount (4) Very much (5) An extreme amount
PS12	How much child care skill do you think you have? (1) Not at all (2) A little (3) A moderate amount (4) Very much (5) An extreme amount
PS21	Are you interested in your child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS22	Are you willing to look after your child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always

(continued)

**Postpartum Women Questionnaire (PQOL) in China, Table 2** (continued)

Code	Item
PS31	Do you regret having had this child? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS32	Is caring a baby hard for you? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS41	Are you happy being a mother? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
PS42	How much fun is your life after having this child? (1) Not at all (2) Slightly (3) Moderately (4) Very much (5) Extremely
SO11	Do you have enough contact with the outside world? (1) Not at all (2) Slightly (3) Moderately (4) Very much (5) Extremely
SO12	Do you see enough of your neighbors? (1) Not at all (2) Slightly (3) Moderately (4) Very much (5) Extremely
SO21	What do you think your husband's attitude is towards you? (1) Very bad (2) Bad (3) Neither bad nor good (4) Good (5) Very good
SO22	How close is the relationship between you and your husband? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
SO31	How much help do you get caring for your child? (1) None at all (2) A little (3) A moderate amount (4) Very much (5) A great deal
SO32	How much help do you get doing household chores? (1) None at all (2) A little (3) A moderate amount (4) Very much (5) A great deal
SO41	How clean is your house? (1) Not at all (2) Slightly (3) Moderately (4) Very (5) Extremely
SO42	How satisfied are you with your housing situation? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
SO51	Is the money that yourself can decide how to spend enough? (1) Not enough (2) A little short (3) Just enough (4) Enough (5) Very enough
SO52	Do you worry about your finances? (1) Never (2) Rarely (3) Sometimes (4) Often (5) Always
SO61	How satisfied are you with your living environment, including pollution, noise, climate, and location? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied
SO62	How satisfied are you with the transportation available to you? (1) Very dissatisfied (2) Dissatisfied (3) Neither satisfied nor dissatisfied (4) Satisfied (5) Very satisfied

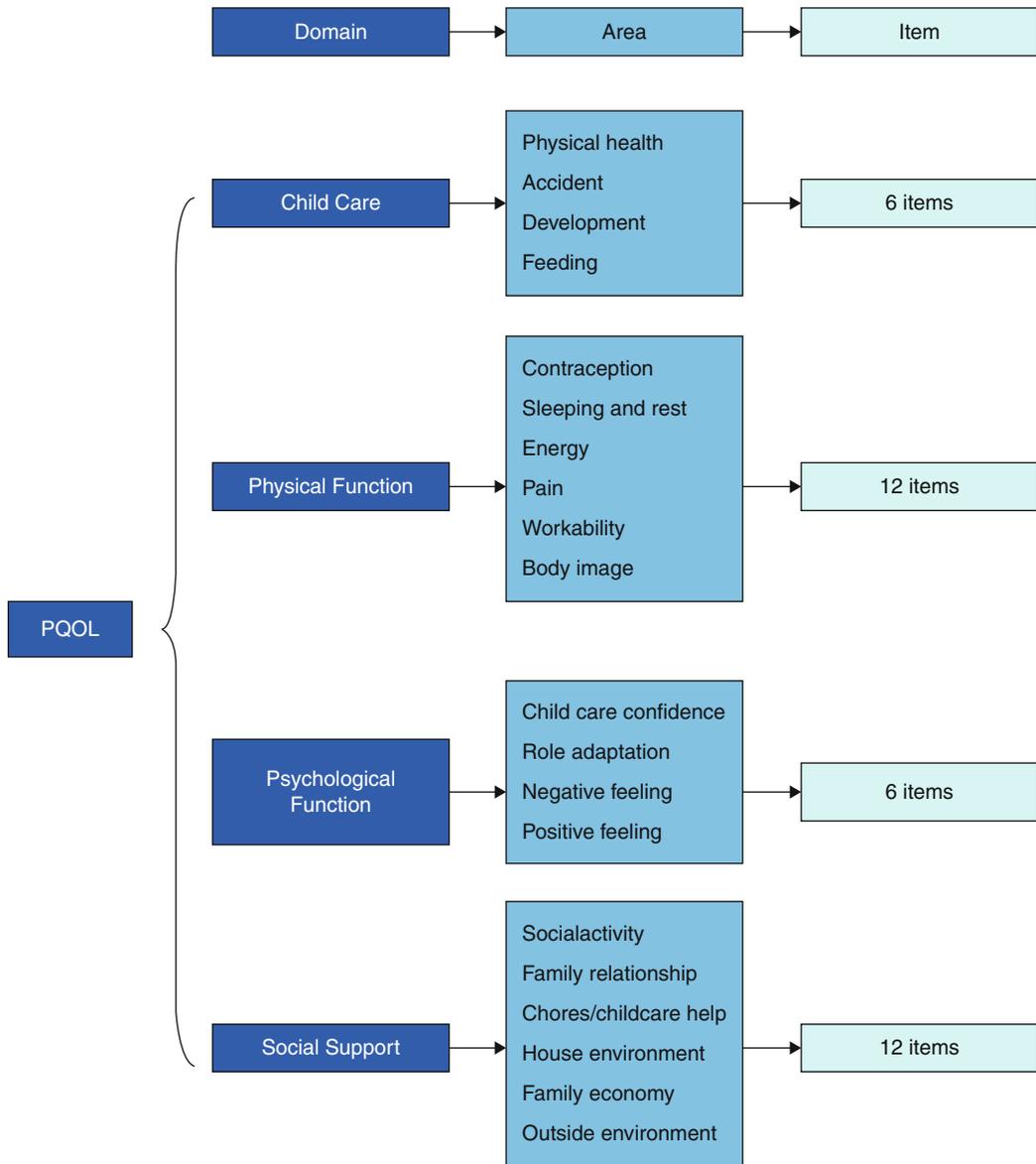
Source: Hill, P. D., Aldag, J. C., Hekel, B., & Riner, G. (2006, Winter). Maternal postpartum quality of life questionnaire. *Journal of Nursing Measurement, 14*(3). © 2006 Springer Publishing Company 205

sufficient cognitive skills to understand the questions well and write informative answers, and the answers might be easily influenced by the environment and emotional state of the participants. Thus, to develop a reliable and valid, self-administered, paper-and-pencil tool that would measure mothers' perceptions of QOL during the early postpartum period was very essential.

In 2009, Suizan Zhou designed the questionnaire for evaluating the quality of life in postnatal women (PQOL) in China 0–12 months after delivery. A standardized procedure (Carmines &

Zeller, 1991) included the following activities (Fig. 1):

1. Item pool development by in-depth interview and focus group discussion with postpartum women, consultation with experts, participant observation, and literature review
2. Item pool modification by experts and postpartum women
3. Item selection used multiple methods including expert scoring, factor analysis, coefficient of variation, item-removed Cronbach alpha, item-expected domain correlation,



**Postpartum Women Questionnaire (PQOL) in China, Fig. 2** Structure of the PQOL. (Source: Hill, P. D., Aldag, J. C., Hekel, B., & Riner, G. (2006, Winter). Maternal

postpartum quality of life questionnaire. *Journal of Nursing Measurement, 14*(3). © 2006 Springer Publishing Company 205)

item-unexpected domain correlation, and test-retest correlation analysis, based on the data of item pool test among women at 0–12 months after childbirth and maternal health experts Table 1 gives the results of different screening methods.

Finally, more than 167 items were generated, of which 101 were considered suitable for the

questionnaire pool. Ten experts and 15 women then revised them. The 101-revised-item pool was tested on 200 women, and ten experts scored the importance of each item. Based on these data, 40 items referring to Child Care, Physical Function, Psychological Function, and Social Support were selected for the final questionnaire (PQOL) (Table 2 and Fig. 2).

## Discussion

PQOL has an interpretable and multi-area factor structure. The design of it was based on a standard development procedure for a specific QOL tool. The content validity of the PQOL is ensured by using a wide-ranging collection of postpartum QOL issues. The PQOL contained four domains: Child Care (8 items), Physical Function (12 items), Psychological Function (8 items), and Social Support (12 items). However, the author took a big step in developing the Chinese QOL questionnaire for postpartum women. The validity and reliability need to be established in the future.

## Cross-References

► [Mother-Generated Index \(MGI\)](#)

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## Postsecondary Education

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## Synonyms

[Higher education](#); [PSE](#); [Tertiary education](#)

## Definition

Postsecondary education is literally defined as education after high school or secondary school. Admission generally requires a high-school diploma or certificate. However, work and life experience can be taken into consideration. Postsecondary education includes colleges, universities, university colleges, polytechnic institutes, and technical institutes. These institutions may be private or public, accredited or nonaccredited, physical or online, specialized or multidisciplinary, religious affiliated, gender-specific, and differ on any number of other characteristics.

## Description

Postsecondary education (PSE) quality of life (HRQOL) has been studied internationally in many countries including Australia (e.g., Sirgy et al., 2010), Bulgaria (e.g., Mikolajczyk et al., 2008), Canada (e.g., Raj, Simpson, Hopman, & Singer, 2000), China (Ng, 2005), France (e.g., Sirgy et al., 2010), Germany (e.g., Mikolajczyk et al., 2008), Italy (e.g., Sirgy et al., 2010), Lebanon (e.g., Sirgy et al., 2010), Lithuania (e.g., Decinskiene, Kalediene, & Petrauskiene, 2003), Mexico (e.g., Sirgy et al., 2010), Poland (e.g., Mikolajczyk et al., 2008), South Korea (Yu & Lee, 2008), Sweden (e.g., Vaez, Kristenson, & Laflamme, 2004), Turkey (e.g., Sirgy et al., 2010), United Kingdom (Audin, Davy, & Barkham, 2003), and United States (e.g., Sirgy et al., 2010).

The relationship between HRQOL and PSE has been considered primarily in two ways: ► [health-related quality of life](#) of PSE students and quality of the PSE experience. Each of these approaches is described here.

## Health-related Quality of Life of PSE Students

Research indicates that PSE students have lower HRQOL than their same-aged peers who did not attend PSE (Vaez et al., 2004). However, this difference in HRQOL does not translate into different levels of psychiatric diagnosis (Blanco

et al., 2008). The areas of most pronounced difference in HRQOL are in the emotional and physical areas. More specifically high levels of ► **anxiety** are prevalent among PSE students (e.g., Bewick, Koutsopoulou, Miles, Slaa, & Barkham, 2010; Cooke, Bewick, Barkham, Bradley, & Audin, 2006; Marshall, Allison, Nykamp, & Lanke, 2008). Weight change, either loss or gain, may be associated with ► **stress** (Economos, Hildbreandt, & Hyatt, 2008). Risky physical behavior is also characteristic of PSE students, most notably binge drinking (e.g., Vaez, Ponce de Leon, & Laflamme, 2006).

Research has been conducted on HRQOL of specific PSE subgroups including pharmacy students (Marshall et al., 2008), medical students (Raj et al., 2000), agriculture students (Smith, Briers, & Smith, 2004), athletes (Royal & Rossi, 1993), and students with learning disabilities (Davis, Nida, Zlomke, & Nebel-Schwalm, 2009).

Possible explanations for HRQOL differences include (Vaez, Voss, & Laflamme, 2010):

- Pressure of academic commitments
- Conflicting role demands
- Rapidly changing environment
- Shifting social networks
- Financial pressures
- Lack of time management skills

The goal in measuring PSE HRQOL is to ultimately improve HRQOL and ensure that students receive the support necessary (including counseling, health services, screening, and intervention) to continue and ultimately complete their course of study (Bewick et al., 2010; Blanco et al., 2008; Cooke et al., 2006).

### Quality of the PSE Experience

National surveys of student experience tend to focus on three broad areas: engagement, perception of learning, and satisfaction with the PSE experience. In collecting detailed demographic information within the surveys, programming can be developed to improve the student experience and PSE HRQOL. Four national surveys are considered here: Canadian University Survey Consortium survey (CUSC, Canada), Course Experience Questionnaire (CEQ, Australia), National Student Survey

(NSS, United Kingdom), and National Survey of Student Engagement (NSSE, United States). A comparison of the latter three surveys was recently published (Higher Education Academy, 2007).

### CUSC

Since 1997, the CUSC surveys of 4-year Canadian universities have operated on a 3-year cycle: first-year students, all undergraduate students, and then graduating students. A random sample of 1,000 students (or less for smaller institutions) are surveyed into groups categorized as (1) primarily undergraduate with smaller student populations, (2) both undergraduate and graduate with medium student populations, and (3) both undergraduate and graduate (often with progression schools) with large student populations. An overall public report is produced (<http://www.cusc-ccreu.ca/publications.htm>) summarizing data by group and overall. Participating universities receive individualized reports with benchmark data as well as their raw data. The topics of each survey are summarized below:

First-year student survey (2004): decision to attend university, decision to attend selected university, choice of program, experience with registration, experience with orientation, adjusting to university, experience at university, academic profile, financing, and background.

All university student survey (2005): academic program and plans, study patterns and grades, perception of the university, involvement in activities, personal growth and development, financing, career/employment, and background.

Graduating student survey (2006): current university program, growth and development, satisfaction with university experience, financing, plans after graduation, and background.

### CEQ

The CEQ was added to the Australian Graduate Survey (AGS) in 1992 and updated in 2002. The CEQ consists of 11 scales: 3 core (good teaching, generic skills, overall satisfaction) and 8 optional (clear goals and standards, appropriate workload, appropriate assessment,

intellectual motivation, student support, graduate qualities, learning resources, and learning community) ([www.graduatecareers.com.au/research/start/agsoverview/ctags/ceqo/](http://www.graduatecareers.com.au/research/start/agsoverview/ctags/ceqo/)). The survey also contains two open-ended questions regarding coursework: the best aspects and aspects in most need of improvement. The survey is administered as a census annually to all new graduates from Australian universities approximately four months after credential requirements are completed. National AGS data files, including the CEQ data, are available to participating institutions (\$400/year) and for those outside of institutions only with permission of Graduate Careers Australia ([www.graduatecareers.com.au/research/start/resourcelib/data-files/national-data-files/](http://www.graduatecareers.com.au/research/start/resourcelib/data-files/national-data-files/)).

### NSS

The NSS was first administered in 2005 and has since been conducted annually at publicly funded higher education institutions in England, Wales, Northern Ireland, and participating institutions in Scotland ([http://www.thestudentsurvey.com/faqs/faqs\\_1.html](http://www.thestudentsurvey.com/faqs/faqs_1.html)). All final-year students in programs leading to undergraduate credits or qualifications including bachelor's degrees, foundation degrees, higher education certificates, and diplomas are asked 22 core questions relating to teaching, assessment and feedback, academic support, organization and management, learning resources, personal development, and overall satisfaction (Higher Education Funding Council for England, 2010). Results are made available to prospective students and advisors to assist in making informed choices regarding what and where to study and to participating institutions and students' unions to facilitate best practices and enhance students' learning experiences. The Unistats website (<http://www.unistats.comm>) allows anyone to find university averages by subject area. Reports on the NSS can be found on the EvidenceNet website (<http://www.heacademy.ac.uk/evidencenet>).

### NSSE

NSSE was launched in 2000, and more than 1,400 colleges and universities participated since with

595 participating in 2010 (National Survey of Student Engagement, 2010). The survey is administered to first- and fourth-year students at 4-year colleges and universities. The survey can be web-based or paper-based or be used in combination at a base cost of \$1800 to \$7800 depending on the size of the institution. Effective for 2010, if the web-based option was selected, a census was the default rather than a sample as in previous years. Multiple versions of the survey have been produced including US English, Canadian English, Canadian French, and US Spanish. The stated purposes of the survey include assessing and improving undergraduate education, informing accountability and accreditation efforts, and facilitating benchmarking. Questions are asked in the following benchmark areas: levels of academic challenge, active and collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment along with demographic information to allow benchmarking. The NSSE website includes annual result reports going back to 2000, links to publication and research, guides to using data, and results (<http://nsse.iub.edu/>). Participating institutions also obtain specific reports and datasets.

### Selected Survey Findings

Overall PSE satisfaction tends to be higher than satisfaction with specific areas (Higher Education Funding Council for England, 2010; Canadian University Survey Consortium, 2008). Between 2006 and 2009, overall satisfaction reported on the NSS generally exceeded 80 %; however, satisfaction with four core areas never exceeded 80 % (personal development, academic support, organization and management, and assessment and feedback). Similarly in the 2008 CUSC survey, overall satisfaction with quality of education was 85 %, whereas a fair rating was given on most of the 24 areas assessing PSE contributions to personal growth and development.

Although student experiences and perceptions will vary over the course of a student's career, similar proportions of first- and fourth-year

students gave positive rating of administrative personnel, faculty members, and relations with other students (approximately 60 %, 75 %, and 80 %, respectively) (National Survey of Student Engagement, 2010).

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Health-related Quality of Life](#)
- ▶ [Stress](#)

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## Post-traumatic Stress Disorder (PTSD)

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### Synonyms

Although other terms are sometimes used to refer to similar concepts, only post-traumatic stress disorder specifically is used in the DSM-IV-TR to refer to this particular set of symptoms.

[Cumulative stress disorder](#); [Post-traumatic stress symptoms](#); [Post-traumatic stress syndrome](#)

### Definition

- Post-traumatic stress disorder (PTSD) is a disorder of mental health described in the Diagnostic and Statistical Manual of Mental Disorders IV-TR (DSM-IV-TR). The symptoms of PTSD are described as including intrusions, avoidance, and hyperarousal. All symptoms are considered in reference to an individual's self-identified "most traumatic event." However, it should be noted that for some individuals who have experienced many traumatic events, identification of a single most traumatic event can be difficult (e.g., emergency service workers).

### Description

- Initially, description of the traumatic event must be evaluated to determine whether the event meets the "criterion A" standard that the event involved death, serious injury, or a substantial threat to either the individual or someone near to them physically or emotionally. In addition, criterion A requires that the individual responded to the traumatic event with feelings of intense fear, helplessness, or

horror. If the event is determined as meeting criterion A, further evaluation of symptoms is completed according to the additional DSM-IV-TR criteria (B through D). For each of criterion, B through D, symptoms must have been present at least 1-month post-event; otherwise, the individual would be considered as experiencing acute stress disorder. Further, the symptoms must be creating clinically significant distress or impairment for the trauma-exposed individual.

- Criterion B symptoms include distressing recollections and/or dreams of the event, acting or feeling as if the traumatic event were reoccurring and/or intense psychological/physiological reaction to reminders of the event. In order to meet criterion B, at least one of these symptoms must be present. Criterion C symptoms include efforts to avoid thoughts, feeling, conversations, activities, places, and/or people that remind the individual of their self-identified most traumatic event. Individuals may also report an inability to recall some important aspect of the event, a diminished interest in usually pleasurable interests or activities, a feeling of detachment or estrangement from others, difficulty feeling emotions (e.g., loving feelings), and/or a sense of a foreshortened future. In order for criterion C to be met, at least three of these symptoms must be evident. Finally, criterion D considers additional symptoms including sleep difficulties, irritability or anger, difficulty concentrating, hypervigilance, and/or exaggerated startle reflex. At least two of these symptoms must be present. Criterion D symptoms, with the exception of hypervigilance and exaggerated startle reflex, overlap substantially with the symptoms of depression. This overlap can make differential diagnosis of PTSD and depression difficult (American Psychiatric Association, 2000; First, Spitzer, Miriam, & Williams, 1996).
- Assessment for PTSD often takes the form of questionnaires and/or clinical interview. Specifically, commonly used questionnaires employed for assessment of PTSD include the Posttraumatic Diagnostic Scale (PDS;

Foa et al., 1997) and the Impact of Events Scale – Revised (IES-R; Weiss & Marmar, 1997). Other commonly used scales that incorporate PTSD as a subscale component include the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 2001) and the Personality Assessment Inventory (PAI; Morey, 1991). Commonly used structured interviews include the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First et al., 1996) and the Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995). A combination of valid questionnaire responses and a structured clinical interview with an experienced clinician would normally be considered the gold standard in PTSD assessment.

- Intervention for PTSD normally consists of a combination of psychopharmacology and cognitive behavioral therapy. Psychopharmacological interventions for PTSD are often considered helpful for reduction of physical, depressive, and anxiety-related symptoms of this disorder. Cognitive behavioral therapy is generally recommended in large part to assist the individual in reducing anxiety around the specific traumatic event; personal therapy interventions for PTSD often include some form of exposure/relaxation therapy as well as cognitive interventions to help the individual reframe his/her thoughts about the traumatic event.

## Cross-References

- ▶ [Cumulative Stress Disorder](#)
- ▶ [Post-traumatic Stress Symptoms](#)
- ▶ [Post-traumatic Stress Syndrome](#)

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## Post-traumatic Stress Symptoms

- ▶ [Post-traumatic Stress Disorder \(PTSD\)](#)

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## Post-traumatic Stress Syndrome

- ▶ [Post-traumatic Stress Disorder \(PTSD\)](#)

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## Postures and Emotion

- ▶ [Measuring Emotion Recognition Ability](#)

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## Potable Water

- ▶ [Drinking Water](#)

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## Potential Outcomes

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### Synonyms

[Rubin causal model](#)

### Definition

Potential outcomes are used to define causal effects. Given a unit and a set of actions (or interventions, treatments, manipulations), a potential outcome is associated to each action/unit pair. Each of these outcomes is a priori observable, but once the manipulation is applied, at most one potential outcome can be observed.

### Description

#### The Potential Outcome Approach to Causal Inference

Research questions motivating many scientific studies are causal in nature. Causal questions arise in medicine, public health, economics, sociology, and many other fields. In quality of life studies, researchers are often interested in knowing the causal effects of some social or economic interventions (e.g., policies, events) on quality of life. Causal inference is used to measure effects from experimental and observational data. This entry provides a brief overview of the approach to the estimation of such causal effects based on the concept of potential outcomes. The approach is commonly referred to as *Rubin’s Causal Model* (RCM, Holland, 1986) for a series of papers written by Rubin in the 1970s.

The potential outcome approach has its roots in the work on randomized experiments by Fisher (1925), who introduced randomization as the basis for *reasoned inference*, and Neyman (1923), who formally introduced the potential

outcome notation in randomized experiments. The approach was first extended by Rubin (1974, 1976, 1977, 1978, 1979, 1980), and subsequently exploited by others, to apply to nonrandomized studies and forms of inference other than randomization based. The framework has two key parts: (a) Causal effects are viewed as comparisons of potential outcomes, each corresponding to a level of the treatment and each observable, had the treatment taken on the corresponding level, but at most one outcome actually observed, the one corresponding to the realized treatment level, and (b) the assignment mechanism is explicitly defined as a probabilistic model for how units receive the different treatment levels. In this perspective, a causal inference problem is thus viewed as a problem of missing data, where the assignment mechanism is explicitly modelled as a process for revealing the observed data. The assumptions on the assignment mechanism are crucial for identifying and deriving methods to estimate causal effects. The third part of the potential outcome framework is optional and involves a distribution on the quantities being conditioned on in the assignment mechanism, including the potential outcomes, thereby allowing model-based Bayesian posterior predictive (causal) inference. The perspective presented in this entry is fully developed in the forthcoming text by Imbens and Rubin (2013) and in Mealli et al. (2012).

#### Causal Inference Primitives: Units, Treatments, and Potential Outcomes

There are several primitive concepts that are basic to define causal effects in the potential outcome approach to causal inference. A *unit* is a physical object, for example, an individual person, at a particular place and point in time. The same unit can be subject or exposed to a specific *treatment* (a particular action or intervention) or to alternative treatments, which could be different active treatments, or no treatment at all. Here only settings with two treatments, say an active treatment and a control treatment, are considered although the extension to more than two treatments is conceptually simple. Let  $W_i$  denote which treatment unit  $i$  received:  $W_i = 1$  if the

unit is exposed to the active treatment and  $W_i = 0$  if it is exposed to the control treatment. For each unit/treatment pair, a *potential outcome* is defined: For each unit, there are thus two associated potential outcomes at a future point in time after treatment. They are the value of some outcome measurement  $Y$  if the unit was exposed to the active treatment,  $Y_i(1)$ , and the value of  $Y$  at the same future point in time if the unit was exposed to the control treatment,  $Y_i(0)$ . The causal effect of the treatment on each unit is defined to be a comparison of the treatment and control potential outcomes,  $Y_i(1)$  and  $Y_i(0)$ , typically their difference, log difference, or ratio.

The fundamental problem of causal inference (Holland, 1986; Rubin, 1978) is that one can only observe at most one of the potential outcomes for each unit, either  $Y_i(0)$  or  $Y_i(1)$ , depending on the treatment actually received.

**Learning About Causal Effects: Multiple Units and SUTVA**

Even though a causal effect is defined on a single unit, multiple units are required to make causal inference: For each unit, one can at most observe a single potential outcome, so that only by relying on multiple units, it is possible to have some units exposed to the active treatment and some other units exposed to the control treatment.

The comparison of multiple units provides the basis for learning about causal effects, even though the presence of multiple units does not solve the problem of causal inference. Suppose in fact that there are  $N$  units rather than only one. To make the representation with only two potential outcomes for each unit adequate, we must accept an assumption, SUTVA (the Stable Unit Treatment Value Assumption, Rubin, 1980), which rules out interference between units (Cox, 1958) and rules out different versions of the treatments for the units (e.g., Rubin, 1990a). SUTVA can be weakened, but still some such assumption regarding the full set of potential outcomes is required. Often, in practice, SUTVA is made more plausible by aggregating the units. Under SUTVA, all causal estimands (quantities to be estimated) can be defined from the matrix of values with  $i$ th row:  $(X_i, Y_i(0), Y_i(1))$ ,  $i = 1, \dots, N$ .

By definition, all relevant scientific information that is recorded is encoded in this matrix, and so the labeling of its rows is a random permutation of  $1, \dots, N$ , that is, the  $N$ -row matrix  $[X, Y(0), Y(1)]$  is row exchangeable. For convenience, this array of values is referred as the “science,” functions of which one wishes to estimate.

**Defining Causal Estimands**

A causal estimand involves a comparison of  $Y_i(0)$  and  $Y_i(1)$  on all units or on a common subset of units. Commonly defined causal estimands are average treatment effects, either for the entire population or for some subpopulation. For example, given a finite population of  $N$  units, the finite population average treatment effect is

$$\tau_{ate}^{FP} = \frac{1}{N} \sum_{i=1}^N [Y_i(1) - Y_i(0)].$$

Often the  $N$  units are considered as a random sample from a large superpopulation, so that a causal estimand of interest is the population average treatment effect:

$$\tau_{ate}^P = E[Y_i(1) - Y_i(0)],$$

that is, the expectation of the unit-level causal effect on the whole population. This estimand is particularly relevant when all the units in the population are potentially involved in the intervention. A different estimand is the population average treatment effect on the treated, defined by averaging over the subpopulation of treated units:

$$\tau_{att}^P = E[Y_i(1) - Y_i(0) | W_i = 1].$$

In many observational studies,  $\tau_{att}^P$  is a more interesting estimand than  $\tau_{ate}^P$ . As an example, consider the case of evaluating the effect of smoking on health: In this case, it makes sense to assess the effect only on the subpopulation of those who chose to smoke.

Sometimes average treatment effects are defined as averages over subpopulations defined in terms of pretreatment variables, called covariates.

Although average causal effects are especially easy to estimate unbiasedly with standard statistical tools in randomized experiments, there is no reason to focus solely on these quantities. As an alternative to average treatment effects, one can focus on more general functions of potential outcomes or, more generally, on comparisons involving the entire distributions of potential outcomes under treatment and under control for some subpopulation that may be of interest (Imbens & Rubin, 1997) and may be formally defined in the RCM.

### Assignment Mechanisms

Statistical inference for causal effects requires the specification of an assignment mechanism, that is, the process that determines which units receive which treatments and so which potential outcomes are realized and which are missing. The assignment mechanism gives the conditional probability of each vector of assignments given the covariates and potential outcomes:

$$Pr(\mathbf{W}|\mathbf{X}, \mathbf{Y}(0), \mathbf{Y}(1)),$$

where  $\mathbf{W}$ ,  $\mathbf{Y}(0)$ ,  $\mathbf{Y}(1)$  are  $N$ -component column vectors and  $\mathbf{X}$  is a matrix with  $N$  rows.

Assignment mechanisms can be classified into three classes, in order of increasing complexity of the required analysis: (1) randomized experiments, (2) regular assignment mechanisms, and (3) irregular assignment mechanisms. In randomized experiments, the assignment mechanism is *unconfounded* and *probabilistic*, and the assignment probabilities are a known function of the covariates. Unconfounded assignment mechanisms (Rubin, 1990b) are free of dependence on either  $\mathbf{Y}(0)$  or  $\mathbf{Y}(1)$ :  $Pr(\mathbf{W} | \mathbf{X}, \mathbf{Y}(0), \mathbf{Y}(1)) = Pr(\mathbf{W} | \mathbf{X})$ . Assignment mechanisms are *probabilistic* if each unit has a positive probability of receiving either treatment:  $0 < Pr(W_i = 1 | \mathbf{X}, \mathbf{Y}(0), \mathbf{Y}(1)) < 1$ . If the assignment mechanism is unconfounded and probabilistic, it is called *strongly ignorable* (Rosenbaum & Rubin, 1983). In strongly ignorable assignment mechanisms, the unit-level assignment probabilities, usually named *propensity scores*,  $e(X_i) = Pr(W_i = 1 | X_i)$ , are strictly between

0 and 1 and are free of all potential outcomes. In regular assignment mechanisms, the assignment mechanism is strongly ignorable, but in contrast to randomized experiments, the assignment probabilities are no longer assumed to be a known function of the covariates. Regular assignment mechanisms, as well as randomized experiments, can be represented as proportional to the product of the propensity scores:

$$Pr(\mathbf{W}|\mathbf{X}) \propto \prod_{i=1}^N e(X_i).$$

Irregular assignment mechanisms include all remaining assignment mechanisms with some dependence on potential outcomes. There is no general approach for estimating causal effects in irregular assignment mechanisms, and without further assumptions, only limited progress can be made (e.g., Imbens & Rubin, 2013; Imbens & Wooldridge, 2009).

### Inference in Classical Randomized Experiments

Fundamentally, there are three formal statistical modes of causal inference; two are based only on the assignment mechanism and treat the potential outcomes as fixed unknown quantities. One is due to Neyman (1923) and the other is due to Fisher (1925). The assignment-based modes as developed by Fisher and Neyman are randomization-based modes of inference because they both assume randomized experiments. The third mode is Bayesian, which treats the potential outcomes as random variables.

#### Fisher's Approach

Fisher (1925) was interested in deriving exact  $p$ -values regarding treatment effects for a finite population of size  $N$ . The first element in Fisher's mode is the *sharp* null hypothesis of no effect of the treatment for any unit in this population, that is,  $Y_i(1) = Y_i(0)$ , for each  $i$ . Under this type of null hypotheses, all potential outcomes are known from the observed values of the potential outcomes:  $Y_i(1) = Y_i(0) = Y_i^{obs}$ , where  $Y_i^{obs} = W_i Y_i(1) + (1 - W_i) Y_i(0)$ . As a result, also

the value of any statistic  $S$ , that is, any function of the observed potential outcomes, such as the difference of the observed averages for units exposed to treatment and units exposed to control,  $\bar{y}_1 - \bar{y}_0$ , is known, not only for the observed assignment but for all possible assignments. Thus, the distribution of any statistic can be deduced, and  $p$ -values can be calculated as the probability (under the assignment mechanism and under the null hypothesis) to observe a value of  $S$  as *unusual* as, or more unusual than, the observed value of  $S$ ,  $S^{obs}$ . Unusual is defined a priori, typically by how discrepant  $S^{obs}$  is from zero. The  $p$ -value represents the plausibility of the observed value of the statistic  $S$ , had the null hypothesis been true.

#### Neyman's Approach to Randomization-Based Inference

Neyman (1923, 1934) was interested in the long-run operating characteristics of a statistical procedure under repeated (sampling and) randomized assignment of treatments. His focus was on the average effect across a population of units, which may be equal to zero even when some or all unit-level effects are different from zero. He attempted to find point estimators that were unbiased and interval estimators that had the specified nominal coverage over the distribution induced by the assignment mechanism. Specifically, an unbiased estimator of the causal estimand is first created; second, an unbiased (or upwardly biased) estimator of the variance of that unbiased estimator is found. Then, an appeal to the central limit theorem is made for the normality of the estimator over its randomization distribution, so that a confidence interval for the causal estimand can be obtained.

Both Neyman's approach and Fisher's approach are not prescriptive in the sense of telling us what to do to create an inferential procedure, but rather, it tells us how to evaluate a proposed procedure for drawing causal inferences. Thus, it really is not well suited to deal with complicated problems except in the sense of telling us how to evaluate proposed answers that are obtained by any method.

#### Bayesian Model-Based Inference

The third form of statistical inference for causal effects is model-based causal inference, which involves a distribution on the quantities being conditioned on in the assignment mechanism, including the potential outcomes.

For model-based causal inference, Bayesian analysis is suggested, where the potential outcomes are viewed as random variables, and any function of them, including causal estimands of interest, is also random variables.

Bayesian inference for causal effects directly and explicitly confronts the missing potential outcomes,  $\mathbf{Y}^{mis} = \{Y_{imis}\}$  where  $Y_{imis} = W_i Y_i(0) + (1 - W_i) Y_i(1)$ . The perspective takes the specification for the assignment mechanism and the specification for the underlying data and derives the posterior predictive distribution of  $\mathbf{Y}^{mis}$ . The posterior distribution of any causal estimand  $\tau = \tau(\mathbf{Y}(0), \mathbf{Y}(1), \mathbf{W}, \mathbf{X})$  can, in principle, be calculated from the posterior predictive distribution of  $\mathbf{Y}^{mis}$ , the observed assignments  $\mathbf{W}$ , and the observed values of  $\mathbf{Y}^{obs}$  and  $\mathbf{X}$  (Rubin, 1978).

A critical issue in the model-based approach is the choice of the model for imputing the missing potential outcomes. Although in an experimental setting inferences for the estimands of interest are usually robust to the parametric model chosen, as long as the specification is flexible, in observational settings with many covariates, model specification is more difficult and results are generally more sensitive to such specifications.

#### Inference in Observational Studies

The gold standard for the estimation of causal effects is to conduct randomized experiments; an alternative is to design and carefully execute an observational study. Here, the word *design* means "all contemplating, collecting, organizing, and analyzing of data that takes place prior to seeing any outcome data" (Rubin, 2008). Note that the design phase does not involve the outcome data, which need not be available (or collected) at this stage.

To draw statistical inferences in observational studies, a model for the assignment mechanism is needed, and this defines the template for analyzing the data. A major template that one tries to use is the class of regular designs: Given a large-enough

set of pretreatment variables, unconfoundedness is viewed as a reasonable approximation to the actual assignment mechanism. The assumption of unconfoundedness is the most critical requirement of a regular assignment mechanism; most observational studies fundamentally rely on unconfoundedness, often implicitly and often in combination with other assumptions. The unconfoundedness assumption is not directly testable, but one may indirectly assess the responsiveness of the results to this assumption, using a *sensitivity analysis* or, in its extreme form, a *bounds analysis* (see Imbens & Wooldridge, 2009 for a review of these approaches).

#### Inference in Regular Designs: The Role of the Propensity Score in Designing Observational Studies

Under the assumptions for a regular assignment mechanism, the propensity score plays a relevant role both for designing observational studies and for estimating and assessing causal effects. Rosenbaum and Rubin (1983) showed that the propensity score is a *balancing* score, that is,  $Pr(X_i | W_i, e(X_i)) = Pr(X_i | e(X_i))$ , so that the distribution of the covariates is the same among treated and controls units with the same value of the propensity score. In addition, if unconfoundedness holds, then it is also true that  $Pr(W_i | e(X_i), Y_i(0), Y_i(1)) = Pr(W_i | e(X_i))$ . This implies that all biases due to observable covariates can be removed by conditioning solely on the propensity score.

The propensity score is rarely known in an observational study and therefore must be estimated, typically using a model (such as logistic regression). The goal is to obtain an estimated propensity score that balances the covariates between treated and control subpopulations, rather than one that estimates the true propensity score as accurately as possible.

The estimated propensity score appears as a powerful tool to assess balance and overlap in the design phase. If covariate distributions are identical in the two treatment groups, the propensity score must be constant and vice versa. In case there is a substantial imbalance in the original sample, the estimated propensity score can be

used to construct a better subsample (e.g., Rosenbaum & Rubin, 1985). Sometimes one may even decide that the dataset at hand is inadequate to make the study worthwhile because of lack of data on key covariates or because of lack of overlap in the distributions of key covariates between treatment groups (Rubin, 2008).

If substantial overlap in the multivariate distribution of covariates in the treatment and control group is achieved, several methods can be used for the estimation of causal effects. Some broad classes of estimation methods include subclassification on the propensity score, matching, and model-based imputation methods. Estimators that combine aspects of some of these strategies can also be implemented and are strongly suggested in some cases to reduce bias or improve robustness (Imbens, 2004; Imbens & Wooldridge, 2009).

#### Inference in Irregular Designs

Irregular assignment mechanisms allow the assignment to depend not only on covariates but also on observed and unobserved potential outcomes. Irregular assignment mechanisms include *broken* randomized experiments, that is, randomized experiments suffering from post-assignment complications such as noncompliance, missing outcome data, and *truncation by death*. The advantages of randomization are partially lost when some post-assignment complications arise. Frangakis and Rubin (2002) propose ► *principal stratification* as a general framework to address post-assignment complications in causal inference. The analysis of broken randomized experiments can be used as a template to analyze some observational studies.

## Cross-References

► [Principal Stratification](#)

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## Pottery/Ceramics

- [Arts in British Columbia, Canada](#)

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## Poverty

- [Brazil, Quality of Life](#)
- [Deprivation](#)

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## Poverty Analysis

- [Poverty Measurement](#)

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## Poverty and Nonconsumption Indicators

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## Synonyms

[Poverty proxies](#)

## Definition

Non► [consumption](#) indicators of ► [poverty](#) are various household characteristics—such as asset

ownership, housing condition, access to facilities, consumption pattern, as well as household head and spouse characteristics such as age, gender, and ► [education](#) level—that can be used to predict household consumption expenditure or poverty levels in a relatively accurate and straightforward way.

## Description

The most widely used data for measuring ► [welfare](#) or poverty is household consumption expenditure. This is especially true in ► [developing countries](#), where household income data is considered more difficult to collect and less accurate. Another advantage of using expenditure data is that it is already expressed in monetary units, which is very intuitive and easily understood. Based on consumption expenditure data, one can proceed to calculate a poverty line using one's choice of method and then simply calculate the poverty headcount rate, i.e., the proportion of people living below the poverty line.

The reality, however, is not quite as simple. Collecting household consumption expenditure data requires a lot of effort and time; it is a difficult and cumbersome undertaking. First, it requires much patience and commitment from the respondents, because they are required to self-document their expenditure for an extended period of time, and sufficient trust in part of the enumerator to believe that the respondents accurately recorded their actual expenditure. Second, it takes a substantial amount of time, ranging from 1 week for recording food expenditure to 12 months for recording nonfood expenditure. Third, ► [reliability](#) is an important issue in recording expenditure data that require recall over an extended period of time.

In the face of these empirical difficulties, researchers have developed various methods to construct proxies for consumption expenditure or poverty status. The proxies are usually calculated using several widely recognized methodologies, taking advantage of household characteristics that are easier to collect, less prone to ► [measurement error](#), and are known to significantly

influence consumption or poverty. Variables with these characteristics include asset ownership, employment status, and ► [educational attainment](#). The main purpose of the methods is to provide a ranking of household ► [welfare](#) that is equivalent to a ranking by per capita consumption expenditure.

There is no single agreed method to identify these variables. There are, however, three methods that are commonly used in creating non-income or nonconsumption poverty predictors: (i) estimating a model of consumption correlates, (ii) estimating a limited dependent variable model of poverty correlates, and (iii) calculating a ► [wealth index](#) using the ► [principal component analysis](#). Although we focus on using these proxies to measure expenditure and poverty, other researchers have also used similar methods to proxy inequality (McKenzie, 2005).

## Method 1: Consumption Correlates Model

When poverty is defined as the current consumption deficit, a household is categorized as poor if the value of per capita consumption of its members is below the poverty line. Therefore, the first logical place to start searching for poverty predictors is by ascertaining the correlation between various variables and per capita household consumption. These variables can be obtained by estimating a model of consumption correlates, where the dependent variable is per capita consumption and the independent variables are household characteristics that may be correlated with household consumption.

Different from a model that aims to look for the determinants of expenditure or poverty, the potential endogeneity of the independent variables is not a concern in a consumption correlates model. For instance, one would argue that car ownership is determined by, among others, a household's socioeconomic welfare and not the other way around. Therefore, in a model that searches for the determinants of expenditure or poverty, car ownership is an endogenous variable and hence is usually not

included as an independent variable. However, car ownership should be included in a consumption correlates model because it is a good correlate or predictor of poverty. A household that owns a car is most likely a nonpoor household and has a higher expenditure compared to a household without a car. Hence, this variable needs to be included in a consumption correlates model.

Once the set of independent variables has been finalized, a stepwise ► [regression](#) procedure is employed to estimate the model and the most robust predictors of consumption expenditures. The stepwise estimation procedure is used because in the end we want to obtain a manageable number of variables that can be relatively easily collected in practice and at the same time meaningfully used to predict household consumption level and poverty status.

After the final set of variables has been determined and their conditional correlations with household per capita consumption have been estimated, the performance of this set of variables in predicting poverty can be empirically tested. First, the variables are used to predict per capita consumption level of all households in the sample. Second, the predicted per capita consumption is compared with the poverty line to determine the predicted poverty status of each household. Third, the predicted poverty status is then cross tabulated with the actual poverty status to assess the reliability of the model in predicting poverty.

### Method 2: Poverty Probability Model

The difference between this method and the first one is the dependent variable used in the model to be estimated. In the first method, the dependent variable is per capita household consumption. In this method, meanwhile, household poverty status is directly used as the dependent variable. Since the poverty status is a binary and hence limited dependent variable, the model is estimated based on probit or logit model.

Those who prefer to use the first method of using household consumption correlates model

for determining poverty predictors argue that a limited dependent variable model involves unnecessary loss of information in transforming household consumption data into a binary variable of household poverty status. However, the use of a consumption correlates model to predict poverty has certain weaknesses also. First, estimating a model of consumption correlates does not directly yield a probabilistic statement about a household poverty status. Second, the major assumption behind the use of a consumption correlates model is that consumption expenditure is negatively correlated with poverty. Therefore, factors that are positively correlated with consumption are assumed to be negatively correlated with poverty. However, some factors may be positively correlated with consumption but only for those who are already above the poverty line. Although positively correlated with welfare in general, such factors will not be correlated with poverty.

As in the consumption correlates model, a stepwise estimation procedure is also used in order to come up with a manageable number of poverty predictors. As before, the accuracy of the prediction of the estimated model can be assessed by cross tabulating the predicted with the actual poverty status of households.

### Method 3: Wealth Index

Collecting data on asset ownership is relatively easy because it is visible to the enumerator, and ► [measurement error](#) stemming from recall bias is low because acquisition of new assets—especially physically large ones—does not happen frequently. For these reasons, asset ownership is generally considered to be a reliable indicator of household welfare. Asset ownership can be used to create a wealth index, which allows a researcher to rank the wealth of households in a community.

The main difficulty is that data on asset ownership are usually only available in the form of binary variables, indicating only whether a household owns certain kinds of asset or not.

An ideal wealth index requires data on the exact quantity and quality—usually signaled through the price of the asset—of each asset owned by a household to appropriately weigh each asset owned by a household. Hence, binary data poses a problem in ranking households by their socioeconomic levels.

The principal component analysis (PCA) method is frequently used to deal with the issue above. In this method, the weight for each asset is determined by the data themselves. Intuitively, PCA is a technique for extracting from a large number of variables those few orthogonal linear combinations of the variables that best capture the common information. The first principal component is the linear index of variables with the largest amount of information common to all of the variables. Zeller (2004) stated that the major advantage of PCA is that it does not require a dependent variable (i.e., a household's consumption level or poverty status).

One of the most widely cited studies on estimating household expenditure is Filmer and Pritchett (2001), which used the PCA method to calculate long-term household wealth in India and Indonesia and use it as an explanatory variable of ► [school enrollment](#). The wealth index method is very widely used in ► [public health](#) literature in developing countries context because it provides a powerful way to estimate expenditure pattern. As of March 2012, the Social Science Citation Index shows that around 700 academic publications have cited Filmer and Pritchett (2001).

Based on the results of this analysis, households can be ranked from the lowest to the highest socioeconomic rank. Testing the reliability of this wealth ranking on predicting poverty requires a cutoff point to separate between the predicted poor and nonpoor. Since there is no a priori poverty line that can be objectively determined, the cutoff point used can be determined by the location of the poverty line in the actual consumption expenditure. In other words, the cutoff point is the proportion of poor households based on the actual consumption expenditure. As in the previous two methods, a cross tabulation can be performed between the results of this

method and the poverty status based on the actual consumption expenditure.

An important debate around the wealth index pertains to determining the best way to deal with discrete data. In a recent contribution, Kolenikov and Angeles (2009) specifically explored the ways discrete data can be incorporated into PCA. They simulated various implementations and found that the method of running PCA on discrete data as recommended by Filmer and Pritchett (2001) could be improved by retaining the ordinal variables, rather than breaking them into a set of dummy variables.

Recently, Howe, Hargreaves, Gabrysch, and Huttly (2009) conducted a systematic review of 36 studies, attempting to ascertain the general finding in the literature regarding the relationship between the wealth index proxy and actual consumption expenditure. In their review, Howe et al. (2009) found a generally low correlation between the constructed index and actual expenditure level, which implies that using the wealth index to proxy for actual expenditure may be inappropriate. According to Filmer and Scott (2012), the degree of congruence between asset index and expenditure level depends on two factors. The first is the relative performance of the nonconsumption proxies in predicting expenditure, and the second is the extent to which individually consumed goods dominate total expenditure. Asset indices and expenditure yield the least similar results when individually consumed goods are the main component of expenditure.

### Comparing the Performance of the Three Methods

Sumarto, Suryahadi, and Suryadarma (2007) implemented the three methods using Indonesian data to predict consumption expenditure and poverty using nonconsumption indicators and investigated the most accurate method. Ascertaining the best method is important for the purposes of rapid monitoring and appraisal of ► [social welfare](#), as an early warning system of economic downturns. They found that the

**Poverty and Nonconsumption Indicators, Table 1** Accuracy of predicted expenditure using method 1

Actual	Predicted		
	Bottom 30 %	Middle 40 %	Top 30 %
Row percentage of urban consumption expenditure			
Bottom 30 %	67.33	30.22	2.45
Middle 40 %	22.44	56.57	20.99
Top 30 %	2.75	27.67	69.57
Row percentage of rural consumption expenditure			
Bottom 30 %	63.40	32.18	4.42
Middle 40 %	24.14	53.42	22.44
Top 30 %	4.41	29.93	65.67

**Poverty and Nonconsumption Indicators, Table 2** Accuracy of predicting poverty using method 1

Actual	Predicted	
	Not poor	Poor
Row percentage of urban poverty		
Not poor	92.73	7.27
Poor	50.43	49.57
Row percentage of rural poverty		
Not poor	92.12	7.88
Poor	54.32	45.68

consumption correlates model produces quite robust results and is relatively accurate when used to predict expenditure (Table 1). However, the model performs less well when used to predict poverty as only around one half of the poor are predicted correctly (Table 2).

For the poverty probability model, they found that it predicts poverty even less accurately than the consumption correlates model (Table 3). Nevertheless, the wealth index PCA is the least accurate in predicting poverty compared to the other two models, particularly in urban areas (Table 4). After testing each method's performance, they concluded that the consumption correlates model is the best method to predict poverty quickly and relatively accurately. They concluded that education level, asset ownership, and consumption pattern (such as the frequency of consuming protein sources in a week) are the best predictors of expenditure and poverty.

**Poverty and Nonconsumption Indicators, Table 3** Accuracy of predicting poverty using method 2

Actual	Predicted	
	Not poor	Poor
Row percentage of urban poverty		
Not poor	97.07	2.93
Poor	64.44	35.56
Row percentage of rural poverty		
Not poor	90.49	9.51
Poor	47.33	52.67

**Poverty and Nonconsumption Indicators, Table 4** Accuracy of predicted per capita consumption expenditure using method 3

Actual	Predicted based on wealth index		
	Bottom 30 %	Middle 40 %	Top 30 %
Row percentage of urban consumption expenditure			
Bottom 30 %	51.10	41.52	7.38
Middle 40 %	25.79	45.69	28.52
Top 30 %	14.51	30.89	54.61
Row percentage of rural consumption expenditure			
Bottom 30 %	47.35	40.73	11.92
Middle 40 %	26.84	44.78	28.38
Top 30 %	16.85	32.90	50.25

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## Poverty and Psychological Distress

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### Synonyms

[Emotional affliction](#); [Emotional suffering and poverty](#)

### Definition

Psychological distress is a state of mental pain or suffering characterized by the presence of worry, affliction, anguish, sadness, and/or sorrow, related to the disorders of anxiety and/or depression.

### Description

Living in conditions of extreme poverty implies the lack of access to satisfiers, to education and health services, and to adequate housing conditions. Poverty is, on its own, a condition that generates stress, particularly everyday stress associated with difficulties in obtaining the necessary resources for daily subsistence (Cutrona, Wallace, & Wesner, 2006; Rojas, 2011). This explains the relevance of studying factors associated with the possibilities for healthy growth and development for those living in adverse environments, in particular the psychological factors that can hinder and diminish the probabilities for experiencing subjective well-being.

This contribution is about the presence of emotional disturbance in a sample of persons living in extreme poverty. A summary is given

of the results from several analyses conducted of a sample of beneficiaries of a Mexican government program for persons living in extreme poverty. The data comes from a survey consisting of several scales that measure protection and risk factors of subjective well-being. The sample is described in Palomar and Victorio (2012). The purpose is to obtain information regarding the following questions: What are the most common stressors? Which stressors lead to greater concern? Which factors are associated with higher levels of stress? And which factors are associated with greater emotional disturbance?

When the frequency of the occurrence of the 42 stressors with different degrees of impact on everyday life are analyzed, the most common stressors for this sample are associated with changes in economic and living conditions. In addition, the death or illness of a family member and one's own illness are the most common stressors. However, when asked regarding the degree of concern associated with these stressors, the death of a spouse is the stressor that causes the most concern, followed by one's children leaving home, the illness of a family member or one's own illness, retirement, and going to prison. In other words, economic stressors may be more frequently reported, but they are not the stressors that cause the greatest concern (Palomar & Victorio, 2010).

When the factors that may predict higher levels of concern due to stressors are examined, it is found that belonging to the high-stress group is associated with a greater tendency toward coping that consists of thinking intently and constantly about the stressor and denying its existence. To the contrary, the tendency toward considering oneself to be abandoned or punished by God diminishes the possibility of belonging to the high-stress group (Palomar & Victorio, 2010).

When the predictors of symptoms of anxiety or depression are explored, the strongest predictor for depression is anxiety, and the strongest predictor for anxiety is depression. In addition, a differentiated pattern for each nucleus of symptoms can be identified. Individuals with greater depression tend to be women, and they

tend to have a more negative self-image; to turn to evasive, impulsive, and paralyzing tactics to resolve problems; to lack self-regulation; and to be less likely to use seeking assistance as a coping strategy. Individuals with greater anxiety tend to have high levels of stress, to seek assistance and to deny the problem as coping styles, and also to lack self-regulation. The latter and the search for assistance are the only predictors associated with both nucleuses of symptoms (Palomar & Victorio, 2012).

None of the resources involving greater inner strength, greater capacity, and coping with stressors more directly and more actively were significant predictors in any of the analyses (Palomar & Victorio, 2012). A possible interpretation is that the persons surveyed tend to have fewer resources available for active coping and therefore turn to ineffective strategies for coping with stressors. Unfortunately, this unproductive style, which involves evading difficulties, acting impulsively, becoming paralyzed, and denying difficulties, is associated with more symptoms of anxiety and depression (Kelly, Tyrka, Price, & Carpenter, 2007). The risk of stress and depression is greater for women (World Health Organization, 2002).

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Anxiety Disorders](#)
- ▶ [Beliefs About Poverty](#)
- ▶ [Emotional Well-Being](#)

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## Poverty Gap Index

- ▶ [Watts Poverty Index](#)

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## Poverty in the USA

- ▶ [Capability Deprivation in the USA](#)

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## Poverty Incidence

- ▶ [Relative Poverty Rate](#)

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## Poverty Indexes

- ▶ [Poverty Measurement](#)

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## Poverty Lines

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## Synonyms

[Criteria to classify people as poor or nonpoor;](#)  
[Poverty threshold](#)

## Definition

A poverty line is a criterion or a rule that allows us to classify people in a society as poor or as nonpoor.

## Description

As argued by the 1998 Nobel Laureate in economics Amartya Sen (1976), ► [poverty measurement](#) involves two distinct and sequential steps: (i) identifying the poor among the total population and (ii) constructing an index of ► [poverty](#) using all the available information on the poor. Identification involves choosing a dimension in which poverty should be measured (usually material deprivation), using as proxy either income or expenditure data in monetary terms, and setting a cut-off point. This cut-off point is the poverty line, with a person being classified as poor when they are below the poverty line.

The literature has focused on two main classes of poverty lines: absolute and relative.

Absolute poverty lines are adequate for underdeveloped societies. The key idea behind them is that a person has a minimum of necessities to achieve certain capabilities, which includes a healthy life in terms of calorie intake. The most common poverty line in this context is the so-called “cost of basic needs” approach, after the classic study by Seebohm Rowntree (1901) about the English city of York, first published in 1901. Its construction involves two steps: (i) determining a consumption bundle that is considered to be adequate, including both food and nonfood components such as clothing or housing, and (ii) estimating the cost of this bundle in monetary terms. A poor person is therefore an individual whose income or expenditure is below the cost of this bundle. The well-known 1\$ a day poverty line of the World Bank (2001) is based on the same idea.

Relative poverty lines are more adequate for developed societies. They are simply fixed as a percentage of the median or the mean of the ► [income distribution](#), with the poverty line adjusting to the growth in the economy. When it is defined in this way, poverty is simply the

bottom of the income distribution, and we can therefore say that poverty will always stay with us in a relative sense. The OECD (2009) and other international institutions define a relative poverty line as half the median in the income distribution (adjusted by equivalence of scales). Thus, a poor person is someone whose income or expenditure is below this amount.

However, because there are always subjective elements in any notion of “basic needs” and the “feeling of being poor” implies a reference group, psychologists, sociologists, and other social scientists have argued in favor of a so-called ► [subjective poverty line](#). In this context, the circumstances of the individual, relative to a reference group, influence the perceptions of well-being at any given level of income or individual command over commodities. Subjective poverty lines are usually elicited by means of a survey interview, in which individuals are asked to answer a question related to the so-called minimum income question such as “What income level do you personally consider to be absolutely minimal? That is to say, you could not make ends meet with less than this amount” (Kapteyn et al. 1988). Using statistical modeling with the actual income and the declared minimum income, a subjective poverty line can be obtained. However, because practical experiences with subjective poverty lines indicate that they tend to be very volatile and depend very much on the precise question in the survey, they have not been widely adopted in practice.

As a final comment, note that a global poverty line such as the 1\$ or 2\$ a day poverty line of the World Bank (2001) is useful as one of the indicators of progress on a global scale. A common poverty line is therefore needed for comparability, but when assessing progress on a national or regional scale, a more local poverty line is normally used.

## Cross-References

- [Beliefs About Poverty](#)
- [Child Poverty](#)
- [Gender and Poverty](#)

- ▶ [Income Distribution](#)
- ▶ [Income Redistribution](#)
- ▶ [Poverty](#)
- ▶ [Poverty Measurement](#)
- ▶ [Relative Poverty Rate](#)
- ▶ [Self-Rated Poverty](#)
- ▶ [Subjective Poverty](#)
- ▶ [Welfare Economics](#)

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## Poverty Measurement

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## Synonyms

[Poverty analysis](#); [Poverty indexes](#); [Poverty profile](#)

## Definition

Poverty measurement is mainly concerned with the quantification of the number of poor people in a society, as well as summarizing, by means of an index or any other mean, the extent of the poverty

problem. Poverty measurement is thus concerned with a subgroup of the population, the poor, and the first question is to identify it, which in turns leads us to the concept of the poverty line. Poverty measurement is always conditional on an exogenously determined poverty line.

## Description

According to the World Bank (World Bank, 2001), “▶ [poverty](#) is pronounced ▶ [deprivation](#) in well-being.” Of course, this begs the question of what is meant by well-being, and there is no simple and universally acceptable answer to this question; however, the World Bank (2001) offers some clues when it says that “to be poor is to be hungry, to lack shelter and clothing, to be sick and not cared for, to be illiterate and not schooled. But for poor people, living in poverty is more than this. Poor people are particularly vulnerable to adverse events outside their control. They are often treated badly by the institutions of state and society and excluded from voice and power in those institutions.”

Hence, poverty is a complex and multidimensional situation that is characterized not only by observable features of some individuals in relation to income opportunities, education, or health but also by a higher risk of suffering adverse conditions and to recover worse from them than other people in society. Because of this, poverty tends to be persistent and we sometimes speak about the poverty trap, so once in poverty is difficult to escape from it. However, while evocative as a description of the human condition of those suffering from poverty, the above definition does not provide us with a basis for a quantitative assessment of poverty, so we now turn to a more practical situation.

Poverty measurement is essential if we are interested in keeping track of the progress done in reducing it, and almost any practical definition of poverty is based on the notion of an exogenously determined poverty line. Considering first the case in which we measure poverty in only one dimension, for example, income or consumption, which is the most common situation encountered

in practice, a person is considered poor if he is below the poverty line, expressed in this case in monetary units. The number of poor, as a proportion of the total population, gives us a first indication of the extent of poverty in society. This simple index is called the headcount ratio, it reflects the incidence of poverty and it is obviously a very crude index.

In a classical paper, the 1998 Nobel Laureate in economics Amartya Sen (1976) argued convincingly that once the poor have been identified we should construct a poverty index using all the available information on the poor. This index should take into account, not only the number of the poor (the incidence) but at least two other features of the problem: on the one hand, the extent of their deprivation or how far are they from the poverty line—this is also known as the poverty gap or the depth of poverty, and it measures, in the case of material deprivation, the amount of resources needed by the society to eliminate poverty if a system of pro-poor transfers were implemented—and on the other hand, the inequality among the poor, since poor people is probably a highly heterogeneous group.

To summarize, a sensible one-dimensional poverty index should reflect at least the incidence, the depth of the poverty, and the inequality among the poor.

Sen's ideas (1982) stimulated a great deal of work on poverty measurement, and the profession developed a huge number of poverty indexes. They are well surveyed in accessible handbooks from international institutions and developing agencies, such as the United Nations (2005) or the World Bank (2005) (for a more technical text, see Duclos & Araar (2006) among many others). One of the most widely used classes of poverty indexes is the family derived by Foster, Greer, and Thorbecke (1984), also known as the poverty severity index, which has the nice feature of being additively decomposable among population subgroups, in addition of being sensitive to the inequality among the poor. Other well-known indexes are the Watts (1968) or the Shorrocks (1995) poverty indexes, the last one especially useful in decomposing the change in poverty over time in components

related to the number of poor people, the changes in the poverty gap, and in the inequality among the poor.

Because poverty cannot be reduced to a single number and because different indexes can give conflicting results about the evolution of poverty, it is standard to summarize the main facts about poverty in a so-called poverty profile. A country poverty profile sets out the major facts on poverty and examines its main patterns over time to see how it varies by regions, either administrative or urban/rural character, and by community or household and individual characteristics, such as ethnicity or religion. In addition, a poverty profile can be done for other dimensions of poverty, such as infant mortality, health, ► [education](#), housing, or accessibility to public services. Poverty profiles are very useful and extremely informative in drawing a complete picture of the extent of the poverty problem and its evolution.

We have highlighted at the beginning the multidimensional character of poverty, but measurement has been developed mainly for material deprivation, using as proxy either income or expenditure in most of the cases. So as argued by Alkire (2007), poverty data have many missing dimensions in practice and we should move to a multidimensional approach. Even some of the poverty indexes can be applied to other forms of deprivation, many dimensions of poverty scape to the standard way of measuring material deprivation, especially if we think in dimensions such as Quality of Work or psychological well-being, which are not only difficult to measure but qualitative in nature. It is true that a poverty profile on life expectancies, Infant Mortality, or illiterate rates can be constructed with fairly basic statistics and techniques, but combining all these dimensions into a single ► [Composite Index](#) of multidimensional poverty is not an easy task.

Recent research based on ideas originally settled by Amartya Sen (1985, 1999) and incorporated since the beginning into the Human Development Reports of the United Nations Development Program (United Nations 2010) has developed several multidimensional poverty indexes (for an overview, see Waglé (2008)).

Multidimensional indexes try to present an integrated view of the situation, but of course they come at a cost, and looking at the single dimensions individually is a must in poverty analysis. Nevertheless, they are very useful in ranking countries or regions as can be seen in Alkire & Santos (2010).

Once agreed upon the number of dimensions to consider and the poverty line for each dimension, Multidimensional Poverty Indexes face three general problems: (i) fixing the number of dimensions in which an individual should be deprived to be considered as poor, (ii) the way to combine one-dimensional poverty indexes, an aggregation problem, and (iii) how to weigh the different dimensions, a weighting problem. In spite of the difficulties, much progress has been done in recent years. Dimensions tend to vary across studies, but most of them consider education and health, in addition to material deprivation, at a minimum and subject to data availability other dimensions such as housing or accessibility to public services (for an overview, see Alkire (2008, 2010)). Aggregation admits different forms but it is widely agreed that the trade-off between dimensions should imply a diminishing marginal rate of substitution among them, and a multiplicative form is a standard way of aggregating, (Alkire & Foster, 2009). Dimensions are typically equally weighted, even if it is not clear that this is the best possible solution, (Decancq & Lugo, 2008).

Multidimensional poverty indexes should reflect not only the incidence, the depth of the poverty, and the inequality among the poor but also the intensity of poverty, in the sense of being sensitive to the number of the dimensions in which the population of the society is deprived.

## Cross-References

- ▶ [Beliefs About Poverty](#)
- ▶ [Child Poverty](#)
- ▶ [Composite Indicator\(s\)](#)
- ▶ [Gender and Poverty](#)
- ▶ [Human Development Index \(HDI\)](#)
- ▶ [Income Distribution](#)

- ▶ [Income Redistribution](#)
- ▶ [Poverty](#)
- ▶ [Poverty Lines](#)
- ▶ [Relative Poverty Rate](#)
- ▶ [Self-Rated Poverty](#)
- ▶ [Subjective Poverty](#)
- ▶ [Watts Poverty Index](#)
- ▶ [Welfare Economics](#)

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## Poverty Profile

- ▶ [Poverty Measurement](#)

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## Poverty Proxies

- ▶ [Poverty and Nonconsumption Indicators](#)

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## Poverty Rate

- ▶ [Relative Poverty Rate](#)

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## Poverty Threshold

- ▶ [Poverty Lines](#)

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## Poverty, an Overview

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## Synonyms

[Destitution](#); [Impoverishment](#)

## Definition

Poverty is generally defined as a state of material deprivation, being poor or deficient in money or means of subsistence, such as food, water, shelter, access to education, health care, or employment, for individuals and families. Each country measures poverty in accordance with its level of development, social norms, and values, and hence definition varies. The World Bank (2000) defined poverty as a *pronounced deprivation in well-beings* of individuals and families where well-being is taken to mean one's command over resources to maintain livelihood. Poverty is then measured by comparing individuals' consumption with some defined threshold below which they are considered poor. This is the most conventional or conservative view where poverty is seen largely in monetary terms (Haughton & Khandker, 2009). A more embracing definition was developed by the Nobel laureate economist A. Sen (1987) emphasizing on the role of individual capabilities. Poverty arises when people lack key capabilities, such as inadequate income or education, poor health, insecurity, low self-confidence, or a sense of powerlessness as a member of the society. This definition embraces a sense of relativity in one's standard of living and was borne out of a sociological concept – relative deprivation – developed first by sociologist Walter Runciman (1966) and later Peter Townsend (1993) in UK. “People are relatively deprived if they cannot obtain, at all or sufficiently, the conditions of life – that is, the diets,

amenities, standards and services which allow them to play the roles, participate in the relationships and follow the customary behavior which is expected of them by virtue of their membership of society” (Townsend, 1993, p. 36). Despite debates and controversies, social scientists over the last four decades have agreed on the universality of poverty and its persistence alongside economic globalization. Increasingly, poverty is defined as having a low level of *quality of life* – a more contemporary concept to gauge people’s well-being. Viewed in this way, poverty is now widely acknowledged as a multidimensional phenomenon and less amenable to simple solutions. For example, although higher income helps reduce poverty, it is necessary to have corresponding policy measures to empower the poor, to insure them against risks, or to address specific inadequacies such as the availability of schools or accessibility to health services.

## Description

For many social scientists and policymakers, one alarming situation in the twentieth century is the persistence of poverty even after decades of economic growth since the 1970s. Poverty exists both in technologically advanced industrial nations such as USA and UK and also in economically backward countries such as those in East Asia, South Asia, Sub-Saharan Africa, and the Indian subcontinent. Poverty seems to grow in tandem with globalization irrespective of how good or bad economies perform. It persists in both agricultural and industrial societies, in urban as well as rural areas. The scale of global poverty is immense. While there are intense debates as to how poverty should be measured on an international and comparative scale, economists however have agreed on one crude way of dividing up the world in terms of poverty: the absolute, the moderate, and the relative (Sach, 2005). *Absolute poverty* means that households cannot meet basic needs for survival. They have not enough food for daily survival, have no health care, lack safe drinking water, cannot afford education, and lack proper housing. *Moderate*

*poverty* refers to situations where basic needs are only barely met. *Relative poverty* refers to situations when household income level falls below a given level of average national income and hence lacking the capability to participate in cultural, entertainment, and other social activities that are vital for citizenship.

To measure the extent of world poverty, the World Bank uses two crude measures: those who subsist on \$1 or less per day per person are considered living in absolute poverty and those who subsist between \$1 and \$2 per day are considered living within moderate poverty. According to a World Bank study by economists Chen and Ravillion (2004), approximately 1.1 billion people subsist on less than US\$1 per day in 2001, down from 1.51 billion in 1981. For the moderate poverty group of countries, some 2.8 billion (nearly half of the world’s population) live on less than \$2 per day. The average real income gap between the richest billion and the poorest 2.5 billion has widened to more than 16–1. What about the distribution of world poverty geographically? In the same study, it was found that the majority of the world’s absolute poor concentrates (93 %) in East Asia, South Asia, and Sub-Saharan Africa. Almost half of the world’s extreme poor are located in Sub-Saharan Africa, and the proportion has increased slightly in the period 1981–2001. On the brighter side, however, the percentage of absolute poverty has dropped substantially in East Asia, from 58 % in 1981 to 15 % in 2001, while in South Asia, the improvement has been less dramatic, decreasing from 52 % to 31 %. As a consequence of this improvement, the percentage of moderate poor has actually increased for East Asia, South Asia, and Sub-Saharan Africa, with 87 % of the world’s moderately poor concentrating in these regions.

Poverty is also about hunger. Measured on a daily intake of 1,700 cal or less, 17 % of the world population is undernourished (Cancian & Danziger, 2009). Poverty inevitably leads to poor health. Everyday about 30,000 children die in developing countries of preventable diseases and the under-five infant mortality rate is 126 per thousand stillbirths. In African countries such as Rwanda, Sierra Leone, and Niger, more

than one fifth of all children died before the age of five. To many, poverty also means the loss of childhood. According to the International Labor Organization (ILO) estimate, over 73 million working children are under the age of ten. Though in its *Global Report on Child Labour 2010*, the ILO suggested that the global number of child labor had declined from 222 million to 215 million, or 3 %, over the period 2004–2008, the persistence of child labor is nonetheless alarming (International Labour Organization [ILO], 2010). More important, poverty invariably means the lack of education for children. According to a World Bank estimate, more than 100 million children have been unable to attend school as a result of dire poverty. In fact, it was estimated that the cost of failing to invest in education for young people could be as high as 2–3 % of GDP (Hempel & Cunningham, 2010). Hence, the lack of educational investment actually perpetuates poverty. Indeed, academics now generally agree, less so with policymakers, that poverty is above all about powerlessness. It is often the lack of work opportunities and choices, the lack of access to genuine free markets, and the systematic exploitations by employers and capitalists who monopolize the labor market, not only by the rich but also by government officials, that add burdens to the survival of the poorest.

### Poverty and Inequality

Poverty is not an independent social phenomenon. It normally comes with income inequality. The distribution of economic benefits of the world economy since the 1970s has changed substantially. Many economists have done important studies to show that poverty rises with income inequality. One prominent study *The Economics of Inequality* by Tony Atkinson in 1975 pointed to a relative neglect of the importance of the negative impact of income distribution and wealth on society by mainstream economics (Atkinson, 1975). Another important study was by A. Sen in 1973 *On Economic Inequality* (Sen, 1973). These studies were augmented by further studies in the 1980s and 1990s, demonstrating that the situation of income inequality has substantially worsened in recent decades. Both in

USA and UK, absolute poverty has risen in the early 1980s and later relative poverty in the 1990s. Much of the responsibility for the worsening income distribution was attributed to changes in household income and the widening dispersion of wages. The economic explanation pointed to a relatively high demand for high-skilled workers as a result of globalization and technological change. A 1998 World Bank study found that 24 % of the population of the developing world was living on less than \$1 per day (Chen & Ravallion, 2001). Given the disparities in income between rich and poor countries, inequalities as a whole has grown substantially with a Gini coefficient between 0.63 and 0.68 in 1990s (Sach, 2005).

### Why Poverty Persists?

Academic and policy debates in the twentieth century about the nature and cause of poverty have been dominated by two major perspectives: one focusing on poverty as an individualistic issue within a free market environment, while the other considers it a structural issue going beyond an individual's capability to tackle (Townsend, 1993). The individualistic argument focuses largely on changes in demography and the failure of the individual and the household to adapt (Feagin, 1975). The structural argument considers that poverty is the result of a social structure favoring capital and an unequal distribution of resources resulting in public policies that engender social exclusion and polarization. The period after 1980 also saw major changes in family structure – notably the increase in single-parent families. In USA, it has been found that poverty rates among single female-headed families are typically 3 or 4 times the level in the overall population. Changes in the distribution of family types can have important effects on poverty. A study by economists of the National Bureau of Economic Research in USA titled *Poverty in America: Trends and Explanations* suggested that changes in family structure alone gave rise to an overall increase in poverty rate, from 10.7 % to 12.8 % (Hoynes, Page, & Stevens, 2006). Likewise, using census data for 1960–2000, it was found that US immigrant

population has had only a marginal effect on poverty. More important, the study also revealed one disappointing side of contemporary social policy in that the effects of increased welfare spending only carried a modest effect on poverty reduction over time. Taken together, the lack of improvement in poverty reflects a weak relationship between poverty and change in the macro-economic performance and therefore provides a strong case for the structuralist argument. Despite rising living conditions in the 1990s, the stagnant growth in wages contributes substantially to increasing inequality. Coupled with the advent of the Asian financial crisis in 1997 as well as the collapse of the Wall Street in 2008 and its subsequent global financial tsunami, the structural effects on world poverty and its negative impact on the world's poorest have now been aggravated.

Setting aside the structural perspective, psychologists also look at how individuals and families perceive the causes of poverty. Poor people tend to think they are poor because they either lack the abilities to survive in a competitive society or the society is so unfair to them that nothing much could be done to alleviate their problems. A combination of these two situations instills a strong sense of hopelessness among poor families which then further *trap* them into poverty. Researches along this line seek to arrive at a better understanding of how poor people, particularly adolescents, look at the sources of poverty (Shek, 2003, 2004) and hence how to motivate poor individuals and households to escape from poverty (Bandura, 1997). It is widely believed by scholars and international agencies that effective antipoverty policies mean that they must be able to liberate young people from the poverty trap.

### International Efforts to Fight Poverty

Although there is now widespread agreement among academics and policymakers on the need to end poverty, there remains considerable international disagreement as to the best way this could be done. In particular, there is a growing divide between the policy being pursued by the US-dominated World Bank/IMF alliance and the

European Union. For 50 years, the World Bank, the IMF, and other UN agencies have been pursuing a similar set of antipoverty policies emphasizing on three principal elements: a broad-based economic growth, education and the development of human capital, and the provision of a minimum social safety net for the poor. Such policy orientation has now been proved unsuccessful. The number of poor people in the world has continued to rise despite the joint antipoverty programs and efforts of all these international agencies. Such approach has been subjected to strong criticisms from Nobel laureate economist Joseph Stiglitz (2002) who provided an insider view as a World Bank economist. His argument was that privatization policy and capital market liberalization policies championed by the World Bank to reduce poverty was not working. It only led to inflation and hence an increase in the prices of daily goods for the poor. Moreover, market liberalization also made way for speculators to destabilize already weak economies. Following the Asian financial crisis in 1997, structural adjustment policies have been imposed by the IMF and the World Bank to ensure debt repayment and economic restructuring. However, many of these policies required poor countries to reduce social expenditures such as health, education, housing, and development in order to make way for debt repayment and other economic policies, hence further aggravated the persistence of the poorest due to a reduction in welfare investment.

For the European Union, the strategy for poverty reduction is based more on the ideas of social inclusion and the development of social and community economy. The emphasis is on active labor market intervention to help job creation and the improvement of work conditions. Employment retraining programs and social enterprise initiatives have been designed to introduce labor-intensive community-based projects to counteract patterns of job cutting that are often indiscriminate of their negative social impact. At the Nice Summit held in December 2000, EU countries agreed to produce and implement a 2-year National Action Plan on Social Inclusion designed to promote social

inclusion and combat poverty. In addition, there has been great unanimity with the EU that comprehensive social security provision is not simply a fundamental human right but also recognized as the most effective policy initiative to combat poverty. Many European academics and policymakers believe that the World Bank and IMF would have a much greater chance of success at reducing poverty if countries seeking aid have been required to comply with ILO's convention on minimum standards of social security rather than pursuing the pro-market policies of the World Bank and IMF (Townsend & Gordon, 2002).

Today social policy scholars and policymakers are much more concerned with enhancing the role of social security in poverty eradication (Midgley & Tang, 2010). The Millennium Development Goals agreed by UN member states in 2002, culminated in the United Nations Millennium Declaration, provided renewed incentive to redouble efforts for poverty eradication (Sachs, 2005). The purpose is to reduce half of the world's poverty by 2015 and to end absolute poverty by 2025. In addition, the ILO's Global Campaign on Social Security and Coverage for All launched at the 91st ILO International Labour Conference held in Geneva in June 2003 agreed that to effectively curtail world poverty, social security coverage of member countries needed to be substantially expanded. Moreover, for social security to be effective and sustainable, the system must be well integrated with wider economic and social development policies. While the role to the eradication of world poverty is long and winding, it is now widely agreed that this is entirely feasible basing on the level of wealth already attained by technologically advanced economies such as United States. What the world needs most urgently, as suggested by Jeffrey Sachs of the Earth Institute, are two vital changes: one societal and the other institutional. First, the voice of the poor must be heard more. The G8 will never champion the end of poverty if the poor themselves are silent. Second, a restoration and a realignment of the role of the four international bodies should be pursued (World Bank, IMF, UN, & ILO), "so that they are

no longer the handmaiden of creditor governments but the champion of economic justice and enlightened globalization" (Sachs, 2005, p. 366).

## Cross-References

- ▶ Life Expectancy
- ▶ Poverty Lines
- ▶ Poverty Measurement
- ▶ Quality of Life
- ▶ Relative Deprivation Theory
- ▶ Relative Poverty Rate
- ▶ Subjective Poverty

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## Poverty, Disabilities and Capabilities

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### Definition

According to the capability approach, ► **poverty** among disabled persons is conceived as a reduced capacity of converting resources into valuable achievements, attributable to ► **disability** status.

### Description

The capability approach (Sen, 1993) conceives well-being in terms of functionings, that is, achieved and achievable activities or state of being of individuals, rather than considering the quantity of goods or services possessed or consumed. According to this view ► **disability** can be defined as a lack of capability.

The choice of applying the ► **human development** paradigm to the disability condition, both as a general framework theory as well as an operational mean, seems to be particularly promising compared to the mainstream in the study of disabled people's condition, the medical approach, and the social model in particular. Some scholars (Mitra, 2006; Terzi, 2004; Welch, 2002) have emphasized the usefulness of the use of the capability approach as a model to analyze disabled people's ► **well-being** in terms of ► **equity**. Those scholars appreciated the opportunity offered by the capability approach in conceptualizing the disability as a multidimensional problem and in taking into account the heterogeneity of needs among individuals. According to Sen, an approach where poverty is considered equivalent to ► **low income** does not grasp the true nature of poverty: “the derivative importance of ► **primary goods** or resources depends on the respective opportunities to convert primary goods or resources into the fulfillment of the respective goals, or into freedoms to pursue them” (Sen, 1992). Sen's approach focuses on the type of life that people are able to live, that is, on their capability to achieve what they value in doing or being. The possession of commodities is functional to the possibility of achieving functionings (e.g., “being healthy,” “being well sheltered,” “moving about freely,” or “being well nourished”). Functioning may be achieved or not, it depends not only on the material resources possessed, as income, but also on personal characteristics (e.g., age, sex but also disability) and the environmental context. Possession of a set of resources is not itself a guarantee that a minimum acceptable level of well-being can be reached, as there may be obstacles (including income but also connected with state of ► **health**) that prevent people from achieving their goals. Poverty, as well as disability, is conceived by Sen as an individual's failure to achieve a series of primary “states of being” (functionings). If Sen places the freedom to live a healthy life among the basic capabilities, disability may also be seen as source of “unfreedom” itself, since it precludes individual functioning. Disability can be assumed as a deprivation both

in terms of capability and of functionings. Sophie Mitra (2006, pp. 240–241) outlines two levels in the analysis of disability through the capability approach. The first level, potential disability, occurs when disables' space of capability is reduced, while an actual disability takes place each time an individual is unable to achieve a functioning he or she values caused by his or her impairment.

The opportunity of using the capability approach for the assessment of well-being sets methodological problems. The main questions are related to the selection of functionings for assessing the individual welfare level, the measurement of the functionings, and the comparison between multidimensional measures with unidimensional ones, such as income. Sen (1999) identifies three ways of measuring empirically the capability: the "direct approach," which arises directly from examining and comparing vectors of functionings or capability; the "supplementary approach" which involves the use of traditional procedures based on income integrated with capability considerations; and the "indirect approach" which focuses on the familiar space of incomes, appropriately adjusted.

For these aims, several attempts were made using both statistical and nonstatistical methods. The nonstatistical methods include scaling (► [Human development index](#)) and fuzzy sets theory (Chiappero Martinetti, 2000). The statistical methods include ► [factor analysis](#), ► [principal component analysis](#), time series clustering, and structural model. Several studies have implemented the direct and supplementary approach through quantitative empirical applications of poverty and inequality measurement. The main functionings taken into account are ► [mortality](#), ► [life expectancy](#), infant mortality, child death rates, morbidity, nutrition, ► [education](#), material welfare (GDP per capita), access to water, rooms per household, employment, psychological functioning, physical functioning, and low birth weight. An interesting implementation of capability using the "indirect approach" is due to Kuklys (2005). This approach estimates the capability set taking into account the differential

needs of individuals with disability. This method, based on a monetary approach, employs an equivalence scale methodology to adjust the household's budget considering the presence of members with disability.

The capability set is defined as  $Q_i(X_i) = \{b_i | b_i = f_i(c(x_i), z_1, z_2, \dots, z_k)\}$  each  $f_i \in F_i$  and  $x_i \in X_i$ , where  $b_i$  are the functionings,  $f_i$  is a conversion function mapping the commodities into the space of functionings,  $c(x_i)$  are the characteristics of commodities  $x_i$ , and  $z_i$  are the conversion factors at the individual level. The capability set is the individual choice set over potential activities and states of being, given the resource constraint  $X$ .

The method implemented is based on the following assumptions:

- The  $z_i$  conversion factors are constraints to decision making – not only budget constraints but also resource constraints, affecting directly the capability set.
- The same goods provide the same characteristics to each individual, so we are interested at  $x$  and we do not consider  $c(x)$  (Brandolini & D'Alessio, 2001).
- All goods are marketable, disregarding nonmarket goods and services, home production, and in-kind benefits in the resource constraint. This assumption supposes that the reduction of the capability set of persons with disability compared to the nondisabled persons is not influenced systematically by the amount of nonmarket goods.
- The consumer faces the same prices and market imperfections. On the basis of such a hypothesis, the approach considers the resource constraint  $X_i$  equal to the budget constraint, hence to income  $Y$ . These assumptions are quite strict from a capability point of view, but they are plausible in the context of a developed country.
- The fourth hypothesis assumes that more income leads to a higher capability, in other words, more income leads to a greater range of choice as well as a higher quality or quantity of each choice of functioning.

The assumptions above modify the relation as  $Q_i(Y_i) = h(Y_i|z_1, z_2, \dots, z_k)$ , where  $Y_i$  is the available income of individual  $i$  and  $z$  are vectors of conversion factors that convert income into functioning for some function  $h$ . In other words, the capability sets are a function of the income set, given social, environmental, and individual conversion factors.

If we assume that the  $h$  function is monotonic, we can write  $Y_i|z_1, z_2, \dots, z_k = h^{-1}(Q_i)$ .

The methodology is similar to the equivalence scales, that is, the strategy used to identify empirically the capability set of disabled people. Several methods to perform the equivalence scale exist. Kuklys used the psychometric equivalence scale (PES) (Van Praag, 1991). In her work Kuklys assumes that the disability has a negligible effect on income satisfaction apart from costs. The conversion factors, such as individual, social, and environmental factors, may cause differences in individual welfare levels even if individuals have the same resources. This concept can be interpreted as nonmonetary constraints of individuals or needs, hence should be assumed as relevant for the evaluation of **social welfare**. Disabled persons suffer from lower income capacity and lower capacity to convert resources into functionings. The use of PES performs an assessment of the range of consumption choice of families with and without disabled members. It's important to underline that similar consumption opportunity sets can coincide with different levels of subjective utility, particularly in case of disabled individuals.

The empirical model can be written:

$$U^h = \beta_0 + \beta_1 \ln y^h + \beta_2 z^h + \beta_3 x^h + \epsilon^h$$

$$U^r = \beta_0 + \beta_1 \ln y^r + \beta_2 z^r + \beta_3 x^r + \epsilon^r,$$

where  $z$  is a vector of variables indicating household size, composition, and disability,  $x$  is a vector of preference shifters, and  $e$  is an independent identically distributed error term. If people with disability  $h$  have the same utility

of other people  $r$ , then  $U^h = U^r$ . Considering  $x_h = x_r$ , the equivalence scale is then  $m^h(z) = y^h/y^r = \exp[\beta_2/\beta_1(z^r - z^h)]$ .

Another implementation of capability using the "indirect approach" is due to Zaidi and Burchardt (2005) who proposed a model to describe the living condition of people based on a standard of living indicator  $S = \alpha Y + \beta D + \gamma X + K$ , where  $S$  is an indicator of the standard of living,  $Y$  is household income,  $D$  is disability status,  $X$  is a vector of other household characteristics (household composition), and  $k$  represents an intercept that indicates the minimum level of standard of living under which the household could not survive. The extra cost of disability can be estimated by  $E = dY/dD = -\beta/\gamma$ .

### Applications

1. Methods based on equivalence scales have been used in the UK (Kuklys, 2005) and in Italy (Rosano, 2008). The principal results showed that in the UK, disabled people need an income level 1.5 times higher to enjoy the same level of economic satisfaction, while in Italy the disabled people need an income level 2 times higher compared to nondisabled people.
2. An interesting application is due to Biggeri and Bellanca (2011) who have elaborated the concept of the capability approach through a conceptual model (T.A.O.P.E.). The aim of this model is to explain the personal and social process through the evaluation of A-capability, that is, the skills; O-capability, that is, the accessible opportunities to well-being; P-capability, that is, set of possible or imaginable opportunities of well-being; E-capability, that is, the positive externality related with the relations of proximity with other persons; and T-entitlements, that is, conversion or processor factors that map the rights and resources into well-being. The concept of the TAOPE model has been implemented through a survey conducted in Italy (Tuscany region).

3. Other applications of the capability approach were conducted through surveys investigating living conditions of people with disability. An interesting experience is represented by two surveys aimed at implementing “A multidimensional approach to poverty and disability: case studies from Afghanistan and Zambia” (Trani, 2012). The results of the analysis allowed a classification of individuals by several dimensions of vulnerability: persons with disabilities were found in deprivation and poverty condition associated with lack of access to education, labor market, and health assistance.

### Discussion

The capability approach helps accounting for the variety of factors (personal characteristics, environment, available material resources) that can determine disability deriving from an impairment. Furthermore, it encompasses an economic dimension of disability. While it is well known that disability reduces earning possibilities, less attention is put on the limits in earning due to accomplishing even basic functionings. What really matters for considering the capability approach appropriate to understanding disability is that individuals, to pursue their own goals, must consider not only the goods they possess but also their personal characteristics. On this point Sen argues: “A person who has a disability may have a larger basket of primary goods and yet have less chance to lead a normal life (or pursue her objectives) than an able-bodied person with a smaller basket of primary goods. Similarly, an older person or a person more prone to illness can be more disadvantaged in a generally accepted sense even with a larger bundle of primary goods” (Sen, 1999, p. 74). Poverty and disability affect individual’s capabilities, impacting full participation in society. The concept of disability can be used to examine poverty as well as to assess the pathways of disability. Similar to poverty, disability can be considered a capability deprived state where persons with disabilities may be seen as less capable than those without disabilities (Welch, 2002). For a capability approach to be adopted

in addressing disability and poverty, one must identify the needs of disabled persons, understanding how they meet their needs in their context. This may be possible through the proposed models of operationalization that needs ongoing updating.

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## Power Analysis

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### Synonyms

Probability of a true positive decision; Sensitivity

### Definition

The power of a statistical hypothesis test is the probability of rejecting the ► [null hypothesis](#) given that the null hypothesis is in fact false.

### Description

There are four possible outcomes of a statistical hypothesis test: (1) the null hypothesis is maintained given that it is in fact true (a true negative decision); (2) the null hypothesis is rejected even though it is true (a false positive decision or ► [type I error](#)); (3) the null hypothesis is maintained even though it is false (a false negative decision or ► [type II error](#)); and (4) the null hypothesis is rejected given that it is in fact false (a true positive decision). The probabilities of type I and type II errors are often denoted by the Greek letters  $\alpha$  and  $\beta$ , respectively. Accordingly, the power (also referred to as the ► [sensitivity](#) of a test) is  $(1-\beta)$ , whereas  $(1-\alpha)$  denotes the probability of a true negative decision (also referred to as the specificity of the test). Power analysis is usually concerned with determining the power of a statistical test (given the constraints of a study) or with designing a statistical test to achieve a certain power (i.e., designing a study).

The four possible outcomes and their associated probabilities are illustrated in [Fig. 1A](#). The two distributions are the sampling distributions of

the test statistic under the null hypothesis ( $H_0$ ; left side in [Fig. 1](#)) and the alternative hypothesis ( $H_1$ ; right side in [Fig. 1](#)), also referred to as the central and the noncentral distribution of the test statistic, respectively. The  $t$  statistic of the two-group  $t$ -test is a well-known example for such a test statistic. By definition, power corresponds to the area under the  $H_1$  distribution to the right of the critical value. The critical value is determined by the  $\alpha$ -level. By convention,  $\alpha$  values are typically chosen that cut off the most extreme (i.e., rightmost) 5 %, 1 %, or 0.1 % of the area under the  $H_0$  distribution.

### Determinants of Power

Although influenced by many factors, there are three main determinants of power: the  $\alpha$ -level, the population ► [effect size](#) ( $ES$ ; e.g., the standardized difference between two population means), and the sample size ( $N$ ). This is illustrated in [Fig. 1](#). Other factors that affect power, such as ► [reliability](#), unequal group sizes, one-versus two-tailed tests, or distributional properties, do so often indirectly through  $ES$ ,  $N$ , and  $\alpha$ . By keeping all other factors constant (*ceteris paribus*), we find that:

[Figure 1B](#): Type I and type II errors are closely related. By choosing a more conservative (smaller)  $\alpha$ -level, the likelihood of a type II error increases. In contrast, by accepting a higher likelihood to commit a type I error (higher  $\alpha$ -level), the likelihood of a type II error decreases; thus, power increases.

[Figure 1C](#): The larger the magnitude of an effect, the higher the power to detect this difference.

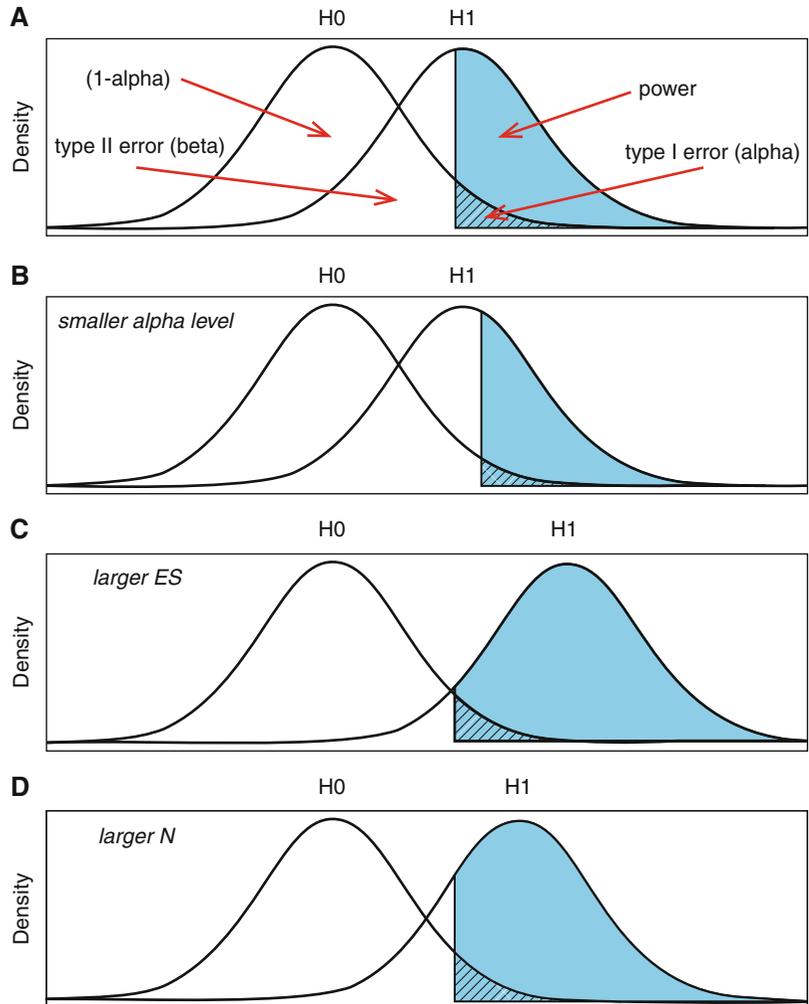
[Figure 1D](#): The larger the sample size, the higher the power to detect an effect. Note, that even though the effect size and  $\alpha$ -level in [Figure 1D](#) are the same as in [Figure 1A](#), the (noncentral)  $H_1$  distribution is moved to the right. This reduces the overlap of the two curves, reflecting an increase in power.

### Types of Power Analyses

For any statistical test, each of the four parameters  $ES$ ,  $N$ , power, and  $\alpha$  can be written as a function of the other three. Hence, if three of them are fixed, the fourth is completely

**Power Analysis,**

**Fig. 1** *Panel A:* Sampling distributions under the null (H0) and alternative (H1) hypothesis. The four areas under the two curves correspond to the four possible outcomes of a statistical test. *Panel B:* A more conservative  $\alpha$ -level results in less power (compare B to A). *Panel C:* The larger *ES*, the larger the power (compare C to A). *Panel D:* The larger *N*, the larger the power (compare D to A)



determined. This allows us to distinguish four types of power analyses (Cohen, 1988):

1. *N* as a function of power, *ES*, and  $\alpha$  (a priori power analysis). Arguably, this is the most important type of power analysis. Ideally, it should be conducted prior to any data collection. Its purpose is to identify the necessary sample size that provides adequate power to detect a population effect of interest (derived from the relevant literature or pilot studies). While there are strict conventions regarding the choice of  $\alpha$ , the answer to the question of what constitutes an “adequate” power of a statistical test is less obvious. Cohen (1988) proposed that the risk of a type II error should not be larger than

four times the risk of a type I error. With a conventional  $\alpha$ -level of 5 %, this results in a minimum power of  $(1-\beta) = 80$  %. The idea behind this convention is that the sample size needed to achieve larger power is likely to exceed the resources of researchers, whereas smaller power values are unacceptable with respect to the risk of committing a type II error. However, even though a power of 80 % seems reasonable for many studies in the social sciences, it is important to keep in mind that this is just a rule of thumb. If type II errors have severe consequences (e.g., failure to detect an efficient treatment of, say, cancer), power must certainly be much larger.

2. Power as a function of  $N$ ,  $ES$ , and  $\alpha$  (post hoc power analysis). This type of power analysis is usually performed after a study has been conducted. It provides the power of the study (and, by implication, the type II error probability  $\beta$ ) assuming a certain population effect size. It is important to note, however, that such an analysis – like any other type of power analysis – does not imply anything with respect to the probability of the null hypothesis. In particular, a nonsignificant test outcome associated with a post hoc power of, say, .80 does not imply that the probability of  $H_0$  is also .80. Moreover, post hoc power analyses should not be confused with what is sometimes referred to as “observed power” or retrospective power analysis (see below).
3.  $ES$  as a function of power,  $N$ , and  $\alpha$ . This type of power analysis is less common. Here the goal is to compute the minimum effect size that is detectable with a given power, sample size, and alpha.
4.  $\alpha$  as a function of power,  $N$ , and  $ES$ . This type of power analysis is useful when the costs associated with type I errors are less severe (e.g., as compared to the danger of committing a type II error). In this case it may be useful to adjust the  $\alpha$ -level to achieve adequate power.

Apart from these four main types of power analyses, there exist a number of variants. For example, compromise power analyses (Erdfelder, Faul, Buchner, & Cüpper, 2010) compute  $\alpha$  and  $\beta$  (hence, power  $1-\beta$ ) as a function of  $N$ ,  $ES$ , and the ratio  $q = \beta/\alpha$  that reflects a “compromise” between the two types of error probabilities. If  $q = 1$ , the risk of committing a type I error is equal to the risk of committing a type II error. More recent developments focus on power-equivalent model transformations (von Oertzen, 2010). For example, von Oertzen, Hertzog, Lindenberger, and Ghisletta (2010) showed how power-equivalent transformations can help identify more cost-efficient research designs by trading off the number of measurement occasion and number of indicators in latent growth curve models.

As a matter of fact, it is often possible to optimize power without increasing the overall

sample size, for example, by maximizing reliability, reducing or controlling for (irrelevant) variance, optimizing the relative sample sizes in different groups (e.g., for planned contrasts), or choosing the most powerful test for a given statistical hypothesis. In other words, we can often gain power without any increase in costs, simply by optimizing various aspects of the study design and both the statistical model and the tests used for data analyses. This approach to power analysis relates to the field of “optimal design” that proved to be very active and productive in recent years (cf., Berger & Wong, 2009).

### The Role of Power Analysis in Applied Research

The concept of power analysis is not new. Quantitative researchers have highlighted the importance of (a priori) power analysis for more than half a century (e.g., Cohen, 1962). However, applied research was – and in some areas still is – slow in adopting this knowledge (Cohen, 1992; Maxwell, 2004; Sedlmeier & Gigerenzer, 1989). Since 2001, the American Psychological Association requires authors to “routinely provide evidence that your study has sufficient power to detect effects of substantive interest” (American Psychological Association, 2001, p. 24). In addition, the topic is now covered by many introductory text books at the graduate and undergraduate level (Cohen, Cohen, West, & Aiken, 2003; Maxwell & Delaney, 2000), and power analysis software (see below) is readily available, so the situation can be expected to improve.

While the importance of a priori power analyses is acknowledged by most researchers, there exists some debate on the virtues of post hoc analyses (e.g., Hoenig & Heisey, 2001 vs. Onwuegbuzie & Leech, 2004). It seems that this is primarily due to a lack of distinction between post hoc power analysis (e.g., of pilot studies for the purpose of planning future studies), which is based on population effect sizes, and retrospective power analysis (e.g., the “observed power” reported by the statistical software package SPSS), which is based on effect sizes as observed in the sample. As pointed out by Hoenig and Heisey (2001), there are good reasons to avoid

the latter. A common mistake is to conduct retrospective power analyses based on an observed sample effect size, after having obtained a nonsignificant test outcome. The (flawed) idea is that given a nonsignificant test result, it is more likely that the null hypothesis is correct if the observed power of the test was high than if it was low. This is clearly wrong. For a given test result, observed power and the observed  $p$ -value exhibit a 1:1 relationship; thus, “the observed power is determined completely by the [observed]  $p$  value and therefore adds nothing to the interpretation of results” (Hoenig & Heisey, 2001, p. 20).

### Software

Cohen (1988) provides a thorough introduction to power analysis. Moreover, the book contains also the probably largest collection of tables to determine power or sample size for the most common statistical tests. In recent years, however, power analysis has also been implemented in most commercial statistical software packages (e.g., SAS<sup>®</sup>, SPSS<sup>®</sup>, SYSTAT<sup>®</sup>), although some of them are limited to retrospective power analysis only. In addition, there exist a number of excellent power-analytic tools that are freely available, either as part of larger packages (e.g., the pwr package in R; Champely, 2009) or as stand-alone programs (e.g., G\*Power; Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007).

### Cross-References

- ▶ [Data Collection Methods](#)
- ▶ [Effect Size](#)
- ▶ [Growth Curve Modeling](#)
- ▶ [Hypothesis Testing](#)
- ▶ [Level of Significance](#)
- ▶ [Null Hypothesis](#)
- ▶ [Power to Detect Meaningful Effects](#)
- ▶ [Reliability](#)
- ▶ [Standard Deviation\(s\)](#)
- ▶ [Standard Errors](#)
- ▶ [Type I Errors](#)
- ▶ [Type II Errors](#)

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## Power to Detect Meaningful Effects

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### Synonyms

Power, statistical

### Definition

Statistical power refers to the likelihood of failing to reject the null hypothesis in a statistical test when the null hypothesis should have been rejected (i.e., type II error). As power increases, the likelihood of type II error decreases.

### Description

Calculating power involves weighing the advantages and disadvantages of the most powerful research designs with the costs needed to do such studies (Kraemer & Thiemann, 1987). There are five elements to consider when determining the power needed to detect meaningful effects: (a) the likelihood of ► [type I error](#) or  $\alpha$ , (b) the likelihood of ► [type II error](#) or  $\beta$ , (c) study and statistical design, (d) ► [effect size](#) (i.e., a standardized metric signifying the magnitude of a given effect, such as Cohen's  $d$ ), and (e) ► [sample size](#). Although there are some general rules of thumb for points (a) and (b) (i.e.,  $\alpha$  values

at or below 0.05 and  $\beta$  values at or above 0.8), decisions related to points (c) and (d) require experience in the particular research field as one will need to (a) specify precise and realistic research goals, (b) identify the most appropriate research design, and (c) evaluate the resources (i.e., time, personnel, funding) available (Kraemer & Thiemann, 1987). Identifying a “critical effect size” or a measure of how strong the results minimally must be to be clinically relevant or “important to society” is a crucial step (Combs, 2010). Critical effect size estimates involve not only measures of effect size and rules of thumb (e.g., Cohen's  $d$  and their respective links with small, medium, and large effects, Cohen, 1988) but also a “subjective” interpretation of the impact of the research (Ellis, 2010). Before appropriate power calculations can be conducted for confirmatory hypothesis testing, preliminary pilot data and previous work are required to provide guidance for meaningful and reasonable effect size estimates. Recommendations on appropriate samples for pilot studies differ depending on the methods and discipline in question, but general recommendations have been listed by others (Johanson & Brooks, 2010).

Although there are many statistical techniques for confirmatory ► [hypothesis testing](#), the two most common types are either test for group differences (e.g.,  $t$  tests, ► [Analysis of Variance \(ANOVA\)](#)) or test for associations between variables (e.g., correlation, ► [regression](#)). For power calculations, both require taking into account underlying assumptions of the techniques (e.g., independence of observations, normality of responses), anticipated ► [missing data](#) (Davey & Savla, 2009), and careful selection of covariates. Because the inclusion of covariates (e.g., gender, race) can have a substantial impact on observed power, it is recommended that covariate selection be completed a priori and be based on theory and past research (Kraemer & Thiemann, 1987). A key power issue when devising a plan for group difference techniques is the balance of subjects between groups. A perfect balance (e.g., 50/50 for two groups) or small imbalances do not greatly impact power, but large imbalances (e.g., 80/20 and greater), as is often seen in epidemiologic

studies, require much larger samples (Kraemer & Thiemann, 1987). For statistical techniques focused on associations between variables, the distribution and spacing of possible responses for a given predictor variable influence power. In general, a smaller range of possible responses (e.g., only a few responses in the intermediate range) will require a larger sample to detect an effect, whereas sampling from extreme cases (e.g., choosing only options 0 and 10 from a 0 to 10 range variable) will increase statistical power but often at the expense of validity (Kraemer & Thiemann, 1987). Outside of these major statistical techniques, specific considerations are needed for other research designs and statistical procedures (e.g., mixed effect models such as within-person questions [Jafari & Azuaje, 2006], cluster-randomized trials [Coupland & DiGuseppi, 2010] and proteomics and related research [Cairns, 2011]). There are many software packages (e.g., NCSS Corporation, 2011; Faul, Erdfelder, Lang, & Buchner, 2010) and reference tables (e.g., Kraemer & Thiemann, 1987, pp. 105–112) that can be used to determine sample size after the above decisions have been made.

## Cross-References

- ▶ Analysis of Variance
- ▶ Cluster Randomized Trial
- ▶ Effect Size
- ▶ Hypothesis Testing
- ▶ Linear Regression Model
- ▶ Missing Data
- ▶ Mixed Effects Models
- ▶ Sample Size
- ▶ Type I Errors
- ▶ Type II Errors
- ▶ Univariate Normal Distribution

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## Power, Statistical

- ▶ Power to Detect Meaningful Effects

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## Powerlessness

- ▶ Psychological Empowerment

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## PP

- ▶ Precautionary Principle

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## PPP

- ▶ Purchasing Power Parity

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## PPS Sampling

- ▶ [Probability Proportional Sampling](#)

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## PPT

- ▶ [Positive Psychotherapy](#)

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## PQOL

- ▶ [Perceived Quality of Life Scale](#)
- ▶ [Physical QOL](#)
- ▶ [Postnatal Women, Quality of Life](#)
- ▶ [Postpartum Women Questionnaire \(PQOL\) in China](#)

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## Practice, Sexual

- ▶ [Same-Sex Behavior and Orientation in England](#)

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## Pragmatism

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## Synonyms

[Philosophical pragmatism](#)

## Definition

A philosophical school for which the soundness of theories in all domains of inquiry and the

meanings of their key terms are ascertained by estimating the effects in practice that adherence to the theories and use of the terms have or could have.

## Description

Pragmatism is a predominantly American school of philosophy most famously associated with Charles Sanders Peirce, William James, and John Dewey, whose writings spanned a period from the late nineteenth to the mid-twentieth centuries. In its background is also Ralph Waldo Emerson (1860/2004), and prominent contemporaries include Josiah Royce (1900), George Herbert Mead (1934), and FCS Schiller (1891/2008). C.I. Lewis (1929/1956) adopted central pragmatic precepts as more recently did Willard Van Orman Quine (1953) and Richard Rorty (1982), and many philosophers now explicitly draw from pragmatism.

The original focus of pragmatism was on the philosophy of science in the work of Peirce. In a seminal, 1878, essay, "How to Make our Ideas Clear," he departed from the dominant approach wherein otherwise differing philosophers employed core conceptions, such as truth and substance, independently of human concerns and thus, in Peirce's view, vacuously. He maintained, by contrast, that philosophers must approach any topic by first considering "what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then our conception of those effects is the whole of our conception of the object" (Peirce, 1878/1963, p. 58). Taking as examples such concepts as "mass," "force," "velocity," and "reality," Peirce sought to clarify their meanings by reference to their practical effects. In the course of this endeavor, he also maintained that antagonisms between empiricism and rationalism, subjective relativity and objectivism, and other classic philosophical standoffs could be overcome or avoided. Subsequently, James and Dewey applied the same method to conceptions in other domains

such as good and evil, art, nature, God, ► [education](#), and ► [democracy](#).

Pragmatism (like empiricism, existentialism, or about any other philosophical school) should be regarded not as a uniform and unchanging body of theory but as a general orientation with differing focuses and with disagreements among its adherents. Still, the linking of beliefs to human practices is at the center of all approaches prepared to call themselves pragmatic. One consequence of the current resurgence of pragmatism and close reading of works by its founding authors is to challenge dismissal (or, indeed, approval) of it as a justification for opportunism, where theories are accepted or rejected just insofar as they serve somebody's immediate interests or where "is true" is taken to mean no more than "is useful." (James is more ambiguous on this point than is Peirce, though in his more careful formulations, he regards the objects of claims about truths as existing independently of human beliefs. In this respect, he differs from Rorty, who associates seeking truths, however interpreted, with philosophical foundationism, which he shuns).

Other central aspects of pragmatism are evident in the application of this philosophy to the ► [quality of life](#). They can be grouped into two broad categories: ► [problem-solving engagement](#) and *embedded individuality*.

*Problem-Solving.* Pragmatists do not exactly disagree with the Socratic adage that "the unexamined life is not worth living," but for a worthwhile life, self-reflection alone is not enough, and the standpoint from which reflection takes place makes a crucial difference. Regarding the latter point, James insists that what is needed instead of abstract, universalistic philosophical or religious theories "is a philosophy that will not only exercise your powers of intellectual abstraction, but that will make some positive connection with this actual world of finite human lives" (James, 1907/1955, p. 12). Such engaged philosophy is in keeping with the nature of thought itself. "The whole function of thought," Peirce maintains, "is to produce habits of action" (Peirce, 1878/1963a, p. 256).

The reason that reflection per se is not sufficient is that life is unavoidably a matter of practical problem-solving. From crossing a street to finding adequate food and shelter and to securing an enjoyable and rewarding occupation, all human enterprises confront obstacles and entertain alternative solutions for overcoming them. The same is true of even the most apparently abstract scientific thinking, which involves, as Peirce argues, not just inductive and deductive thinking but also what he calls "abduction," or the science/art of figuring out what questions to ask. The putting of these questions both creates problems for scientists and is also motivated by life problems confronted in their times. Dewey is especially adept at identifying the essentially problematic nature of education, artistic creation and enjoyment, political engagement, and all other domains of human activity. Inspired by evolutionary theory, he also regards the dynamics of the natural world as forms of extra-human problem-solving.

An aspect of this problem-solving perspective is that problems are not seen just as impediments to leading a high-quality life. Rather, success in confronting problems and even the activity of confronting them are themselves sources of satisfaction, and in an upward spiral way, people learn not just how to solve given problems but also to set new ones for themselves. Of course, if many or most problems cannot be successfully resolved, enthusiasm for such a life would be severely dampened, but here another feature of pragmatism comes into play, namely, its ► [optimism](#) that the problems people confront generally admit of solution. One ground for optimism, expressed by James in a widely read essay, "The Will to Believe" (1897/1979), is that embracing a pragmatic attitude itself contributes to the solution of problems. His view that believing a problem can be solved itself helps to solve it is not a proclamation of mind over matter or a version of voluntarism but a recognition that seeing problems as challenges rather than as insurmountable obstacles counteracts action-inhibiting fatalism and invites imaginative proaction.

A second source of optimism is appropriation of a version of what is sometimes called methodological conservatism. Peirce points out that it is impossible to enlarge or to change one's beliefs except from within the "state of mind in which you actually find yourself" and that this state is one "in which you are laden with an immense mass of cognition already formed" (Peirce, 1905/1963b, p. 278). The inherited beliefs are not seen by him as drags on innovation but as resources on which one can and must draw. James expresses a similar idea when he defends loyalty to "older truths." A novel idea, he maintains, "must both lean on an old truth and grasp a new fact" (James, 1907/1955, pp. 31–32). The point is not that past beliefs and values cannot be changed or abandoned, but that they provide a reservoir for approaching new problems and are amenable to change when they fail to accommodate facts or circumstances. Dewey's attraction to evolutionary theory comes into play here, suggesting that a body of established belief merits presumptive credence to the extent that it possesses survival value due to having contributed to solving past problems. Deciding when previously held beliefs are to be relied on and when rejected is made on pragmatic grounds, and new ideas prove their worth by opening up new areas of investigation and action.

*Individuality.* Pragmatists reject an orientation toward individuals that sees them in Hobbes-like fashion as if they were fully formed (sprung up like mushrooms as Hobbes put it) independently of their social relations with others. An alternative orientation is Mead's sociological perspective, later called "symbolic interactionism," where individuals are portrayed as products of social interactions. However, neither do pragmatists endorse the sort of collectivism that focuses on the good of the group; rather the touchstone of pragmatist ethics is the well-being of individuals. Thus, for Dewey, "voluntary and personal choice and interest" and the development of individuals' potentialities should prevail over "unconscious identification with the group interest, or instinctive and habitual response to group needs" (Dewey, 1932/1985, pp. 68–69).

Dewey designates the value of the individual "individuality" rather than "individualism," reserving the latter term for perspectives in which individual and group interests are thought to be unavoidably at odds. For him, individuals are always situated in what he calls "publics," or groups whose members confront common problems and thus, whatever differing values and goals they possess, at least share the interest of addressing them. In a touchstone work on this topic, *The Public and Its Problems*, Dewey describes publics as any group of people associated in regions, cities, families, and other persisting sites that face common problems the solutions to which call for some form of collective action.

Dewey's primary focus in this book was the national public of the United States and the not inconsiderable problems it faced in 1927 when he wrote it. However, not all publics are national in character, and Dewey was himself a foe of nationalism:

Patriotism, National Honor, National Interests and National Sovereignty are the four foundation stones upon which the structure of the National State is erected. It is no wonder that the windows of such a building are closed to the light of heaven; that its inmates are fear, jealousy, suspicion, and that War issues regularly from its portals. (Dewey, 1927/1984, p. 157).

Nations are one sort of public locus in which individuals are embedded and in which they should cooperate with others. Thus, like all publics, they aim simultaneously at "release of the potentiality of individuals" and "voluntary sharing in a process of mutual give and take" (Dewey, 1932/1985, p. 349).

The themes of engaged problem-solving and embedded individuality come together in Dewey's intimately linked theories of education and democracy (Dewey, 1951/1980). Democracy for him is not just or primarily a matter of voting in formal elections but the "social ideal" of people actively participating together in the several and overlapping public arenas in which they are embedded. Though education, both formally in schools and informally, should provide people with basic knowledge and job skills, its

overriding function is to provide a venue for people discovering and developing their individual talents, for encouraging independent, critical thought, and for nurturing and providing practice in cooperative problem-solving.

*Religion.* It is doubtful that pragmatism is committed to any one view of religion. But James and Dewey devoted concerted attention to this subject, which clearly has a bearing on the theme of the quality of life. Each sees a positive role for religion, though neither unequivocally asserts that religion is necessary for a satisfying life, and in any case their conceptions of religion differ from traditional ones.

In his widely read *The Varieties of Religious Experience*, James comes the closest to assimilating objective truth to human usefulness and as seeing religion as essential for a satisfying life. His announcement there that “God is real since he produces real effects” (James, 1902/1958, p. 389) is based on his view that religious belief importantly contributes to human confidence and ► **happiness**. Confronted by the inevitable “sacrifices and surrenders” imposed by the universe, religion

makes easy and felicitous what in any case is necessary, and if it be the only agency that can accomplish this result, its vital importance as a human faculty stands vindicated beyond dispute. It becomes an essential organ of our life, performing a function which no other portion of our nature can so successfully fulfill. James, 1902/1958, p. 56)

James’ lectures 5 years later, *Pragmatism*, are in tension with this view. There he endorses a “meliorist” concept of religion, which optimistically focuses on possibilities rather than fated disappointments and where God is seen “as but one helper, *primus inter pares*, in the midst of all the shapers of the great world’s fate” (James, 1907/1955, p. 131).

Two features of James’ approach to religion differentiate it from traditional theology: his attention to religious belief independently of any established religion or body of dogma and his dismissal of the attribution of metaphysical characteristics, such as necessary existence or immateriality, to a supreme being for being void of practical significance. These two features are

shared by Dewey in an essay on this topic, “A Common Faith.” Like James’ more optimistic orientation toward religion, he focuses on the collective efforts of humans to improve the world. One challenge to this effort is that there is no guarantee that it will not be thwarted by natural forces. The “common faith” that in part sustains ambitious projects, then, is that there is a harmony between nature and human goals. This yields a pantheist-like conception: “it is this active relation between ideal and actual to which I would give the name ‘God’” (Dewey, 1934/1986, p. 34).

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## Praxis

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## Synonyms

[Development studies website](#); [Economic development website](#)

## Definition

*Praxis: Resources for Social and Economic Development* is the home page of Professor Richard J. Estes of the University of Pennsylvania School of Social Policy & Practice (<http://www.sp2.upenn.edu/restes/praxis.html>). Created in March 1995, the purpose of *Praxis* is “to promote positive [social change](#) through informed action” in the fields of *national* and *international development*. In pursuit of this goal, *Praxis* was designed to meet the informational needs of two audiences: (1) *social work* and *social policy* educators and policy-focused students with international interests and (2) other

educators and students who require assistance in locating useful national and international resources on social and economic development. Since its creation, *Praxis* has been visited by several million users representing all disciplines and world regions. Very much a work in progress, *Praxis* contains links to the *electronic websites* of more than 10,000 *international organizations*. *Praxis* is continually expanded and updated at regular intervals to reflect the changing informational needs of development specialists.

## Description

As presently designed, *Praxis* is divided into 13 major sections or subdirectories, each of which contains hundreds of links to the electronic websites of major international development assistance organizations. These directories serve as convenient locations for placing websites that contain related information, i.e., in much the same way that chapters of a large reference book conceptually organize and present related materials in discrete chapters.

- Section 1: The Social and Economic Development Reference Room
- Section 2: *Development Assistance Agencies, Organizations, and Policies*
- Section 3: Levels of Social Development Practice
- Section 4: *Development Studies* Home Pages
- Section 5: Sectoral Resources for Social and Economic Development
- Section 6: Resources on *Historically Disadvantaged Population Groups*
- Section 7: Country Resources
- Section 8: Regional Resources
- Section 9: Major Reports of International and Comparative Social Research
- Section 10: *Funding Resources* for Comparative Social Research
- Section 11: Internationalizing Social Work Education
- Section 12: *Careers* in Social and Economic Development
- Section 13: *International Travel*

A fuller introduction to *Praxis*, including structured exercises in how to use the website most effectively, appears in Estes (1998).

## Cross-References

- ▶ [Development](#)
- ▶ [Progress](#)
- ▶ [Social Development](#)
- ▶ [Social Indicators](#)

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## PRC

- ▶ [Hong Kong, Quality of Life](#)

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## Precarious Employment

- ▶ [Casual Employment](#)
- ▶ [Temporary Employment](#)

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## Precarious Work

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## Synonyms

[Insecure work](#)

## Definition

Precarious work means employment that involves instability, lack of labor protection, insecurity, and social and/or economic vulnerability.

## Description

In a rather old yet still very useful definition, Rodgers (1989) explains precarious work along four dimensions:

- The degree of certainty of continuing employment
- The degree of control over working conditions, wages, and the pace of work
- The degree of labor protection (e.g., against discrimination, unfair dismissal, unacceptable working conditions, social protection)
- The income level

Thus, precarious work is not a synonym for atypical or nonstandard work as often suggested in the literature. Atypical work is not precarious by definition, but most research shows that it tends to be. In many cases, nonstandard work means less ▶ [security](#), less ▶ [training](#), less stability, and lower wages (Booth, Francesconi, & Frank, 2002; Hipple, 2001). Nonstandard forms of work such as marginal work, temporary work, agency work, dependent self-employment, and – in many cases – part-time work exhibit clear features of precariousness as defined above.

## Growth of Precarious Work

Precarious work is not a new phenomenon. However, its growth during the last two decades has put the topic on the political stage and has resulted in intensive research in the social sciences. The definition above makes it clear that it is not possible to quantify precarious work. However, the prevalence of nonstandard forms of work such as marginal work, temporary work, agency work, dependent self-employment, and part-time work has risen in most OECD countries during the last two decades.

Individuals differ in their vulnerability to precarious work (Kalleberg, 2009). For example, in most OECD countries, foreign-born workers

are more likely to be in precarious jobs than their non-foreign-born counterparts. The same is true for women. Women tend to work fewer hours than men due to prevailing family structures, leading to lower earnings, lower pension levels, and higher ► [unemployment](#) rates. Furthermore, education has become increasingly important as a determinant of working career prospects. The wage premium for well-educated workers has risen in many countries, leading to a growing polarization on the labor market and increasing wage inequality (Goldin & Katz, 2008).

### Reasons for the Growth of Precarious Work

The growth of precarious work has been explained with the firms' wish for a more flexible organization which needs to be able to quickly respond to demand fluctuations, simultaneously reducing the cost of labor by avoiding to pay benefits and employment taxes (Muehlberger, 2007; Lautsch, 2002). Other important explanations are the shifting of entrepreneurial risk to the worker (Beck, 2000; Grimshaw & Rubery, 2005; Hacker, 2006; Muehlberger, 2007) and the aim to undergo labor law. Tendencies to liberalize markets and to foster competition have led to an increasing cost pressure which has been partly passed on to the workforce. Consequently, firms have been trying to reduce fixed costs and to transform fixed costs into variable ones. At the same time, a weakening of trade unions can be observed. Many trade unions in OECD countries have been slow in reacting to precarious work and have continued to focus mainly on the "standard" workforce (Pernicka & Mühlberger, 2009).

The theory of segmented labor markets argues that the workforce has increasingly been divided into a core with permanent contracts and firm-internal career development prospects and a secondary, more "flexible" component that is provided with less employment stability, worse working conditions, and lower wages (Rubery & Wilkinson, 1994). The actual increase in labor market segmentation in many countries has been provoked by labor market

policies that left the regulation of existing employment relations largely unchanged while simultaneously allowing – and deregulating – new forms of work.

In Europe, the rise of precarious work has also been explained as a response to strict labor market regulations which – in contrast to the United States – make it more difficult to lay off workers with permanent contracts (De Grip, Hoevenberg, & Willems, 1997). In some European countries, flexible contracts have also been introduced as an instrument to reduce youth unemployment. The expectation was that newly created fixed-term jobs may act as stepping-stones to a permanent job (Booth et al., 2002). Moreover, the increased participation of women in the labor market has created the demand for more flexible work arrangements to better combine work and family responsibilities.

### Social and Labor Market Consequences

For individuals, precarious work has a wide range of social and labor market consequences. Industrial psychologists stress the impact of labor market uncertainty and insecurity on individuals' health and sensation of ► [stress](#) (De Witte, 1999). Moreover, economic uncertainty may also affect fertility decisions of couples. Although empirical research produces mixed results for different welfare state regimes, the literature tends to suggest that difficulties with obtaining a permanent job and thus with attaining a certain level of income security are related to the postponement or even limitation of fertility (Bettio & Villa, 1998 for Italy; Golsch, 2003; Adsera, 2005; De la Rica, & Iza, 2005 for Spain; Bhaumik & Nugent, 2005 for Germany; Ranjan, 1999 for Eastern Europe). However, the support which the welfare state can provide plays a crucial role in this regard (Kohler, Billari, & Ortega, 2002).

Another strand of research looks at the impact of precarious work on social inequality. For example, Giesecke (2009) shows on the basis of the German Socio-Economic Panel that especially weak labor market groups face an increased risk of holding temporary jobs, indicating that temporary jobs have a substantial

impact on the extent and the structure of social inequality.

In many countries, employment is the main link to and precondition for a series of welfare entitlements. Consequently, inequality on the labor market due to unstable and low-paid employment for a specific segment of the workforce is partly reflected by less welfare entitlements. For example, discontinuous working careers, working careers with long periods of part-time and/or low-paid employment, will result in low pension entitlements. However, it is important to note that the social consequences of precarious work strongly depend on the time frame. If precarious work is a short-term “intermezzo” in a working career, the social consequences will not be severe. A working career, however, which is characterized by long periods of unemployment or nonemployment, few working hours, and/or low-paid employment, will have more severe social consequences.

Of course, the severity of the social consequences of precarious work largely depends on the welfare state and the employment regime (i.e., coordinated market economies such as Germany and the Scandinavian countries vs. liberal market economies such as the US and the UK). Countries with a strong welfare state and relatively high unemployment benefits will cushion the effects of labor market instability to some extent. The Danish case illustrates that even with increased flexibility in the labor market the welfare state produces social security by mitigating the negative effects of losing a job (“flexicurity”) (Kalleberg, 2009).

Much research has been carried out on the question of long-term labor market consequences of precarious work. The “stepping-stone hypothesis” deals with the question of labor market consequences of temporary jobs. Empirical tests of the “stepping-stone hypothesis” show mixed results. For the UK, Booth et al. (2002) find that male workers, who have started their careers in temporary jobs, suffer a permanent wage penalty, while female workers fully catch up with those women, who started in permanent work. For the Netherlands, De Graaf-Zijl, Van den Berg, and Heyma (2004) illustrate that temporary jobs serve

as stepping-stones towards regular employment. Results for Spain highlight that the probability of obtaining a permanent contract decreases after having held several atypical contracts (Amuedo-Dorantes, 2000). Similar results have been found for Italy (Gagliarducci, 2005). In Germany and Italy, the negative effects on subsequent careers are also due to the higher risk of unemployment later in the careers of workers who previously worked on the basis of temporary contracts (Scherer, 2004). Barbieri and Scherer (2009) studied the entries into the marginal labor market and the consequences for employment careers in Italy and show strong negative long-term implications of atypical employment for career chances. Similarly, Muehlberger and Pasqua (2009) analyze the situation of “parasubordinate” workers in Italy (i.e., outsourced workers that work only for one company and are strongly integrated into the firm of the contract partner) and conclude that these contracts are not a vehicle to more stable jobs.

## Cross-References

- ▶ [Job Security](#)
- ▶ [Stress](#)
- ▶ [Training](#)
- ▶ [Unemployment](#)
- ▶ [Work Time](#)

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## Precautionary Approach

### ► Precautionary Principle

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## Precautionary Principle

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## Synonyms

PP; Precautionary approach; Vorsorgeprinzip

## Definition

The precautionary principle requires that where there is the potential for serious or irreversible harm to the ► [ecosystem](#) or human ► [health](#), anticipatory measures should be taken to prevent such harm; furthermore, uncertainty as to the likelihood or extent of the harm should not result in the postponement of cost-effective measures to avoid it.

## Description

### Origin

There is a general consensus that the precautionary principle arose in Germany as the *Vorsorgeprinzip* as early as 1970s and was expressly adopted in German law (Cameron & Abouchar, 1991). Interestingly, this occurred at a point in time when many environmental statutes around the world were first being enacted as separate pieces of legislation. Some trace the development of these environmental statutes to the publication in 1962 of Rachel Carson's *Silent Spring* (Richardson & Wood, 2006). The origins of the precautionary principle may have arisen even earlier in pollution prevention laws and conservation movements and in related jurisprudence across many jurisdictions. However, most agree this expression in German law was the first explicit articulation of the principle as we today refer to it.

### Description of the Principle

The precautionary principle is a fundamental overarching principle of environmental law. Its precautionary approach extends in various contexts to energy, health, food, drugs, products, and pesticides, among other things. For example, in Canada it has arisen in a number of judicial inquiries dealing with topics such as contaminated drinking water, the SARS epidemic, and contaminated blood (O'Connor, 2002; Campbell, 2006; Krever, 1997).

There are various formulations of the precautionary principle (Raffensperger & Tickner, 1999). For example, the statements in *Rio* and in the *Bergen Declaration* are two commonly cited examples. Variations are included in the various international treaties, conventions, and declarations, and further variations are included in domestic statutes and policies for a variety of reasons. This entry will not deal with the distinction some have drawn between the "precautionary principle" and the "precautionary approach."

One apt description of the principle stated, "At its core, the principle calls for preventive, anticipatory measures to be taken when an activity raises threats of harm to the environment,

wildlife, or human health, even if some cause-and effect relationships are not fully established" (Smith, 2000).

Eventually one particular formulation may prevail as the dominant articulation of the principle. For some, the statement at *Rio* has already been followed sufficiently often that it is the most authoritative statement of the precautionary principle (Saladin, 2000; Applegate, 2002).

Principle 15 as articulated in the *Rio Declaration on Environment and Development* is as follows:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. (United Nations Conference on Environment & Development [UNCED], 1992)

The formulation of the precautionary principle as set out in *Rio* is relatively limited. As Saladin noted, it does not mandate action; it is a soft law without a binding effect; it applies only when there is "serious or irreversible" harm, and it requires measures to be cost-effective (UNCED, 1992).

By way of comparison, the Supreme Court of Canada cited the *Bergen* formulation of the precautionary principle from the 1990 *Bergen Ministerial Declaration on Sustainable Development* in a judgment in which that court noted that the precautionary principle may already be a principle of customary international law (Supreme Court of Canada, 2001). The *Bergen* formulation is as follows:

In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. (United Nations Economic Commission for Europe [UNECE], 1990)

The *Bergen* formulation is somewhat stronger than the *Rio* formulation since it requires anticipation and prevention and attack of the causes of

harm. It also lacks the caveat of “cost-effective” measures. It does include the triggers discussed below, i.e., that there be threats of “serious or irreversible damage” and that there be lack of full scientific certainty. Both *Rio* and *Bergen* speak of not using the lack of “full scientific certainty” as a reason to postpone measures to prevent “environmental degradation.”

Another even stronger formulation of the precautionary principle is contained in the 1992 Convention for the Protection of the Marine Environment of the North-East Atlantic in that it was a binding treaty which provided for legal obligations, mandated actions, when there are “reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea” even in the absence of conclusive evidence of causal relationships. This version also does not include any limitation in terms of cost-effectiveness in choice of measure.

In the Wingspread conference in Racine, Wisconsin, in 1998, an international conference of persons advocating and writing about the precautionary principle gathered and set out a more complete articulation of the precautionary principle, including the essential elements for a “broader, overarching approach to precaution that is a robust basis for its specific implementation: prompt action even in the face of scientific uncertainty, burden of proof and persuasion on proponents of potentially hazardous technologies, assessment of alternatives, and transparency” (Raffensperger, Schettler, & Myers, 2000). The Wingspread formulation of the principle is as follows:

When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.

Unlike the *Rio* and *Bergen* formulations, the Wingspread version does not explicitly limit the type of harm to human health or the environment to “serious or irreversible.” No doubt some method of ensuring that the precautionary principle does not apply in trivial cases is nevertheless intended by the Wingspread formulation. The application of the precautionary principle to potentially irreversible harm is arguably one of its strengths as it provides an incontestable basis for strong action (Feintuck, 2005).

The most common elements of the various formulations of the precautionary principle have been much discussed in the literature and some of these will be reviewed here, including the “triggers” for the application of the precautionary principle, the measures to be taken, and the implications resulting from the application of the precautionary principle in the way that decisions are made.

(a) Type of Harm and Uncertainty (“Triggers”)

The precautionary principle applies when there is the potential for serious harm to the environment or human health and uncertainty as to the extent of the harm or the causes of the harm. These two components have been referred to as “triggers for the application of the Precautionary Principle” (J.S. Applegate, 2002). In the Straddling Stocks Agreement an aspect of the “triggers” was concisely described as follows:

States shall be more cautious when information is uncertain, unreliable, or inadequate. (UN Straddling Stocks Agreement, 1995)

As the formulations of the precautionary principle such as *Rio* have often tied the application of the precautionary principle to potential for “serious” or “irreversible” harm, there has been much discussion of the terms “serious” and “irreversible.” Sometimes those who oppose the application of the principle argue that it purports to require a precautionary approach for every threat no matter how remote, uncertain, or de minimis. However, that is not what the precautionary principle does require. Rather, in the *Rio* and even *Bergen* statements, the precautionary principle is applicable to threat of “serious and irreversible” harm. There must therefore be

a basis on which to conclude that the threat in question is “serious and irreversible,” or, in the words of COMEST, “unacceptable.” Marr reviewed the *Southern Bluefin Tuna* cases of 1999 adjudicated by the International Tribunal for the Law of the Sea and noted that in that context, at least a “severely depleted stock” and “historically low levels” were sufficient to trigger the need to act with “prudence and caution” (Marr, 2000).

It has been suggested that a harm that is theoretically reversible, but extremely costly to reverse, should also be considered within the ambit of the precautionary principle. Similarly, the issue of equity in terms of distribution of the costs and the benefits of the activity in question is relevant to the question of whether the precautionary principle should be triggered – if there will be an inequity in terms of who bears the costs or suffers the damage, the principle may be applicable (Ashford, 1999).

A court decision in New South Wales noted that it is not necessary that serious or irreversible harm has already occurred – it is the threat of such harm which is the issue – and that the threats may be direct and indirect, secondary and long term, or incremental and cumulative from multiple or repeated actions (Telstra, 2006).

There have been extensive debates about whether the precautionary principle is “unscientific” (Geistfeld, 2001). However, most agree that it is relevant in terms of bringing science and policy together for effective decision making on difficult subjects, where much is at stake (Santillo et al., 1999). As stated by Santillo et al. in a 1998 paper,

The principle should be viewed not as a substitute for a scientific approach but rather as an overarching principle to guide decision making in the absence of analytical or predictive certainty.... The role of scientific research in the early detection of threats to human health and the environment was explicitly recognized in the core definition of the principle even at its earliest conception. . . In light of this, it is likely that the importance of primary scientific research will increase, rather than decrease, under precautionary legislation. This intent seems to have been extraordinarily difficult for some scientists active at the science/policy interface to grasp. (Santillo et al., 1998)

Since there must be a basis on which to conclude that a threat of harm is serious and perhaps irreversible, the precautionary principle is truly science based. The more good science we have, the better our precautionary decision making can be. In other words, as more evidence is compiled, we might conclude that the harm in question either is not serious or irreversible or can be prevented through appropriate actions. Or we may conclude that there is less uncertainty or doubt about the potential harm that may be caused or alternatively that we cannot reasonably reduce the uncertainty and precaution must be maintained. (Once we have a great deal of certainty, we no longer need to apply the precautionary principle per se; our other decision-making criteria are relevant to determine what course of action is indicated).

There has been an extensive debate about whether the precautionary principle is contrary to risk assessment, or a consideration “within” risk assessment approaches, or rather an overarching principle under which various techniques of science including risk assessment may be applicable (Benevides & McClenaghan, 2002; Government of Canada, 2001). The most persuasive analysis demonstrates that when triggered by threat of serious and irreversible harm with related uncertainty as to the extent of the harm or the cause and effect pathways, the precautionary principle is an overarching principle (Raffensperger et al., 2000). It is important to appreciate the limitations of risk assessment. The apparent “certainty” resulting from the expression of risk assessment’s analytical results in quantitative terms is often illusory (World Commission on the Ethics of Scientific Knowledge & Technology [COMEST], 2005). On the other hand, the problems to which the precautionary principle is applicable set a significant research agenda for sciences and social sciences and the pursuit of further knowledge will assist tremendously in better decision making over time. Analysts of the precautionary principle agree that it requires the application of a diverse, multidisciplinary approach drawing on the expertise of a range of types of knowledge.

The “uncertainty” meant by the precautionary principle means uncertainty about the extent of the harm, as well as about causation. “Uncertainty” as one of the triggers for the precautionary principle means more than speculation.

For example, in medical drug approvals, such as under Canada’s *Food and Drug Act*, the precautionary principle indicates that approval for widespread use of a new medication should not be given if there are reasons to think its effects are serious and irreversible, but we are uncertain as to the extent or causal pathways even if there are indications that it may have benefits. If and when there is greater certainty, the normal decision-making process as to whether and in what the circumstances in which to allow its use may proceed. A similar approach to approval of pesticides now takes place in Canada which amended its *Pest Control Products Act* a decade ago and explicitly included aspects of the precautionary principle (although much remains to be done to make that sector more precautionary as well).

#### (b) Choice of Measures

In some formulations of the precautionary principle such as *Rio*, the provision for “cost-effective” measures has sometimes been understood to amount to a significant constraint on the application of the precautionary principle. On the contrary, this phrase is better understood as an appropriate balancing factor in terms of the choice of measures to respond to serious threats. However, the inclusion of this phrase does not imply that failure to take action is countenanced in cases where the precautionary principle is applicable. Another way of framing this concern is to understand that the chosen response to a threat which triggers the application of the precautionary principle should be “proportional.” Proportionality has sometimes been described as a principle in its own right, for example, as an explicit component of German environmental law. In either case, it is important to note that a “cost-effective” or “proportionality” requirement is not a test as to whether a response is needed. Rather it is a test to help decision makers determine which of the various options is the most appropriate response to the threat

(Geistfeld, 2001; Tollefson & Thornback, 2007). An example of a treaty which made this more clear was the 1992 UN *Framework Convention on Climate Change* (also negotiated at the Earth Summit at Rio), in which it states, after language similar to *Rio*’s Principle 15,

taking into account that such policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors.

Similarly, the EU requires that “any measures based on the precautionary principle should not be disproportionate to the desired level of protection” (Lyons, Ahrens, & Salter-Green, 2000).

As can be discerned from the *Climate Change Convention*, the fact that measures might be costly is not a reason not to act. Rather, the harm is to be dealt with in a way that maximizes global benefits at the lowest possible cost. This may not be at a low cost per se but rather at a lower cost than allowing the harm to occur.

Much discussion has also concerned the application of cost-benefit analysis in the application of the precautionary principle. It is important not to confuse the question of “cost-effective” choice of measures when the precautionary principle is triggered with “cost-benefit analysis” as it has developed in risk management paradigms generally. As already noted, cost-effectiveness is an indication that responsive measures be proportional to the threat which is subject to precaution. Cost-benefit analysis, on the other hand, is strongly critiqued by proponents of the precautionary principle and is seen as an alternative paradigm in terms of how governments protect citizens from threats. Reasons for the critique include the devaluation of future threats, the lack of sufficient information to accurately “quantify” costs, the systematic exclusion of many types of benefits from the calculation, and the problems associated with trying to “monetize” values. Further problems with “cost-benefit” analysis include its assumption that

people are “willing to pay” to avoid risks, but this assumption is not applicable to future generations, those who cannot pay, those who have no say in the assumption of risk, or those who are particularly vulnerable. A further critique is that there are some types of problems to which “cost-benefit” analysis is ethically inappropriate such as “actions that would violate socially agreed upon moral rules” such as violation of ► [human rights](#) or discrimination. In addition, like the illusory idea that the quantitative numbers produced by risk assessment are “accurate,” cost-benefit calculations suffer the same misunderstanding simply because they produce specific numbers as “costs” and “benefits” at the end of their process (Mandel & Gathii, 2006).

Some have expressed concern that application of the precautionary principle unduly stifles innovation and scientific advancement and denies society the benefits of new technologies which might be more beneficial to society overall. Arguments are made that resources are diverted from pressing problems when the precautionary principle is applied (Adler, 2000). However, it should be noted that once triggered as an overarching principle, the precautionary principle should require consideration of the risks and benefits of a variety of options, including the “do-nothing” option. The arguments as to the benefits of new technologies should thus be considered in the context of how best to respond to a pressing serious and irreversible threat about which there is a great deal of uncertainty. In considering a variety of responses, the precautionary principle fosters innovation (Fisher, 2001; European Environment Agency, 2013).

An example of an agreement which included precautionary principles but made them provisional and obligated states to seek additional information to reduce uncertainty and conduct a “more objective assessment of risk” was the WTO’s Sanitary and Phytosanitary Measures Agreement reached in 1994. Saladin discussed the impact of this agreement on subsequent discussions of the precautionary principle and noted that it is an example of countries’ reluctance to see the precautionary principle result in conflicts

with trade rules to which they are also obligated (Saladin, 2000).

(c) Implications for Decision Making from Application of the Precautionary Principle

Several commenters have set out common tests or aspects of application of the precautionary principle and have discussed how decision-making processes may be more or less precautionary according to the presence or absence of these elements. Five of these commonly considered aspects are considered below.

- (i) *Burden of proof*—One aspect of application of the precautionary principle that is often mentioned is the question of the burden of proof. Placing the burden of proof of safety or lack of harm on the person or entity who wishes to take an action which may cause harm is one way to make decisions more precautionary (Cranor, 1999). This is closely related to the “polluter pays” principle as well. The argument is that those who will economically benefit from the action must have the onus to prove that it will not cause harm. The corollary is that the costs and burden of proving harm or threat of harm should not be on the public by way of the government or regulatory structures nor on those who are actually in the path of potential harm or concerned about impacts on the ecosystem. In this approach, while the burden of proof is on the economic actor wishing to take action, the regulatory systems should act as check, balance, auditor, and enforcer of the system. There are additional considerations as to when the burden of proof shifts, as to what aspects of the problem the burden is shifted, and as to what level of proof. For example, there may be a low burden of proof on those concerned about the risks of an activity to raise the issue of threat of harm at which point the burden may shift to the proponent of the activity. There are differing standards of proof on the proponent at that point, such as to show the activity is safe on a “balance of probabilities” or “beyond a reasonable doubt.” The choice of burden of proof may in part have to do with the seriousness of the potential harm. A Royal Society of Canada

Expert Panel on the Future of Food Biotechnology stated that “there is no need to interpret the principle as requiring ‘proof of no risk.’” Instead, a proponent should have the “burden of establishing that at least the weight of evidence does not support a *prima facie* case of serious risk.” They also said that in terms of the standard of evidence, “a more precautionary approach would [demand] that the more serious the magnitude and nature of the potential harm... the less demanding should be the level of confidence (the wider the margin for error) in the assumption of risk” (Royal Society of Canada, 2001).

- (ii) *Public participation* – Public participation is an essential aspect of true precautionary decision making. Actions which have the potential to cause serious or irreversible harm to persons or to the environment are not a private matter between the proponent and the government. Accordingly, a suite of measures providing for access to information, prior consultation, participation in decision making, consent, and transparency of decision making are essential for decision making to accord with the precautionary principle (Kriebel et al., 2001).
- (iii) *Examination of alternatives* – When considering application of the precautionary principle, an examination of alternatives and alternative responses is necessitated by the combination of a serious threat and uncertainty as to its cause or scope (Gardiner, 2006). Furthermore, alternatives are to be explored within a broader context than simply the risks of one activity. Tickner & Hoppin put it this way:

A focus on alternatives may also allow decision makers to partially bypass contentious debates over proof of harm and causality, instead dedicating scarce resources to solutions. It allows precaution to be used as a means of saying “yes” to innovative, cleaner technologies, countering critiques that the principle is used only to stop technologies. (Tickner & Hoppin, 2000)

- (iv) *Inter-generational equity and intra-generational equity* – The precautionary principle reflects a concern as to equity

with respect to the impact of actions taken today on future generations. Accordingly, consistency with broader principles of sustainable development is one of the guidelines in determining how to apply the precautionary principle in a particular instance and in choosing among measures in order to respond to a serious threat. This is the case with respect to topics of children’s environmental health, climate change, fish stocks, resource depletion, and other issues in environmental law. Similarly, intra-generational equity is another consideration that may indicate decisions must be made in a more precautionary way. For example, if risks or costs are to be imposed on persons other than those benefiting from a proposal, some have argued that there should be “greater risk reduction.” A good example of a failure to take a precautionary approach and the resulting imposition of inequitable harm was reviewed in *Late Lessons from Early Warnings*, a project of the European Environment Agency, in the chapter reviewing the history of asbestos use since 1900. In one country alone, Holland, it was estimated that action taken in the 1960s by which time evidence of harm was “widely accepted” would have saved the country 34,000 victims and 41 billion guilders in building and compensation costs (European Environment Agency, 2001). One implication of a requirement for inter-generational equity is that traditional “cost-benefit” analysis which “discounts” future harm may not be an appropriate method of considering the cost-effectiveness or choice of measures to respond to the threat. Similarly with respect to a requirement for intra-generational equity, a compensation after the fact is seen as an inequitable approach compared to a precautionary approach in which harm would have been avoided. Threat of imposition of undue burden on harm on vulnerable or low-income communities is one reason that the precautionary principle applies to situations of intra-generational equity (Feintuck, 2005).

(v) *Ongoing monitoring, investigation, and information dissemination* – The need for ongoing monitoring and investigation and to make this information broadly known is implied by the reference to uncertainty in most forms of the precautionary principle. For example, such requirements were included in the Stockholm Convention on Persistent Organic Pollutants (Stockholm Convention, 2001). Without ongoing monitoring and dissemination of information, questions of uncertainty will not be reduced. Furthermore, it may be necessary to modify the measures or responses that were chosen to respond to the threat in light of later information (Manson, 2002). Environmental statutes that contain the precautionary principle generally include positive monitoring and reporting/information dissemination obligations. For example, in Canada these include the *Pest Control Products Act*, the newly enacted *Canada Consumer Product Safety Act*, and the reporting requirements of the *Canadian Environmental Protection Act*, among others.

### Application in International and National Law

Much discussion in the literature concerns the question of whether the precautionary principle is a principle of customary international law. The precautionary principle has now been included in so many international treaties, conventions, and declarations relating to the environment, either in the preamble or in the body of the instruments, such that it may now be a principle of customary international law. The European Union has stated that it is of the view that the precautionary principle is “a full-fledged and general principle of international law.” Canada’s Supreme Court has offered the view that the precautionary principle may “already be a principle of customary international law” (as of its opinion in 2001) (Supreme Court of Canada, 2001).

There has also been discussion that the principle’s inclusion in a broad array of domestic statutes and policies has rendered it a principle of common law as well in some of the English law traditions (Harding & Fisher, 1999). National

domestic courts in Australia (*Hinchinbrook*), British Columbia (*Western Wilderness Committee*), and Ontario (*Fletcher*) have often concluded either that they did not need to rule on whether the precautionary principle was applicable as the case before them turned on other grounds or that in any event the decision maker had made a precautionary decision (British Columbia Court of Appeal et al., 2003); British Columbia Supreme Court et al., 2003); Fed Ct. Austr., 1997); Ontario Court of Appeal, 2004). However, some cases, for example, in India (*Nayuda*), Pakistan (*Zia*), and British Columbia (*Wier*) have expressly sent decisions back to decision makers on the basis that the decision had not been made in compliance with the precautionary principle.

Commentators trace distinct approaches to the precautionary principle that have evolved in varying legal traditions and economies over the last decades. These differences are still playing out, in part through trade disputes, and are relevant to ongoing utilization of the principle today. Expression of the precautionary principle in international law informs national decision making. Likewise, national application of the precautionary principle will be relevant to future development of the precautionary principle in international law (Tollefson & Thornback, 2007). It is helpful in understanding the debates in international fora, as well as the discourse in the literature, to appreciate that there have been somewhat distinct approaches from nation to nation which have influenced how the precautionary principle has been supported or resisted and how it has been developed and applied to date in particular contexts. This background is also helpful for future work on developing and applying the precautionary principle in international and national contexts. For example, an appreciation of the tension between trade objectives and objectives favoring national sovereignty over strong health and environmental protection can assist in framing more clear statements of the intended application of the precautionary principle and in providing guidance as to how to resolve that tension in particular instances (Gardiner, 2006).

(a) United States

Cameron and Abouchar noted that the United States opposed the precautionary principle at the Bergen and Second World Climate Conferences. Saladin made the same observation in respect of the US position in the persistent organic pollutants (POPs) negotiations in which it was opposed to inclusion of the precautionary principle in operative portions of the agreement. Commenters have noticed that US officials and scholars often argue for an approach that restricts the definition and application of the precautionary principle since much of their economic and science community prefers a risk assessment approach. These commenters often feel that the precautionary principle is antithetical to a science-based approach. However, one of the leading commenters on the precautionary principle, Joel Tickner, an American academic and advocate, reminds us that the precautionary principle is based on good science and, in its best application, requires strong science to determine where priority attention is needed for the application of the precautionary principle. Saladin notes that the basic conflict between the United States and the European Union over content and status of the precautionary principle is essentially within the “larger context of what is essentially a trade dispute” between them. She noted that there is in general a desire for unfettered trade in official American positions and in general a desire for strong control over environmental and health laws and protection of citizens in official European positions. While there are those within each country advocating in either direction, this context is helpful to understand some of the differences in positions between the countries on the topic of the inclusion of the precautionary principle in international or domestic instruments and processes and on the issues of its specific formulation in each context. Despite frequent commentary to the effect that the United States is on the whole resistant to the application of the precautionary principle, Applegate notes that minimizing environmental harm especially by taking anticipatory regulatory action to avoid or mitigate it is a core value of both the precautionary principle and US

environmental law. He argues that the precautionary principle must be able to justify regulatory action in the face of uncertainty, contrary to those US court decisions which have required very high levels of certainty of harm before allowing the validity of regulatory action.

(b) Europe

In Germany, the precautionary principle has been described as one of five fundamental approaches to environmental regulation which operate together – while one is the precautionary principle, and another is pollution prevention, for example, a “balancing” principle is “proportionality.” Arguments have been made that the approach in Germany has explicitly allowed Germany to aggressively pursue green technology development and to place it in an economic leadership position worldwide.

The UK strongly supported the precautionary principle at the Bergen conference, and this has continued *inter alia* by way of the climate conferences. In the UK, there was also more resistance to the precautionary principle by some commenters in line with the American approaches and a preference for risk assessment as a distinct and “more scientific” approach. This has shifted with the UK’s participation in the EU and its compliance with EU environmental directives. However, there is still a strong current of resistance to the precautionary principle in certain UK economic sectors and the scientists supporting those sectors (Jordan & O’Riordan, 1999).

Sweden, the Netherlands, Denmark, and Norway have strongly supported the precautionary principle from the Bergen conference forward. For example, Sweden has implemented rules shifting the burden of proof to those proposing the activity and has set the standard of proof at “beyond a reasonable doubt.” Sweden also mandates reduction of hazardous substances and requires search for and utilization of lower risk alternatives (Cranor, 1999).

The EU as a whole adopted the precautionary principle and has incorporated it into a number of requirements of its members such as the 1993 provisions of article 174(2) of the Treaty Establishing the European Community in which the members are required to base environmental

policy on the principles of the precautionary principle, prevention of environmental damage, rectification at source, and polluter pay. However, Applegate notes that Europe is “institutionally” divided on the precautionary principle in that while the community charter requires its application and many member states are committed to it, the commission is concerned with ensuring the ability to trade freely across Europe’s borders. This sometimes results in resistance to precautionary approaches (Applegate, 2002).

(c) Australia and Kenya

In Australia the precautionary principle has been strongly embraced. The precautionary principle was included in national strategies dealing with endangered species and biological diversity and in general Australian environmental legislation in the early 1990s. Stein, J. wrote in the *Leatch* case in 1993 that “Application of the precautionary principle appears to me to be most apt in a situation of scarcity of scientific knowledge of species population, habitat and impacts” (Land & Environment Court, 1993). The Australian Land and Environment Court in 2005 took the opportunity in *Telstra* to outline the precautionary principle and how to apply it, drawing on a range of sources in respect of the precautionary principle. This case provides a thorough consideration of the triggers for the application of the precautionary principle, issues of burden of proof, choice of measures in response including proportionality, and integration of the precautionary principle with sustainable development. Tollefsen cites a recent High Court of Kenya decision which followed *Leatch* in overturning a regulatory decision on the basis that the precautionary principle was not followed (Tollefsen & Thornback, 2007).

(d) Canada

In Canada, there has been support for the precautionary principle, as well as actions which are out of step with strong application. While it has been included in environmental statutes, such as its *Oceans Act*, Canada, Food and Drugs Act (1985), Canada, Pest Control Products Act (2002) and often supported in Canada’s position on international instruments such as the *Bergen Declaration*, there has also been resistance by

industry and certain scientists. National policy guidance issued in 2002 on the application of the precautionary principle has been criticized as inconsistent in many respects with the intent of the precautionary principle since the guidance explicitly places the principle “within” a risk assessment approach. This characterization of the precautionary principle as “within” risk assessment has been vigorously resisted by ENGOs and some academic commentators. In 2001, Canada’s Supreme Court noted that the precautionary principle may already be a principle of customary international law and that the subsidiary governments including provinces and municipalities also have a duty to comply both with Canada’s express international commitments and with customary international law.

(e) India and Pakistan

In *Nayuda II*, the Supreme Court of India confirmed that the precautionary principle is to be applied in interpreting environmental statutes in India, particularly in the context of a threatened harm to drinking water which is a necessity of life. In the course of the decision, the court noted that the industrial proponent had not satisfied the burden of proof placed on it by way of the application of the precautionary principle. It also held that the decision makers were bound by the precautionary principle not to grant an exemption from the laws protecting the drinking water sources, as doing so in the context of threatening the drinking water supplies with pollution from the applicant industry would be arbitrary, would ignore the precautionary principle, and could be catastrophic (Supreme Court of India, 2001). In a 2005 decision, the High Court of Kerala accepted that after *Apex (Vellore)*, “The Precautionary Principle and the Polluter Pays Principle have been accepted as part of the law of the land.” That same court noted that after *Nayuda*, the law was “widened and emphasized” by way of clarification as to the circumstances in which the burden of proof is “reversed” – that is, “when there is an identifiable risk of serious or irreversible harm, including extinction of species, widespread toxic pollution in major threats to essential ecological process, it may be

appropriate to place the burden of proof on the person or entity proposing the activity that is potentially harmful to the environment.” Accordingly the precautionary principle appears to be a settled principle of law in India. The Kerala Court stated that precautionary principle is a principle of international customary law and applicable in domestic law in India (High Court Kerala, 2005).

In Pakistan, the *Zia* decision held that facing uncertainty as to the safety of high-voltage power lines should result in application of the precautionary principle. In that case, the Supreme Court of Pakistan appointed an expert panel as the appropriate precautionary measure (Supreme Court of Pakistan, 1994).

### The Future of the Precautionary Principle

As a legal principle, the precautionary principle will continue to evolve. As Applegate noted, the idea that a principle of law requires constant interpretation and application to particular sets of circumstances is not novel – that the entire common law system is based on this approach (Applegate, 2002; Gardiner, 2006). This type of evolution has been the experience with the precautionary principle so far. Examples include particular formulations of the principle passed as legislation by various governments or accepted by the international community in environmental, health, energy, waste, agriculture, and food and drug treaty and convention negotiations. In each case, questions of context as to the types of actions or decisions in question, the standard and onus of proof, and the manner in which uncertainty is treated are at the heart of the specific decisions as to how to include the precautionary principle in the particular statute or treaty. The application of the precautionary principle as an overarching principle must be done on a case-by-case basis (Raffensperger et al., 2000).

Despite its widespread adoption in international instruments and declarations, the application of the precautionary principle falls most often to national and subnational governments, regulators, and decision makers as they proceed to bring their laws into line with the commitments made in the various subject areas which have

been covered by the precautionary principle (Cameron & Abouchar, 1996).

In addition, a thorough application of the precautionary principle reveals an extensive research agenda across a large number of disciplines and areas of inquiry. This was verified by Agenda 21 at Rio in 1992 which included a statement that interaction between science and decision making should be improved using the precautionary approach “to change the existing patterns of production and consumption and to gain time for reducing uncertainty with respect to the selection of policy options” (UNCED, 1992).

As the precautionary principle is applied to more and more specific contexts, its core purpose, that of anticipating and preventing harm and leaving room for error, must be reflected. Decision making must be designed or modified in order to avoid learning catastrophic lessons after harm has occurred. Future efforts in specific application of the precautionary principle should return to these core purposes to ensure that in areas where the precautionary principle applies, a decision-making paradigm that includes harm avoidance, early learning, and robust information feedback is utilized to stave off “serious” or “irreversible” harm to the environment or human health.

There are many proponents of the precautionary principle who argue that its most hopeful future lies in its “moderate” versions such as the version contained in *Rio* Principle 15 (Mandel & Gathii, 2006; Feintuck, 2005). This will continue to be a live debate internationally and in national application of the principle in various contexts. For every new application of the precautionary principle, those involved in framing the convention, treaty, declaration, statute, or policy will have to consider how “strong” or “moderate” or “weak” a version of the precautionary principle to use. The various factors reviewed in this article will be elements to be determined in each case, as to include them in a meaningful form. For example, how serious or irreversible the harm and what types of uncertainty will “trigger” the precautionary principle in that context, how should decision makers choose measures in response to identified threats, and whether there is a “proportionality”

requirement in respect of the seriousness of the threat and/or the “chosen level of protection” are among the issues to consider. In each case there are also issues of how to operationalize issues of burden of proof, how to ensure broad public participation in the decisions to be made, how to ensure transparency and consultation, what requirements to provide for examination of alternatives, what requirements to provide for ongoing monitoring and dissemination of information, and how to ensure inter-generational equity and intra-generational equity so as to make decisions truly precautionary.

## Cross-References

- ▶ [Agenda 21](#)
- ▶ [Brundtland Commission \(World Commission on Environment and Development\)](#)
- ▶ [Ecological Momentary Assessment](#)
- ▶ [Environmental Impact Assessment](#)
- ▶ [Environmental Sustainability](#)
- ▶ [Equity Theory](#)
- ▶ [Health Inequities](#)
- ▶ [History of the Convention on Biological Diversity](#)
- ▶ [Precautionary Principle in the USA and UK](#)
- ▶ [Sustainability](#)

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## Precautionary Principle in the USA and UK

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### Definition

The precautionary principle is a widely used approach in risk management as applied to potentially dangerous impacts of human activity

on the environment or human health. Principle 15 of the Rio Declaration on Environment and Development described the precautionary principle as follows: “In order to protect the environment, the precautionary approach shall be widely applied by States according to their ► **capabilities**. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” While multiple definitions of the precautionary principle exist, their practical understanding is that the lack of complete scientific data on negative consequences should not be judged in favor of acceptance of new technologies, policies, or similar; rather, the burden of proving the lack of harm is on those proposing these actions. The precautionary principle has been widely adopted in many industrialized nations.

### Description

#### Precautionary Principle

The conception of a precautionary principle emerges within the process of risk analysis. Formally, “risk analysis is usually subdivided into the three elements of risk assessment, risk management and risk communication. While risk assessment is the domain of science, risk management, which also incorporates non-scientific elements in its considerations, is to be seen as a political process. Whenever risk management comes up against scientific uncertainty, the precautionary principle can take effect so that the appropriate measures can be adopted to achieve the socially accepted level of protection. . .” (Interdepartmental Working Group on the Precautionary Principle, 2003). The communication from the Commission of the European Communities on the precautionary principle (2000) provides details on when the selection of the precautionary principle in risk management is appropriate: “Whether or not to invoke the Precautionary Principle is a decision exercised where scientific information is insufficient, inconclusive, or uncertain and where there

are indications that the possible effects on the environment, or human, animal or plant health may be potentially dangerous and inconsistent with the chosen level of protection.”

Even though many authors date the precautionary principle as far back as the Hippocratic Oath “abstain from doing harm,” it was the emerging understanding of the limitations of traditional risk management practices to stop irreversible degradation of the environment that brought the precautionary principle into attention (Harding & Fisher, 1999). The success of early environmental regulations in the 1970s initially aided in the cleanup of air and water pollution, but when the widespread implementation of quantitative risk assessment utilizing cost-benefit analysis (CBA) enabled “acceptable limits” of pollution to be established and inaction to be justified (Ashford, 2007; Tickner et al., 1999), it has become clear that modern environmental problems require a more proactive response. The major drivers of this change were the understandings that (1) the complexity of the natural processes leads to uncertainty in the effects of damage preventing measures and (2) these damages could be irreversible (Perrez, 2003). The precautionary principle allowed a more flexible approach to risk management by exercising restraints when scientific uncertainties are present.

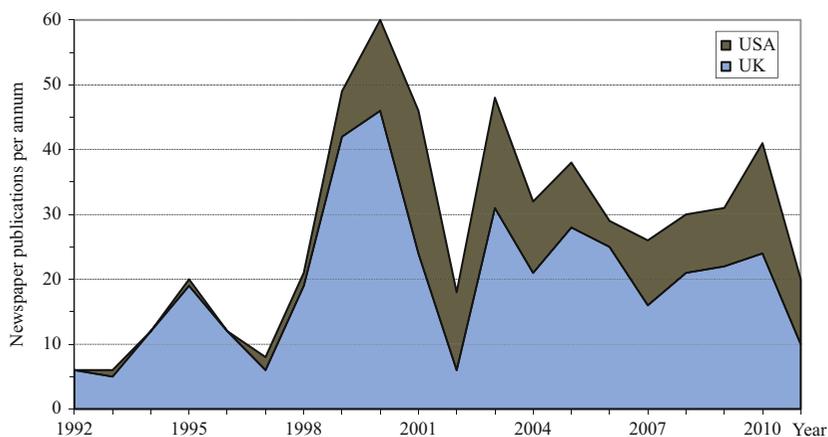
The contemporary application of the precautionary principle is frequently cited in connection with German and Swiss environmental pollution and public health legislation introduced in the 1970s (Beder, 2006) and, internationally, in the 1982 UN World Charter for Nature (Commission of the European Communities, 2000). Today, over a dozen formulations of the precautionary principle are known (Foster, Vecchia, & Repacholi, 2000). However, the relevance of the principle is perhaps best known from Rio Declaration on Environment and Development, accepted at the 1992 UN Conference on Environment and Development: “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

Modern regulations “seek to prevent further harm by considering the environmental impacts of human activities in advance, evaluating risks and preventing activities known to be harmful” (Beder, 2006). A European shift in perspective about risks – from reactive to proactive – has led to the adoption of the precautionary principle as a guide for policy development (Treaty of Maastricht, 1991). In the USA, however, environmental policy development predominantly relies on economic CBA (Driesen, 2004), while the implementation of the precautionary principle approach is strongly opposed (LaFranchi, 2005; Sunstein, 2005). The contrasts between these two approaches are evident in the different attitudes toward, and policies addressing, climate change, genetically modified organisms, and other environmental issues in the USA versus the UK.

### **Precautionary Principle in Public Discourse in the USA and UK**

The emergence of the precautionary principle in public discourse can be argued to coincide with its statement in the 1992 UN Conference on Environment and Development. During the 1980s and 1990s, people in nations around the world were loudly voicing their distrust of modern society’s techno-economic progress due to its consequential hazards, including nuclear power plant accidents, chemical pollution, global climate change, and uncertainties associated with genetically modified organisms (Beck, 1992). As the media coverage of industry polluting waterways or burying toxic waste became more prevalent, those who were exposed, or who feared being exposed, became voices for policy change. Due to their growing distrust of industry, technical risk experts, and their disillusionment with government agency responses, advocates turned to discussions of the precautionary principle as a strategy for developing stronger environmental protection policies, especially in relation to ► [public health](#).

The UK has strongly supported the precautionary principle (Cameron & Abouchar, 1991). In the USA, however, there has been strong opposition to the principle (Raffensperger & Tickner, 1999) and arguments that it impedes



**Precautionary Principle in the USA and UK, Fig. 1** Number of newspaper articles containing the phrase “precautionary principle,” published in the USA and UK. For methodology see Kirilenko et al., 2012

free trade between nations (Saladin, 2000). Majone (2002) argues that the stronger support for the precautionary principle in Europe may be a product of “American’s trust[ing] their risk regulators while European’s do not (p. 107)” due to regulatory failures in protecting human health, such as the scare over “mad cow disease” in the UK. In addition, the US regulatory system relies on a scientific risk assessment process that places the burden of proving harm on government agencies, which reduces the number of products and hazards that are ultimately regulated.

The political influence of public discussion on the boundaries of applicability of the precautionary principle is shaped through newspapers and other mass communication coverage. In this respect, a computer-assisted content analysis of publications in the most influential newspapers demonstrates a profound difference in public discourse in the US and UK press (Kirilenko, Stepchenkova, Romsdahl, & Mattis, 2012). This difference may relate to the potential for acceptance of the precautionary principle as public policy.

Kirilenko et al. (2012) used ► [exploratory factor analysis](#) to study word co-occurrence in 1992–2009 US and UK newspaper articles containing search phrase “precautionary principle.” The UK press mentions the precautionary principle in the early 1990s (Fig. 1), following the 1992 signing of the UN Rio Declaration and the

EU Maastricht Treaty. In the US-based press, by contrast, the precautionary principle discussion is almost absent until 1999, following events such as the signing of the Wingspread Statement on the Precautionary Principle (1998) and the opposition mounted by US public relations industry campaigns, which sought to discredit the precautionary principle (e.g., by Mongoven, Biscoe, and Duchin Inc. acting on behalf of chemical industry) by hosting conferences against it and attacking it in the media (Rampton & Stauber, 2001). In terms of positive and negative media treatment, there seems to be a statistically significant difference between the US and UK coverage with a greater number of the UK publications advocating for and a greater number of the US publications against implementation of the precautionary principle (Kirilenko et al., 2012). Together, the precautionary principle is perceived, and portrayed, with a negative treatment from US economic interests. For example, in relation to climate change, a reverse precautionary principle is often applied to argue a precautionary approach toward establishing any mitigation regulations that might be expensive to implement, even at risk of negative impacts on the ► [public good](#) overall; the idea of negative economic impacts is emphasized to be worse, while scientific uncertainty is touted as too risky for action. In contrast, in the UK, the “climate change” factor highlights

a precautionary emphasis on necessary planning for mitigation and adaptation.

Similarly, in regard to the GM food and agriculture, the USA and UK demonstrate significant differences in how the precautionary principle is being discussed. The USA views the precautionary principle, in regard to GMOs, as a general hindrance to its ability to conduct global trade in agriculture products. GMOs are widespread in the US market, whether or not this is well known to the American consumer. US agribusiness and politicians have embraced GMOs as a technological advance that is good for the US economy and can be promoted as good for global food supplies. A precautionary approach to adopting GMOs was not taken in the USA; this technological adoption has followed the common path of CBA and any potential negative impacts will have to be proven after the fact. In contrast, the UK is taking a more precautionary approach. On the basis of potential risks to human health and the environment, UK consumers and advocacy groups have taken a strong stand against GMOs by supporting bans against the import of most US products containing GMOs. The UK discussion is utilizing the principle to argue for additional regulation against GMOs in order to protect farmers' rights, human health, and the environment. In comparison, the US newspaper publications are centered on a discussion of unnecessary precaution, in terms of how research and experience has not shown negative impacts from GMOs and how the principle leads to difficult negotiations for world trade treaties.

## Criticism

The precautionary principle offers an alternative to what some decry as inadequate and outdated methods of environmental risk assessment (Ackerman, 2008; Myers & Raffensperger, 2006). On the other hand, the precautionary principle is frequently criticized for its vagueness and extreme variability in interpretations. When applied to international law, some may consider the precautionary principle an excuse for trade protectionism, e.g., Kogan (2003), and in relation to technical progress, the precautionary

principle may be used to prohibit any innovation when consequences are not fully certain, e.g., the unsuccessful "End of the World" lawsuit to stop operation of the Large Hadron Collider or the ► [Convention on Biological Diversity](#) parties' decision to stop the large-scale "ocean fertilization" experiments (Whiteside, 2006).

## Cross-References

- [Capabilities](#)
- [Cost-Benefit Analysis](#)
- [Exploratory Factor Analysis](#)
- [History of the Convention on Biological Diversity](#)
- [Public Good](#)
- [Public Health](#)

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## Predictive Validity

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### Definition

Predictive validity is one approach of ► **criterion validity** that predicts individual performance on some measure scores administered at a later date.

### Description

Predictive validity and ► **concurrent validity** are two approaches of ► **criterion validity**. ► **Criterion validity** describes how a test effectively estimates an examinee’s performance on some outcome measure(s). The outcome measure, called a criterion, is the main variable of interest in the analysis. The test scores are truly useful if they can provide a basis for precise prediction of some criteria. Predictive validity is similar to ► **concurrent validity**, as both of them are commonly interpreted as correlations between a test and the relevant criteria (McIntire and Miller 2005). ► **Concurrent validity** and predictive validity are only different in the time that the two tests are measured.

In predictive validity, the scores on a scale applied earlier are meant to predict scores on some later measure (Cronbach and Meehl 1955). For instance, driving performance can be predicted from a driving exam, aviation performance can be predicted from a piloting exam, and a student’s academic performance in a course can be predicted from test scores. It is helpful for schools to use standardized test scores as an admission criterion for enrolling students into a program.

The test scores are gathered at the beginning, and some measures are gathered at some later time, possibly after several weeks, months, or years in a predictive validity study. ► **Quality of life** research supplies some example of predictive

validity. First, the predictive validity of ► [self-rated health](#) (SRH) and Health Utilities Index Mark 3 (HUI3) on ► [mortality](#) risk is significant, indicating SRH and HUI3 are predictors of mortality. If the predictive effect is statistically significant, such a test is said to have predictive validity with regard to subsequent mortality. Therefore, predictive validity provides the opportunity to examine the association between ► [health-related quality of life \(HRQOL\)](#) and ► [mortality](#) risk (Kaplan et al. 2007).

Second, one need-based measure of quality of work life (QWL) is administered to predict an employee's ► [job satisfaction](#), ► [organizational commitment](#), and esprit de corps. Lower- and higher-order needs are two kinds of major needs in QWL. The predictive validity of the QWL measure is strongly supported by research. Satisfying lower- and higher-order needs positively predicts marketing employees' ► [job satisfaction](#). In addition, higher-order needs satisfaction has a strong and positive effect on their ► [organizational commitment](#) and esprit de corps. Consequently, the predictive effect of QWL on ► [job satisfaction](#), ► [organizational commitment](#), and esprit de corps is positive (Lee et al. 2007).

Third, the predictive validity of a pre-cardiac transplantation psychological assessment battery on posttransplantation ► [quality of life](#) was tested by stepwise regression analyses. Posttransplantation ► [quality of life](#) contained symptom frequency, problem total, satisfaction report, physical function, mental health, and general health. Pretransplantation medical variables (e.g., ejection fraction, disease duration, diagnostic type, days of posttransplant hospitalization, and time since transplantation) and psychological variables (e.g., trait anxiety, trait anger, and depression) are predictive variables of ► [quality of life](#). The result shows that posttransplantation ► [quality of life](#) can be predicted significantly by pretransplantation psychological variables (Sears et al. 1995).

## Cross-References

- [Concurrent Validity](#)
- [Criterion Validity](#)

- [Health-Related Quality of Life \(HRQOL\)](#)
- [Job Satisfaction](#)
- [Mortality](#)
- [Organizational Commitment](#)
- [Quality of Life \(QOL\)](#)
- [Self-Rated Health](#)

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## Preference

- [Choice](#)

## Preference Drift

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## Synonyms

[Reference drift](#)

## Definition

Preference drift is a measure of how individuals' preferences over income change with own income. If the preference drift would be total, individuals would completely adapt to income changes. The empirical findings based on the income evaluation question suggest that although there is a substantial welfare leakage, income increases do yield to satisfaction increases.

## Description

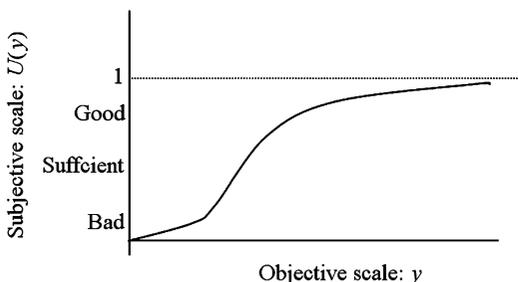
This concept, introduced in Van Praag (1971), measures in how far own income is a determinant for income satisfaction. The measurement proceeds by means of the income evaluation question and the ► [individual welfare function](#) derived from it.

It was found by the ► [Leyden school](#) literature that income satisfaction with an income  $y$ , if defined on a zero–one scale, could be described by a log-normal distribution function  $\Lambda(y; \mu, \sigma)$  as sketched in Fig. 1. The parameter  $\mu$ , which may be interpreted as the log-median value as  $\Lambda(e^\mu; \mu, \sigma) = 0.5$ , appeared to be depending on personal variables. Especially, we found the relation  $\mu(y, fs) = \beta_1 \ln(fs) + \beta_2 \ln(y) + \beta_o$ , where  $\beta_2$  is constantly estimated as about 0.6. Notice that an increase in  $\mu$  implies a shift of the curve in Fig. 1 to the right. Hence, the empirically measured value 0.6 of  $\beta_2$  indicates that income evaluations of a specific income fall when the individual's own income rises. The coefficient  $\beta_2$  is called the

*preference drift rate* and the phenomenon in general preference drift. If  $\beta_2$  would equal 1, this would imply that individuals completely adapt to their income increase and are after the increase exactly as satisfied with their own income as they were before the rise. The value of  $\beta_2$  at 0.6 implies there is a substantial welfare leakage, but nevertheless income increases yield satisfaction increases. Obviously this is a static analysis, while the adaptation process is dynamic. The speed of adaptation can be only observed by repeated observations after the income rise. An estimate of this speed is given in Van Praag and Van Weeren (1988).

It is obvious that the preference drift phenomenon is very similar, if not identical, with the *hedonic treadmill* phenomenon discovered by Brickman and Campbell (1971) in the same year that Van Praag published his first paper on this. The methodologies used in the two papers are completely different. The phenomenon is also related to the ► [Easterlin paradox](#).

An extension of the explanation of  $\mu$  is the equation  $\mu(y, fs, y_{ref}) = \beta_1 \ln(fs) + \beta_2 \ln(y) + \beta_3 \ln(y_{ref}) + \beta_o$ . The third variable,  $y_{ref}$ , stands for the average income of the reference group of the individual. The coefficient  $\beta_3$  has been called ► [reference drift rate](#). It has been estimated mostly by about 0.3. See, e.g., Hagenaars (1986) or Van Praag (1976). Notice that the fact that  $\beta_2 + \beta_3$  is not much smaller than one indicates that if all incomes in the reference group including that of the individual himself increase by the same percentage, satisfaction with income remains almost the same as before. This is the Easterlin paradox again.



**Preference Drift, Fig. 1** The income evaluation function

## Cross-References

► [Continuous Time Analysis](#)

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## Preference Measures

- [Preference-Based Measures of Health-Related Quality of Life](#)

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## Preference Satisfaction Theories

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### Synonyms

[Desire fulfillment theories of well-being](#);  
[Desire satisfaction theories of well-being](#)

### Definition

Preference satisfaction accounts of welfare aim to describe what constitutes a person's well-being and the conditions under which people are benefitted or harmed. Some of these accounts analyze welfare in terms of preference satisfaction or desire fulfillment, while others assume that preference satisfaction correlates with (but differs from) welfare.

### Description

Accounts of welfare or ► [well-being](#) clarify what is in our interests. However, there are different senses in which things may benefit or harm us which should be distinguished.

First, something might be *intrinsically* good or bad for me: it might be good or bad in itself. For example, pleasure seems intrinsically good for me, and pain seems intrinsically bad for me. Aspirin, which reduces my pain, is neither – it is extrinsically good for me. According to the standard account, my well-being or welfare is constituted by the things that are intrinsically good for me and the things that are intrinsically bad for me. My welfare level – how well-off I am – is raised by the positive value of the goods and lowered by the negative value of the evils.

Second, something might have an *overall* value for me – a value all things considered. Overall value may be defined in terms of well-being. On one influential view, *comparativism*, something is overall good or bad for me just if, and to the extent that, it makes me better or worse off over the course of my life than I otherwise would have been.

So, something can be said to benefit me if (1) it is intrinsically good for me or (2) its overall effect on my welfare is salutary. Either way, what benefits me depends on what constitutes my welfare. However, the nature of welfare has been the subject of considerable disagreement.

To fix ideas, consider a widely discussed account called *hedonism*, which states that my welfare is constituted by pleasure and pain. On this account (where S stands for any subject): H: S's pleasure, of any sort, is intrinsically good for S, and nothing else is intrinsically good for S, while S's pain, and nothing else, is intrinsically bad for S.

On this view, a person is well-off to the extent that she enjoys herself and avoids suffering. Combined with comparativism, hedonism yields an account in which something is overall good for me just if, and to the extent that, it makes my life more pleasant and less painful than it otherwise would have been.

Like H, some versions of the preference satisfaction theory are accounts of well-being. Some theorists (e.g., Rabinowicz and Osterberg, 1996) equate preferences with desires. Doing so positions them to analyze welfare in terms of desire fulfillment. Here is a simple version of the view:

D: The fulfillment of any of S's desires is intrinsically good for S, and nothing else is intrinsically good for S, while the thwarting of any of S's desires, and nothing else, is intrinsically bad for S.

Other theorists who link well-being and preference satisfaction, most notably welfare economists, have a different view (Hausman, 2012; Hausman & McPherson, 2008). Welfare economists assume that a person is rational to the extent that:

1. She acts on the basis of her preferences.
2. Her preferences are *transitive*: if she prefers A over B and B over C, then she prefers A over C; if she is indifferent as to A and B, and as to B and C, then she is indifferent as to A and C.
3. Her preferences are *complete* in the sense that they rank all off the alternatives she will encounter.

On this view, if we assume that each rational person's welfare is boosted (lowered) to the extent that his preferences are satisfied (thwarted) and we want to assess economic arrangements by considering how they affect people's welfare, then we can evaluate the arrangements by considering their consequences for people's preferences.

This model assumes that a rational person's welfare and degree of preference satisfaction rise and fall together, but it does not equate welfare with preference satisfaction. It is silent on the question of what constitutes well-being.

Moreover, there is a strong case against equating the two. Suppose that I am exclusively self-interested in the sense that, in every case, I prefer one thing to another because I judge that the former will make me better off than the latter. For example, perhaps I prefer eating a chocolate bar to eating a spear of broccoli because I judge that eating the chocolate will

make me better off. Then my preferences are based on my welfare, and the latter cannot be analyzed in terms of the former. If, on the other hand, some of my preferences are not based on my own welfare, and concern other things such as the welfare of others, then there is no reason to suppose that my preferences will align with my welfare.

Earlier we mentioned the possibility of analyzing well-being in terms of desire fulfillment. One advantage of the desire fulfillment approach is that it resists worries raised against hedonism by Robert Nozick's experience machine-thought experiment.

Suppose there were an experience machine that would give you any experience you desired. Superduper neuropsychologists could stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book (Nozick, 1974, p. 42).

Assuming that hedonism is correct, spending the rest of our lives hooked up to the machine would give us far more pleasure than we would otherwise receive, so it maximizes our well-being. However, most of us do not really think we *would* be better off. We would reject the illusory life made available to us by the experience machine despite its great pleasantness because our desires would go unfulfilled.

However, the desire fulfillment account has shortcomings of its own. Recall that D – the version of the account stated earlier – implies that the fulfillment of *any* of my desires boosts my welfare. Yet the desires which a person actually has may not be rational. The cause or basis of a desire may undermine it, as when it is based on misinformation. If I want to eat Brussels sprouts because I believe it will give me super powers, but supplying me with the relevant information would remove my desire, then perhaps its fulfillment has no bearing on my welfare.

Considerations like these suggest that my welfare consists not in the fulfillment of my actual desires, as D suggests, but rather in the fulfillment of some refined version of them. One way to understand this ideal array of desires is to

equate it with the desires I would have after ideal deliberation: supplied with all relevant facts, free of distorting influences, and so forth. This is the *deliberative version* of D. However, a further refinement might be necessary. Following Derek Parfit, we might assume that some desires are intrinsically rational (say, the desire to act morally) and that others are intrinsically irrational (e.g., the desire for the welfare of all and only people within a mile of me). It is not obvious that I would have the former and lack the latter if I were supplied with all relevant facts and free of distortion. The *critical version* of D equates my ideal array of desires with those I would have after ideal deliberation and after eliminating all intrinsically irrational desires and adopting all intrinsically rational desires (Parfit, 1984, p. 118).

Second, some of our desires may be directed wholly toward other people. Parfit offers the following example:

Suppose that I meet a stranger who has what is believed to be a fatal disease. My sympathy is aroused, and I strongly want this stranger to be cured. We never meet again. Later, unknown to me, this stranger is cured (Parfit, 1984, p. 494).

According to D, the fulfillment of my desire that the stranger survives her disease increases my well-being. This seems counterintuitive. My desire in the example above appears to be disinterested, so while its fulfillment may benefit the stranger, it is odd to say that it benefits *me*. To handle this worry, we might adopt the *success version* of D, which says that only fulfilling desires concerning our own lives is intrinsically good for us. Combining the critical with the success version of D gives us the following view:

CSD: The one and only thing that is intrinsically good for S is the satisfaction of S's ideal array of desires concerning S's own life – namely, those that are intrinsically rational (and none that are irrational) as well as those S would have after ideal deliberation. The only thing that is intrinsically bad for S is the thwarting of these ideal desires.

Finally, it seems that a greatly impoverished array of desires might survive ideal deliberation,

such as those of someone who desires to spend as much time as possible counting blades of grass (Rawls, 1971, p. 432). The desires of the grass counter seem too spare to constitute his welfare. Just as the experience machine example suggests that hedonism is over restrictive as an account of welfare, so the grass counter example suggests that D is too narrow.

One way to handle worries like these is to replace D (and its refinements) with a more modest view, namely, that *one* thing that is intrinsically good for S is the fulfillment of S's desires and *one* thing that is intrinsically bad for S is the thwarting of S's desires. Similarly, hedonists could replace H with the view that one thing that is intrinsically good for S is pleasure and one thing that is intrinsically bad for S is pain. These modest versions of D and H are clearly compatible – it is entirely possible that well-being consists in both pleasure and desire fulfillment – and both leave open the possibility that various other things, such as friendships, may also be intrinsically good for us, whether we desire them or not.

## Cross-References

- ▶ [Hedonism](#)
- ▶ [Life Satisfaction](#)
- ▶ [Welfare Hedonism and Authentic Happiness](#)
- ▶ [Well-Being, Philosophical Theories of](#)

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## Preference, Sexual

- ▶ [Same-Sex Behavior and Orientation in England](#)
- ▶ [Sexual Orientation](#)
- ▶ [Relationship Contingency and Sexual Satisfaction](#)

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## Preference-Based Measures of Health

- ▶ [Preference-Based Measures of Health-Related Quality of Life](#)

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## Preference-Based Measures of Health-Related Quality of Life

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### Synonyms

[Preference measures](#); [Preference-based measures of health](#)

### Definition

A Preference-Based Measure of Health-Related Quality of Life consists of 2 parts: (1) a health state classification system used to define health states and (2) preference weights for all health states defined by the classification system. Preference-Based Measures of Health-Related Quality of Life can be used to estimate the “Q” quality adjustment component of the ▶ [QALY](#) (quality-adjusted life year), for use in cost-effectiveness analysis of medical and health care interventions. This is because the scoring system of a Preference-Based Measure of

Health-Related Quality of Life is based on preferences. Each health state defined by the classification system has a utility value assigned to it, known as preference-weighted health states.

### Description

The health state classification system consists of a number of dimensions, each with different levels of severity. A patient can be assigned to a health state by asking them to complete the dimensions directly or using a questionnaire where responses are mapped uniquely onto the classification system. These questionnaires and classification systems can be easily included in a trial or other study with little respondent burden. A Preference-Based Measure of Health-Related Quality of Life is usually self-completed by the patient or individual, meaning it is a subjective measure of health as it is not reported by a clinician or expert. For patient populations where it is not possible to use self-complete questionnaires, for example, the patients have cognitive impairments; it is possible to complete the measure by proxy using a carer or relative.

The scoring system consists of preference weights for each level of each dimension in the classification system. These preference weights are combined to produce a utility value for every health state. The utility value is anchored onto the full health-dead scale where 1 represents full health and 0 represents dead. Health states with a utility value below 0 are considered to be worse than being dead. The use of preferences means that the scoring provides an indication of how good or bad the health state is in comparison to other health states. The utility scale is an interval scale, where a movement from a health state with a utility value of 0.8 to a health state with a utility value of 1 is considered to be equal in terms of the impact on utility as a movement between health states with utility values of 0.2 and 0.4. Furthermore, the utility scale can measure the overall impact on utility where the severity levels of different dimensions change in opposite directions. For example, if following treatment physical functioning improves but vitality worsens,

the classification system will capture the differences in the separate dimensions and the overall change in the utility value will measure the overall impact on health-related quality of life (HRQOL).

The preference weights are usually based on modeled general population values elicited using a preference elicitation technique such as time-trade-off, standard gamble (SG), visual analogue scale, or a combination of these for a sample of health states. Classification systems typically define hundreds or thousands of health states which are too many to be amenable to valuation. Two approaches can be used to estimate preference weights for all the states: the composite approach and the decomposed approach (for further details, see Brazier, Ratcliffe, Tsuchiya, & Solomon, 2007). Using the composite approach, a sample of health states are selected for valuation, and these values are modeled using regression analysis to estimate preference weights that can be used to produce utility values for all states. Alternatively, using the decomposed approach involves the use of multi-attribute utility theory, where preferences are elicited for dimensions alongside a sample of health states and modeled to produce utility values for all states.

Preferences are usually elicited from the general population rather than patients or experts. It is argued that because many health care systems are largely funded by the public sector, general population preferences are the most appropriate to inform the resource allocation of public funds. General population values have the advantage that, in contrast to patients, values are obtained under a veil of ignorance where individuals have not experienced the health state in the past and do not know whether they will experience this health state in the future. However, patients are more likely to be able to understand the impact of the health state on utility, whereas members of the general population may have difficulty imagining what it is like to experience the health state. The reason why this is important is because the general population and patient populations have been found to assign different utility scores to the same health states. Research has also found that

preference weights differ across different countries and cultures. The most commonly used Preference-Based Measures of Health-Related Quality of Life have different sets of preference weights derived from different countries.

The classification system can be generic, meaning it is designed for use across all patients and medical interventions; condition-specific (or disease-specific), meaning it is designed for use in a specific patient group; or population-specific, meaning it is designed for use in a specific population such as children or the elderly (see Brazier, Roberts, & Rowen, 2012 for an overview of the development of a new measure). Generic measures are the most widely used as they are appropriate for measuring health across different patient groups and interventions, enabling comparability across different economic evaluations. Examples of widely used generic preference-based measures include the AQoL (Hawthorne, Richardson, Osbourne, & McNeil, 1997), Euroqol (EQ-5D) (Dolan, 1997), SF-6D (Brazier, Roberts, & Deverill, 2002; Brazier & Roberts, 2004), Health Utilities Index Mark 2 and 3 (Torrance et al., 1996; Feeny et al., 2002), ► [Quality of Well-Being Scale](#) (QWB) (Kaplan & Anderson, 1988), and 15D (Sintonen & Pekurinen, 1993). These are off-the-shelf measures used to generate utility values for each individual every time the classification system or questionnaire is completed. There is no need to elicit utility values in a trial or study, as the existing preference weights for the measure are used to generate the utility values.

The Euroqol (EQ-5D) has 5 dimensions (mobility, self-care, usual activities, pain/discomfort, anxiety/depression) each with 3 levels of severity (no problems, some problems, extreme problems). The classification system describes 243 health states and has modeled utility values based on general population time-trade-off values that range from 1 to -0.594 for the UK tariff. The SF-6D is derived from either the ► [SF-36](#) Health Survey or the short Form 12 Health Survey (SF-12) and has 6 dimensions (physical functioning, role limitations, social functioning, pain, mental health, vitality). Each dimension has between 4 and 6 levels of severity

when derived from SF-36 data defining 18,000 health states. Each dimension has between 3 and 5 levels of severity when derived from SF-12 data, defining 7,500 health states.

Different Preference-Based Measures of Health-Related Quality of Life have been found to generate different utility values when used on the same patient at the same time (see Brazier et al., 2007 for an overview). This may be due to many factors but is unsurprising as the measures differ in several ways. Firstly, they differ in terms of their dimension coverage and severity levels within these dimensions. Secondly, different preference elicitation techniques using different variants are used to value health states which are known to affect utility values. Finally, different modeling techniques are used to estimate preference weights for all health states.

## Cross-References

- ▶ [Cost-Effectiveness Analysis](#)
- ▶ [Health-Related Quality of Life \(HRQOL\)](#)
- ▶ [Interval Scale](#)
- ▶ [Preference Measures](#)
- ▶ [Preference-Weighted Health States](#)
- ▶ [Quality Adjusted Life Years \(QALY\)](#)
- ▶ [Quality of Well-Being \(QWB\) Scale](#)
- ▶ [SF-36 Health Survey](#)
- ▶ [Short Form 12 Health Survey \(SF-12\)](#)
- ▶ [Time Trade-Off](#)

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## Preferences

- ▶ [Subjective Weighting](#)

## Preference-Weighted Health States

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## Definition

A Preference-Weighted Health State is a health state derived using either (1) a ▶ [Preference-Based Measure of Health-Related Quality of Life](#) or (2) a vignette.

1. ▶ [A Preference-Based Measure of Health-Related Quality of Life](#) assigns each patient or individual to a health state describing their health-related quality of life (HRQOL) using a self-complete (or proxy report) questionnaire

or classification system that is easy to complete with little respondent burden. The health state is defined by the classification system of the ► [Preference-Based Measure of Health-Related Quality of Life](#), which consists of several dimensions with a selected severity level for each. The health state is assigned a utility value using the off-the-shelf preference weights from the ► [Preference-Based Measure of Health-Related Quality of Life](#). The utility value will have been typically generated using modeled utility values and obtained using utilities elicited from the general population using a preference elicitation technique such as time-trade-off, standard gamble (SG), or visual analogue scale. The utility value will be anchored on an interval scale full health-dead scale where 1 represents full health and 0 represents dead. Health states with utility values below 0 are considered to be worse than being dead.

2. A vignette is a bespoke description of a frequently occurring health state associated with a medical condition and treatment with a corresponding utility value. The description is usually produced using interviews with patients or professionals and is often study-specific. The description is usually formatted as a text narrative or using bullet points similar to a classification system of a ► [Preference-Based Measure of Health-Related Quality of Life](#). The utility value for the vignette is elicited from the general population, patients or professionals using a preference elicitation technique such as time-trade-off, standard gamble (SG), or visual analogue scale, and is anchored into the full-health-dead scale described above.

## Description

These preference-weighted health states can be used to generate the “Q” quality adjustment component of the ► [QALY](#) (quality-adjusted life year) for use in economic evaluation. The use of preference weights means that the scoring system indicates how good or bad the health state is in

comparison to other health states. The health states can be generic, condition specific, or population specific depending upon the design of the classification system of the ► [Preference-Based Measures of Health-Related Quality of Life](#) used to define the health state (see Brazier, Roberts, & Rowen, 2012 for an overview of the development of a new measure).

Widely used generic ► [Preference-Based Measures of Health-Related Quality of Life](#) include the AQL (Hawthorne, Richardson, Osbourne, & McNeil, 1997), EQ-5D (Dolan, 1997), SF-6D (Brazier, Roberts, & Deverill, 2002; Brazier & Roberts, 2004), Health Utilities Index Mark 2 and 3 (Torrance et al., 1996; Feeny et al., 2002), ► [Quality of Well-Being Scale](#) (QWB) (Kaplan & Anderson, 1988), and 15D (Sintonen & Pekurinen, 1993). These are off-the-shelf measures used to generate utility values for each individual every time the classification system or questionnaire is completed. There is no need to elicit utility values in a trial or study, as the existing preference weights for the measure are used to estimate the utility values (see Brazier, Ratcliffe, Tsuchiya, & Solomon, 2007 for a more detailed overview).

## Cross-References

- [Cost-effectiveness Analysis](#)
- [Health-Related Quality of Life \(HRQOL\)](#)
- [Interval Scale](#)
- [Preference Measures](#)
- [Preference-Weighted Health States](#)
- [Quality of Well-Being \(QWB\) Scale](#)
- [Time Trade-Off](#)

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## Definition

Pregnancy includes the fertilization and development of one or more embryos in a woman's uterus, with birth typically occurring about 38 weeks following conception or 40 weeks from the onset of the last menstrual period. Facilitating reference to the different stages of prenatal development, pregnancy is divided somewhat arbitrarily into three phases, or trimesters. The first trimester entails the highest risk of miscarriage (i.e., natural death of the embryo or fetus). During this time, physical symptoms such as nausea and fatigue may emerge, and prenatal screening and diagnostic testing to identify chromosomal or genetic abnormalities may be performed (e.g., evaluation of placental tissue via chorionic villus sampling). Within the second trimester, fetal movement can be detected, development can be monitored more easily via sonography, and amniocentesis (i.e., procedure in which a small amount of amniotic fluid is sampled from the amniotic sac surrounding the developing fetus in order to examine fetal DNA) may be conducted. The point of viability (i.e., point at which baby could survive outside the womb, either with or without medical assistance) begins early in the third trimester.

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## Pregnancy Blues

### ► Depression and Pregnancy

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## Pregnancy, an Overview

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## Synonyms

[Antenatal period](#); [Childbearing](#); [Gestation](#); [Gravidity](#); [Prenatal period](#)

## Description

Relative to other health-related events and conditions that require the attention and care of healthcare professionals, pregnancy is unique in that the context is normal physiology, as opposed to disease or injury. Progressively declining rates of maternal and perinatal mortality in developing countries over the last several decades have allowed the focus of antenatal care (i.e., during pregnancy) to expand beyond the traditional goal of preventing, identifying, and treating problems that adversely impact maternal and infant health (Symon, 2003). As pregnancy progresses, hormonal and organ-specific changes may impact not only physical functioning but also psychological well-being, including mental health symptoms and adjustment. Responses to experiential

events related to the pregnancy (e.g., increasing weight, changing body shape) also may influence daily functioning and perceptions of well-being. Expanded aims surrounding the perinatal period (i.e., approximately 5 months before childbirth to about 1 month after), therefore, now encompass a range of quality of life (QoL)-related factors for individual women reflecting physical, mental, emotional, social, sexual, and spiritual well-being (Symon, MacDonald, & Ruta, 2002).

### Factors Surrounding Pregnancy That Influence QoL

There are a host of opportunities throughout pregnancy for perceptions of QoL to be altered. In addition to joy and excitement, women may experience a range of concerns, fears, and even mental health symptoms corresponding with the major hormonal and psychosocial alterations around the time of childbearing. There are decision-making points during pregnancy that can evoke anxiety and concern about one's offspring (see Geller, Nelson, & Eichenbaum, 2013). For example, women must decide whether to participate in first- and second-trimester genetic screening and invasive diagnostic testing as recommended by the American College of Obstetricians and Gynecologists (American College of Obstetricians and Gynecologists [ACOG], 2007a, b); when there is evidence of genetic abnormality or other anomaly, critical decisions regarding termination become necessary.

During early pregnancy, it is common for women to confront challenging physical symptoms, such as nausea, vomiting, and fatigue. These symptoms can be severe and impose substantial lifestyle limitations that greatly impact family, social, and occupational functioning. Arsenault et al.'s (2002) MEDLINE and Cochrane database review concluded that nausea and vomiting have a profound effect on women's health and QoL during pregnancy. Maintaining a healthy pregnancy may necessitate certain lifestyle or health behavior changes (e.g., smoking cessation, dietary restrictions secondary to gestational diabetes) that can contribute to perceived distress (Geller, 2004).

Anticipating the act of childbirth may evoke fears regarding labor and delivery as well as pending lifestyle changes that will require significant adjustment in the postnatal period (i.e., after childbirth). Women who experienced a previous delivery that was particularly painful, traumatic and/or resulted in medical complications, stillbirth, or neonatal death may experience symptoms of posttraumatic stress or obsessive-compulsive disorder (e.g., Abramowitz et al., 2010). When pregnancy spontaneously ends in miscarriage or stillbirth, symptoms of profound grief, in addition to depressive symptoms and disorders, also may result (see Klier, Geller, & Ritsher, 2002). Regardless of the outcome of the pregnancy, anxiety and depressive symptoms can occur during the antenatal and postnatal periods, with diagnostic threshold reached for a subset of women (e.g., O'Hara, 2009; Ross & McLean, 2006). Maternal anxiety in particular has been associated with various pregnancy complications and outcomes, such as preterm delivery, low birth weight, preeclampsia, emergency cesarean section, postpartum depression, and problems with infant-maternal attachment. In light of all of these issues, one's perceived QoL is likely to change during pregnancy as well as in the postpartum period.

### Conceptualizations of QoL During Pregnancy in Published Literature

QoL during pregnancy is typically discussed as health-related QoL (HR-QoL). There is a wide range of methodological rigor of studies that have reported on an aspect of prenatal (or postnatal) QoL, spanning case reports and uncontrolled, qualitative studies and, to a lesser extent, longitudinal and/or controlled investigations. Many studies have not provided a clear operational definition of QoL, and measurement is inconsistent across studies – in some cases mentioning QoL without specifically assessing it. Some studies have equated QoL with particular pregnancy outcomes in specific patient groups (e.g., organ transplant, cancer, rheumatoid arthritis, HIV).

Currently, the only pregnancy-specific QoL measure available is a 30-item HR-QoL instrument for nausea and vomiting in pregnancy.

Developed by Magee and colleagues (2002), this instrument comprises four domains (physical symptoms/aggravating factors, fatigue, emotions, and limitations). Their work with a sample of 500 pregnant women further confirms that nausea and vomiting reduces QoL.

Although identified as a “generic instrument,” a number of studies have utilized the Medical Outcomes Study Short Form-36 Health Survey (SF-36; Ware & Sherbourne, 1992) to examine QoL during pregnancy. The SF-36 is a reliable and valid instrument of functional health status and well-being encompassing eight domains: physical functioning, role-physical (i.e., limitations in usual role activities because of physical health problems), bodily pain, vitality, general health, social functioning, role-emotional (i.e., limitations in usual role activities because of emotional problems), and mental health (i.e., psychological distress and well-being). Some studies have reported that scores corresponding to physical aspects of health, as opposed to emotional aspects, change significantly over the course of pregnancy (e.g., Hueston & Kasik-Miller, 1998).

Studies that have examined determinants of QoL during pregnancy utilizing the SF-36 have reported that variables such as depressive symptoms are significantly associated with lower QoL scores across most domains except physical functioning (at least not during early pregnancy) (e.g., Nicholson et al., 2006). Sleep problems have been reported to be significantly associated with poorer QoL in all domains, except role-emotional; and greater pregnancy-related anxiety has been reported to be significantly associated with lower QoL on the physical functioning and role-physical domains (DaCosta et al., 2010).

Two QoL assessment measures specific to the postnatal period have the potential to be adapted to the antenatal period. The first, the Mother-Generated Index (MGI; Symon et al., 2002), is based on the previously validated Patient-Generated Index (PGI) that measures aspects of QoL as perceived by the patient and, in the case of the MGI, the mother. Because of the qualitative nature and the one-to-one administration format, the MGI may allow greater understanding of

personal values relevant to QoL, but is limited in terms of use in larger research protocols. As such, the Maternal Postpartum Quality of Life Questionnaire (MAPP-QOL; Hill, Aldag, Hekel, Riner, & Bloomfield, 2006) was developed. Based on the Quality of Life Index (QLI; Ferrans & Powers, 1985), the MAPP-QOL is a reliable and reasonably valid self-administered tool that assesses maternal perceptions of QoL in the early postpartum. Five domains are evaluated: psychological/baby, socioeconomic, relational/spouse-partner, relational/family-friends, and health and functioning.

### Future Research

Factors related to pregnancy as well as normative responses over the course of pregnancy can be exceedingly varied. This variation highlights that QoL during pregnancy may be more difficult to conceptualize and measure than less-normative or “pathological” events. As such, comprehensive investigation of QoL during pregnancy may be challenged by the need to incorporate items that reflect objective functioning as well as individual values and subjective well-being in a format that can be administered efficiently to large samples to allow quantitative assessment for research purposes.

One concern regarding studies of QoL during pregnancy that have examined mental health is that depressive symptoms are sometimes conceptualized as a factor that influences QoL, but are also often considered one aspect or dimension of QoL itself. In fact, depression-related items appear within the mental health domain of the SF-36. Future studies examining QoL and mental health functioning during pregnancy should explicitly address this in the study design and/or statistical analysis plan.

In addition to adjusting for important clinical variables, future studies might incorporate relevant physiological factors (e.g., serotonin, cortisol levels) in order to better characterize the contribution of hormonal and neurochemical factors to the relation between mental health symptoms and QoL. Adjusting for covariates in future studies, such as intimate partner violence, is also

important, as is the inclusion of a broader distribution of diverse ethnic-racial groups. Given the many changes that transpire over the course of approximately 40 weeks of pregnancy, longitudinal studies are necessary to fully evaluate QoL during pregnancy.

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Depression and Pregnancy](#)
- ▶ [Emotional Well-Being](#)
- ▶ [Fertility Plans/Intentions](#)
- ▶ [Fertility Rate](#)
- ▶ [Health-Related Quality of Life \(HRQOL\)](#)
- ▶ [Maternal Stress](#)
- ▶ [Mother-Generated Index \(MGI\)](#)
- ▶ [Patient Generated Index](#)
- ▶ [Physical Functioning \(PF\)](#)
- ▶ [Physical Well-Being](#)
- ▶ [SF-36](#)
- ▶ [Stress](#)
- ▶ [Stressful Life Events](#)

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## Pregnancy-Related Deaths in South Africa

- ▶ [Maternal Mortality in South Africa](#)

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## Prejudice

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### Synonyms

[Ambivalent prejudice](#); [Automatic prejudice](#); [Implicit prejudice](#); [Intergroup contact and prejudice](#); [Modern prejudice](#); [Subtle prejudice](#)

### Definition

*Prejudice* can be defined as the positive or negative evaluation of a social group and its members. Related concepts are stereotypes and discrimination. *Stereotypes* are beliefs about typical characteristics of the group; *discrimination* refers to positive or negative behavior that is directed toward the group or its members (Smith & Mackie, 2000).

### Description

#### Measurement

A well-known study in the 1930s assessed hotel and restaurant owners' [attitudes](#) toward Chinese people with a straightforward question: "Will you accept members of the Chinese race as guests in your establishment?" (LaPiere, 1934, p. 233). Around 90 % of the answers were an unequivocal "No." Such overt display of prejudice is nowadays an exception rather than the rule. Instead, contemporary prejudice appears in a more covert form. Several scales target modern, subtle, and ambivalent forms of prejudice such as the denial of continued inequality in society (for an overview, see Swim, Aikin, Hall, & Hunter, 1995). Various techniques are available to identify prejudice that research participants may not be willing to express (e.g., the bogus pipeline paradigm; Jones & Sigall, 1971) or may not be

aware of (e.g., the implicit association test; Greenwald, McGhee, & Schwartz, 1998).

#### Causes and Consequences

Realistic conflict theory (Sherif, 1966) explains prejudice and intergroup conflict from the groups' competition for scarce resources. Sherif and his colleagues demonstrated this by having boy groups in a summer camp compete repeatedly for material resources such as medals and pocket knives; they observed increasing levels of intergroup conflict and hostility over the course of the study.

Conflict may also arise from competition for immaterial resources such as group status and prestige. Social identity theory (Tajfel & Turner, 1986) states that people strive to belong to groups that are positively distinct from other groups. This has been demonstrated most convincingly in research using the minimal group paradigm. Here research participants are assigned to one of two groups on the basis of unimportant criteria such as the outcome of the toss of a coin. Although such group membership is essentially meaningless for them, participants in minimal group paradigm studies nevertheless show a bias in favor of their in-group, for example, when assigning rewards to in-group and out-group members.

Research on automatic and implicit social cognition has established that prejudice has a strong automatic component that takes place outside of conscious awareness, and that can be demonstrated even in persons who consciously hold egalitarian, unprejudiced views and opinions (Greenwald & Banaji, 1995; Greenwald et al., 1998). Automatic stereotyping and prejudice predict in particular unplanned behaviors such as the physical distance that people leave between themselves and an interaction partner or the amount of eye contact in conversations. Such nonverbal behaviors may easily remain unnoticed by the actor, but they are readily identifiable markers of liking and disliking for the actor's interaction partner as well as for neutral observers (see, e.g., Dovidio, Kawakami, & Gaertner, 2002). Moreover, they are known to trigger reciprocal behavior in

the interaction partner, thereby turning (automatic) prejudice into a self-fulfilling prophecy (Rosenthal, 2003; Word, Zanna, & Cooper, 1974).

### Reduction

Allport's (1954) contact hypothesis states that contact can reduce prejudice between groups, provided that certain conditions are met: a common goal must exist, intergroup cooperation must be present, equal status between the groups must be given in the contact situation, and support by authorities, the law, or custom must be available. An application of that principle can be found in Sherif and colleagues' aforementioned study. The researchers successfully removed hostility between the boy groups by setting up noncompetitive events where the groups needed to cooperate in order to achieve a common goal. For example, a breakdown of the food truck was simulated; to start the truck again, the combined physical strength of both boy groups was needed. Another application can be found in the "jigsaw classroom" technique (Aronson, 1978) that makes students mutually interdependent across group boundaries. This is achieved by assembling students from different backgrounds into a workgroup that is given a complex task. The students are assigned nonoverlapping subtasks such that the contribution of each student is required for the workgroup to reach their common goal. A meta-analysis by Pettigrew and Tropp (2006) statistically combined research on the effects of intergroup contact from 1940 to 2000, covering more than 700 samples from 38 countries. The results confirmed that greater intergroup contact does in fact reduce intergroup prejudice. Interestingly, the beneficial effect of contact was observed even in research where Allport's optimal conditions were not present. Thus, the optimal conditions are not necessary to reduce prejudice. However, when they were present, the optimal conditions strongly increased the beneficial effect of intergroup contact.

It is important to note that the desire for positive distinctiveness of one's in-group can uphold and stabilize intergroup prejudice even in the presence of positive intergroup contact.

Several techniques have been proposed that may reduce this bias-stabilizing effect. For example, group memberships may be downplayed in the contact situation (deategorization), or the joint membership of both groups in a superordinate category may be brought to mind, either as a replacement for (reategorization) or as an addition to the more immediate group memberships (dual identity; for an extended discussion, see González & Brown, 2006).

Finally, various techniques for reducing automatic and implicit prejudice are available. These range from salience manipulations such as a systematic exposure to admired out-group and disliked in-group members (Dasgupta & Greenwald, 2001) to extended practice with generic "approach" behaviors such as pulling a joystick toward oneself each time the face of a member of the out-group appears on a computer screen (Kawakami, Phillips, Steele, & Dovidio, 2007).

### Cross-References

- ▶ [Index of Inegalitarianism](#)
- ▶ [Xenophobia Index: Michalos and Zumbo](#)

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## Premarital Sex, Young People's

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## Synonyms

Adolescents' sexual relationships; Young people's premarital sexual relationships; Young people's sexual relationships

## Definition

“Young people” is used variably to refer to a wide range of ages, generally older children and/or young adults. “Young people” are defined by the World Health Organization as those between 10 and 24 years of age. “Sex” as a noun refers to being female or male, but here it is used as an adjective to refer to a kind of personal interaction: sexual intercourse. While there are a wide range of sexual activities, a “sexual relationship” between women and men generally means that these activities include penetrative vaginal sexual intercourse. A sexual relationship between people of the same sex does not have such specific behavioral implications. “Premarital sex” means sexual intercourse before marriage, whether marriage with that sexual partner or anyone else. Although child sexual abuse is technically premarital sex, it is not covered in this entry.

## Description

Most societies have strong norms defining which kinds of sexual relationships are permitted and which prohibited, with marriage being a critical factor legitimating sexual relations. In Europe and North America marriage has largely lost this role, but only in the last 50 years. Consequently premarital sexual relationships are socially problematic in many societies, since they contravene moral behavior, threaten marital ties, risk procreating “illegitimate” children for whom the father avoids responsibility, and, more generally, mean that young people's sexual activity is less restrained. Social concerns are often reinforced, or justified, by public health concerns about unwanted pregnancies and sexually transmitted infections. However, from young people's perspectives, there are several incentives for sexual relationships, including physical sexual pleasure, achieving a core transition towards adulthood and gaining the affirmation of being seen as sexually attractive. For males in nearly all cultures, sexual experience is a key way of establishing their masculine identity. It is only in recent decades that young people's perspectives on premarital

sexual relationships have been investigated systematically, and most of this research comes from the USA and Western Europe.

Contrary to social and policy concerns about premarital sex, in high-income countries most teenagers find sex enjoyable, and many of them seek sexual relationships (Shucksmith, 2004), expecting them to bring intimacy, social prestige, and pleasure (Ott et al., 2006). Heterosexual experience has been shown to be important for positive self-perception (Darling et al., 1999), particularly for boys. Having a boy or girlfriend has been associated with less social anxiety (La Greca & Harrison, 2005) and having wider friendship networks, while sexual relationships allow young people to develop autonomy and experiment with their identities (Shucksmith, 2004).

In a recent large-scale study of 15- and 16-year-olds in the UK, of the 42 % who reported having had sex, most evaluated their heterosexual sexual experiences positively (Wight et al., 2008). Over nine-tenths said they enjoyed their most recent sex, and over four-fifths reported enjoying the time spent with their current boy/girlfriend, being able to show how they felt about them, and enjoying physical contact with them. The quality of their relationships seemed to be enhanced through depth: better communication and greater physical intimacy with their partner, but not sex in casual relationships.

However, in this study 10 % of boys and 19 % of girls also reported being under pressure at first sexual intercourse, and 20 % of boys and 38 % of girls reported regretting it (Wight et al., 2008). Those who exercised less control in their sexual encounters were likely to have negative experiences, girls being particularly vulnerable at first intercourse if they were under 14 years of age or had a casual partner. Other studies have also found that a substantial minority of young people regret their early sexual encounters, one of the most important predictors being coercion. In a British national survey, 22 % of females and 7 % of males aged 16–24 reported their “partner being more willing at first sexual intercourse,” which declined dramatically with age at first intercourse (Wellings

et al., 2001). Coercion is clearly important to subjective experience, as well as being associated with exposure to sexually transmitted infections (Dunkle et al., 2005), depression, disempowerment, and other psychological problems (Timmerman, 2004). Stress in romantic relationships is also associated with depressive symptoms and other psychological problems (Zimmer-Gembeck, Siebenbruner et al., 2001). These studies suggest the value of delaying sex and restricting it to established relationships.

In societies where marriage still defines whether sexual relationships are considered legitimate, primarily in low- and middle-income countries, young people's subjective experiences of premarital sexual relationships are more complex. Furthermore, there has been far less systematic research on young people's subjective experiences in these societies, restricting our understanding of the subject. It is clear that premarital relationships carry far greater risks for young people than in high-income countries. This is particularly the case for young women, for whom penalties can range from expulsion from school in many African countries to, at the most extreme, death in countries with highly restrictive codes of family honor and/or interpretations of Islam. In most low-income countries young women's poor understanding of, and access to, contraception (Williamson, Parkes, Wight, Petticrew & Hart, 2009), and the prohibition of abortion, makes unwanted pregnancy an acute concern, since it reveals their sexual activity and, if they become an unmarried mother, greatly diminishes their respectability and life chances. In most societies sexual norms for young men are far less restrictive than for young women, making premarital sexual relationships less hazardous for them, although in more conservative societies they face severe penalties and/or being forced to marry their sexual partner.

Despite these risks, many young people in low- and middle-income countries do engage in premarital sexual relationships, in part because the age of marriage is rising (Mensch, Clark, Lloyed & Erulkar, 2001). For young men important incentives are sexual pleasure, establishing

masculine identity, and meeting peer expectations. Young women have far less incentive to have sex. Physical pleasure is far less likely, particularly in the initial stages of relationships. Rather, they might hope that having sex will strengthen their relationship with a desirable partner and lead to marriage. In some regions, particularly in sub-Saharan Africa, access to sex provides an economic resource and most sexual encounters outside of marriage involve some kind of material transaction (Plummer & Wight, 2011). This is of particular importance for those in poverty, but it also allows young women to attain consumer desirables. Another incentive for sex can be to demonstrate one's fertility, but this usually also carries serious social risks, as discussed above.

A small minority of young people have sexual relationships with their own sex, most of whom also experience heterosexual intercourse at an early age (Mercer, Bailey, Johnson et al., 2007; Parkes et al., 2011). Little is known about how subjective experiences of early same-sex and opposite-sex sexual relationships compare, largely because of the sensitivity of this topic and the difficulties of recruiting representative samples of young people who have same-sex relationships. However, research in the USA and UK points to the unique vulnerability of teenagers with same-sex partners which seems to be primarily due to entrenched homophobia, despite social and legislative changes in many high-income countries recognizing same-sex relationships. There are variations between countries in homophobia-related stresses and health consequences (Lewis, 2009), but homophobic bullying and victimization among school-age teenagers are still commonplace in the UK and USA. Among young people there is greater disapproval of boys' same-sex relationships than girls', which is reflected in the finding that boys are more likely than girls to regret their first same-sex genital contact (Parkes et al., 2011).

In a large UK survey of 15- and 16-year-olds, 2.5 % of girls and boys reported that their first sex was with someone of their own sex (defined as any genital contact) (Parkes et al., 2011).

Of them, 72 % reported bisexual behavior. First same-sex contact was more likely to be unplanned, to involve partner pressure/low autonomy, and to be evaluated more negatively than heterosexual first sex, and boys with same-sex partners reported lower quality of sexual experience than girls. Similarly Diamond and Lucas (2004) found that boys with a same-sex partner in the USA have less control over their relationships and report greater partner pressure and regret than their exclusively heterosexual counterparts. Boys in same-sex relationships are more likely than girls in such relationships to report sexual coercion (Saewyc, Skay, Richens et al., 2006).

In comparison with heterosexual encounters, young people's same-sex encounters are more likely to involve alcohol and/or other drugs, and to take place in casual relationships (Parkes et al., 2011). They are no more likely to involve an older partner. The greater sexual risk-taking among those in same-sex relationships cannot be explained by lack of sexual health knowledge or skills, or psychosocial confounders such as expectations of early parenthood and substance use.

## Cross-References

- ▶ [Birth Control](#)
- ▶ [Casual Sex and the Quality of Life](#)
- ▶ [Child Sexual Abuse](#)
- ▶ [Low Income](#)
- ▶ [Marriage, Cohabitation, and Well-Being in 30 Countries](#)
- ▶ [Masculinities](#)
- ▶ [Mood Disorders and Sexuality](#)
- ▶ [Pleasure, Engagement, Meaning, and Happiness](#)
- ▶ [Poverty](#)
- ▶ [Pregnancy, an Overview](#)
- ▶ [Religion and Sexism](#)
- ▶ [Self-Esteem](#)
- ▶ [Sexual Orientation](#)
- ▶ [Sexual Orientation and Mental Health](#)
- ▶ [Victimization](#)

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## Premenstrual Dysphoric Disorder (PMDD)

- ▶ [Women's Well-Being and the Menstrual Cycle](#)

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## Premenstrual Syndrome/Tension (PMS)

- ▶ [Women's Well-Being and the Menstrual Cycle](#)

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## Prenatal Depression

- ▶ [Depression and Pregnancy](#)

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## Prenatal Period

- ▶ [Pregnancy, an Overview](#)

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## Prescriptivist Value Theories

- ▶ [Value Theories](#)

## Presenteeism

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## Synonyms

Loss personal performance; Loss productivity; Sickness presenteeism

## Definition

### What Is Presenteeism?

Presenteeism is a process. It starts with the decision to go to work under unsuitable biopsychosocial conditions, which in turn impacts the employee's performance and the productivity of the organization. Presenteeism can therefore be categorized as follows (Fig. 1).

- Some authors consider that presenteeism is the practice of attending work and not fully or effectively functioning. The fall in employee personal performance is central to this definition (Burton, Conti, Chen, Schultz, & Edington, 2002; Collins et al., 2005; Lerner et al., 2004; Musich, Hook, Baaner, Spooner, & Edington, 2006; Ricci & Chee, 2005; Wahlqvist, Reilly, & Barkun, 2006).
- Other authors consider that presenteeism is attending work while sick, a condition which will result in the fall in personal performance or productivity. Many authors have called this "sickness presenteeism" (Caverley, Cunningham, & MacGregor, 2007; Cooper & Williams, 1994; Dean, Crawley, Schmitt, Wong, & Ofman, 2003; Howard, Mayer, & Gatchel, 2009; Meerding,

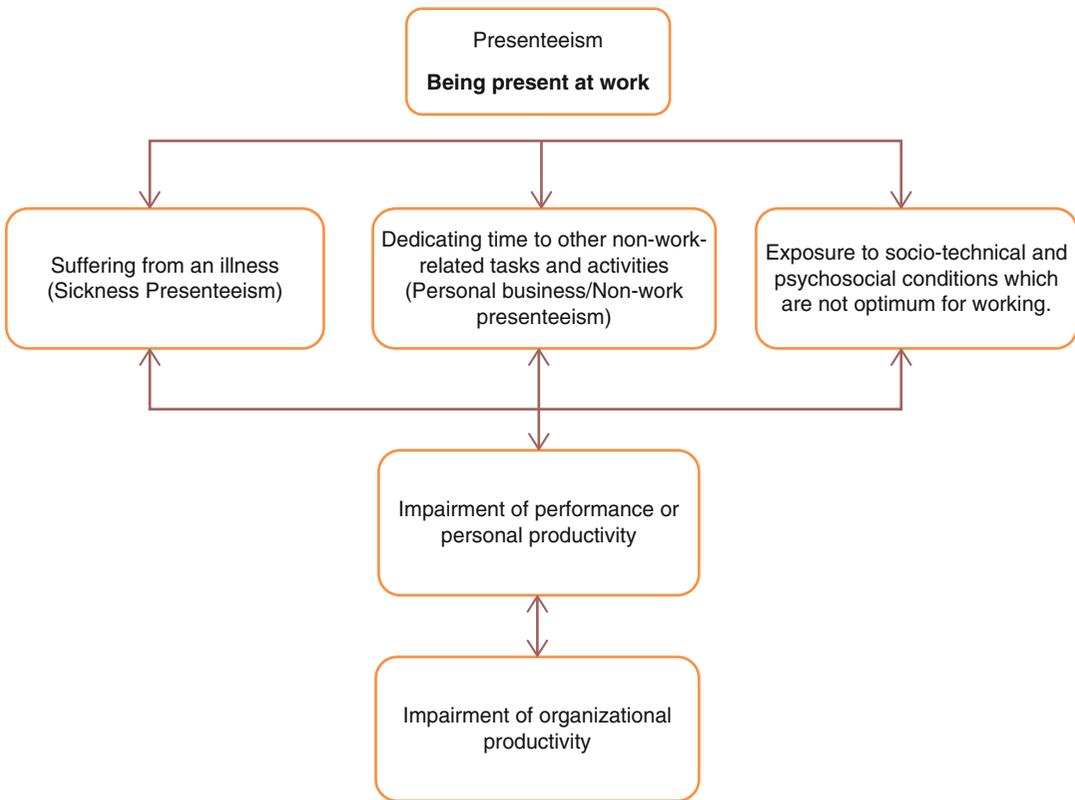
Jzelenberg, Koopmanschap, Severens, & Burdorf, 2005; Pelletier, Boles, & Lynch, 2004; Simpson, 1998; Trogdon, Finkelstein, Hylands, Dellea, & Kamal-Bahl, 2008; Turpin et al., 2004; Weaver, Mackowiak, & Solari, 2004; Whitehouse, 2005; Yamashita & Arakida, 2006).

- There are also definitions emerging which consider that presenteeism is being at work, but not fully functioning due to reasons other than a health problem. In this case, the reasons for bad performance are attributed to the employees in carrying out activities relating to their private life or other activities which are not work related. This is known as "personal business/nonwork presenteeism" (D'Abate & Eddy, 2007).
- Presenteeism is attributed to work-related factors, such as the workload, and psychosocial risk factors which prevent employees from fully functioning. This definition encompasses the act of going to work, but not fully functioning because the working conditions are not optimal. This definition features within the lines of investigation on emerging psychosocial risk factors in the work dynamic (Karasek & Theorell, 1990; Siegrist, 1996).

## Description

### Background on Use of the Concept Presenteeism

Presenteeism is a term which is currently in the process of theoretical development (D'Abate, 2005; Johns, 2010). The first signs of the term "presenteeism" in use date back to the 1950s. For example, Canfield and Soash (1955) state that presenteeism refers to an employee's outstanding performance at work. However, in the 1970s, Smith stated that presenteeism is the opposite of absenteeism (Smith, 1970). It can therefore be concluded that during that period, presenteeism was considered as a desirable condition, given that both conceptualizations



**Presenteeism, Fig. 1** Components of presenteeism

have the positive connotation of being present at work (D'Abate & Eddy, 2007; Johns, 2010; Yamashita & Arakida, 2006). The term started to be used more often during the mid-1990s, and this is attributed to Cary Cooper (Cooper & Williams, 1994). He uses it to describe the behavior of employees who attend work, but are not in optimal conditions to be as productive as they normally are, due to sickness, stress, or any other forms of distraction (Willingham, 2008). In contrast to the uses of the term which have a positive connotation, most of the present definitions of presenteeism are negative and undesirable.

In addition, presenteeism as a phenomenon is not only dealt with in the epistemic scientific community, but it is also discussed in

publications such as journals. Today, the popularity of the term, in particular in Latin America, stems from the article by Hemp, entitled "Presenteeism: At Work-But Out of It," published by the prestigious business and management magazine "Harvard Business Review" (Hemp, 2004). This reveals that there may be a gap between academic concerns and business problems.

### Measuring Presenteeism: Instruments and Characteristics

Measuring presenteeism has not been a simple task, and it has not been far from controversy. Some authors use only one question as an indicator, while others have developed and used scales and questions for the purpose.

In this area, Lofland and colleagues (Lofland, Pizzi, & Frick, 2004), Mattke and colleagues (Mattke, Balakrishnan, Bergamo, & Newberry, 2007), and Prasad and colleagues (Prasad, Wahlqvist, Shikiar, & Shih, 2004) are those who have focused the most effort on systemizing the different measurements of presenteeism.

Despite the fact that the instruments reviewed to evaluate presenteeism have different goals, they tend to have the same conclusions. For example, Lofland et al. (2004) and Mattke et al. (2007) reviewed instruments in order to report on the loss of productivity, while Prasad et al. (2004) and coworkers describe instruments which give information on health conditions and productivity.

The following can be concluded from the different findings in the literature (Cser, 2010):

1. The authors tend to agree that there is no one method of measuring presenteeism.
2. They also agree that the surveys conducted are self-report studies. These have been the predominant methods of evaluation to date (Table 1).
3. Many of the instruments which have been developed include the evaluation of presenteeism and absenteeism (Lofland et al., 2004; Mattke et al., 2007; Prasad et al., 2004). Therefore, it could be hypothesized that presenteeism is the prelude to absenteeism or vice versa.
4. The systems used to evaluate personal performance in some instruments are useful for establishing quantifiable measurements of the losses, enabling the indirect costs of presenteeism to be estimated.
5. Significant efforts have been focused on creating reliable, valid, and sensitive measurements to estimate the costs associated with presenteeism. Some examples include Health and Performance Questionnaire (HPQ), Work Productivity and Activity Impairment (WPAI), and Work Productivity Short Inventor (WPSI) (Lofland et al., 2004).
6. There are instruments which have been developed to evaluate presenteeism and general health conditions, and others to evaluate specific sicknesses (Mattke, et al., 2007).
7. Not all instruments are valid and reliable. During their review, Lofland and colleagues (Lofland et al., 2004) found that only 8 of the 11 instruments evaluated showed valid and reliable measurements. They include the following:
  - (a) Health Limitations Questionnaire (HLQ)
  - (b) Health and Performance Questionnaire (HPQ)
  - (c) Health and Work Questionnaire (HWQ)
  - (d) Standard Presenteeism Scale (SPS)
  - (e) Work and Health Interview (WHI)
  - (f) Work Limitations Questionnaire (WLQ)
  - (g) Work Productivity and Activity Impairment (WPAI)
  - (h) Work Productivity Short Inventor (WPSI)
8. Mattke and colleagues (Mattke et al., 2007) state that the instruments they studied measure presenteeism in three different ways (or on the basis of a combination of factors) (Table 1):
  - (a) By carrying out a comparison between personal productivity or performance and the efficiency of other colleagues
  - (b) By means of reporting the impairment perceived in performance and productivity
  - (c) By estimating unproductive time at work

### Models Proposed for Studying Presenteeism

The literature suggests different models for the study of presenteeism. Even though a complete empirical investigation has not been carried out on all of them, it is possible to appreciate the progress made in this area. The following models show the developments made:

1. The Aronsson and Gustafsson model (2005) and the Hansen and Andersen model (2008). These authors focus the study on presenteeism and the decision-making process of going to work while sick (Aronsson & Gustafsson, 2005; Hansen & Andersen, 2008).

**Presenteeism, Table 1** Instruments for measuring presenteeism

Instrument	No. of questions about presenteeism	Health conditions	Recall period (weeks)	Validity	Reliability	Also measures absenteeism	Perceived impairment	Type of presenteeism questions	
								Comparison of productivity with coworkers and with one's norm	Estimate of unproductive work time
American Productivity Audit and Work and Health Interview	6	General	2	Yes	Yes	Yes	Yes	No	No
Angina-Related Limitations at Work Questionnaire	17	Angina	4	Yes	Yes	Yes	Yes	No	Yes
Endicott Work Productivity Scale	25	General	1	Yes	Yes	Yes	Yes	No	No
Health and Labor Questionnaire	30	General	2	Yes	Yes	Yes	Yes	Yes	Yes
Health and Performance Questionnaire	44	General (chronic conditions)	1, 4	Yes	Yes	Yes	Yes	Yes	Yes
Health and Work Questionnaire	24	General	1	Yes	Yes	No	Yes	Yes	No
Health-Related Productivity Questionnaire Diary	9	General	1	Yes	Yes	Yes	No	No	Yes
Migraine Disability Assessment Questionnaire	7	Migraine	12	Yes	Yes	Yes	No	Yes	No
Migraine Work and Productivity Loss Questionnaire	28	Migraine	Most recent episode			Yes	Yes	Yes	No
Osterhaus Technique	12	General	4	Unknown	Unknown	Yes	No	Yes	No

*(continued)*

**Presenteeism, Table 1** (continued)

							Type of presenteeism questions				
							Yes	No	Yes	No	
Stanford Presenteeism Scale	6	General	4	Yes	No	Yes	No	Yes	No	No	No
Unnamed Hepatitis Instrument	3	Hepatitis	Unknown	Unknown	Yes	Yes	No	No	Yes	No	No
Work Limitations Questionnaire	25	General (chronic conditions)	2	Yes	No	Yes	Yes	Yes	No	Yes	No
Work Productivity and Activity Impairment Questionnaire (WPAI)	6	General	1	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Work Productivity and Activity Impairment Questionnaire-Allergic Rhinitis	9	Allergic rhinitis	1	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Work Productivity Short Inventory	4	> 12*	2/12/52	Yes	Yes	Yes	Yes	No	No	Yes	Yes
Worker Productivity Index	40	General	Unknown	Yes	Yes	Yes	Yes	No	Yes	No	Yes

Source: Adapted from Mattke et al. (2007); \*Allergies, respiratory infections, arthritis, asthma, anxiety disorder, depression and bipolar disorder, stress, diabetes mellitus, hypertension, migraines, coronary heart disease or high cholesterol, and four caregiving conditions

2. Yamashita and Arakida (2006) use a literature review to create a general model which includes the history of presenteeism, its development, and the consequences (Yamashita & Arakida, 2006).
3. Koopman and coworkers (2002) proposed a presenteeism model based on the active participation of people at their place of work, which involves a pledge approach at cognitive, emotional, and behavioral level while working (Koopman et al.).
4. From a conceptual perspective, Johns suggests a dynamic model of presenteeism and absenteeism. This proposal comes as a criticism of existing developments in the area, and it favors a comprehensive and dynamic perspective of the phenomenon and approaches based on management and theories of the organizations and organizational behavior (Johns, 2010).
5. In short, the study of presenteeism is currently in a process of exponential development. Its implications at theoretical and methodological level must be clarified.

## Cross-References

- ▶ [Natural Resource Management \(NRM\)](#)
- ▶ [Occupational Health](#)

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## Preserves

- ▶ [Parks and Quality of Life](#)

## Presidential Democracy

- ▶ [Conceptualizing Democracy and Nondemocracy](#)

## Press Freedom

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## Definition

### Definition by Freedom House

Since 1980, Freedom House evaluates annually the actual press ▶ [freedom](#) in 197 nations and territories. Freedom House does not maintain

a culture-bound view of freedom. The methodology of the survey is grounded in the Universal Declaration of Human Rights. These standards apply to all countries and territories, irrespective of geographical location, ethnic or religious composition, or level of economic development.

The definition of press freedom by Freedom House is based on article 19 of the Universal Declaration of Human Rights: *Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive, and impart information and ideas through any media regardless of frontiers.*

Freedom House also evaluates each year the political rights and civil liberty situations in 195 nations and 14 territories since 1972. Occasionally, Freedom House pays attention to Media Freedom, Freedom of Expression, Religious Freedom, Freedom of Association, and Internet Freedom.

## Description

### Methodology

Evaluations come from correspondents overseas, staff travel, international visitors, the findings of human rights and press freedom organizations, specialists in geographic and geopolitical areas, the reports of governments and multilateral bodies, and a variety of domestic and international news media.

Evaluations by Freedom House do not rate governments or government performance per se but rather the real-world rights and freedoms enjoyed by individuals. Freedoms can be affected by state actions as well as by non-state actors. Evaluations are divided into three broad categories: the legal environment, political influences, and economic pressures.

### Legal Environment

The legal environment encompasses an examination of the laws and regulations that could influence media content as well as the government's inclination to use these laws to restrict the ability of media to operate. Relevant aspects are the positive impact of legal and constitutional guarantees for freedom of expression, as well as the potentially negative aspects of security legislation, the penal code and other criminal statutes, penalties for libel and defamation, and registration requirements for both media outlets and journalists.

### Political Influences

Relevant aspects are the degree of political control over the content of news media. Issues examined in this category include access to information and sources, editorial independence, official censorship and self-censorship, the ability of the media to operate freely and without harassment, and the intimidation of journalists by the state or other actors.

### Economic Pressures

Economic pressures on the media can be a consequence of the structure of media ownership, the costs of establishing media outlets as well as of production and distribution, the selective withholding of state advertising or subsidies, official bias in licensing, and the impact of corruption and bribery on content.

### Ratings

Each country is rated in these three categories, with the higher numbers indicating less freedom. Possible scores are the following: for legal environment, 0–30 points; for political influences, 0–40 points; and for economic pressures, 0–30 points. The total score is 0–100. A country's total score is based on the total of the three categories: a score of 0–30 places the

country in the free press group, 31–60 in the partly free press group, and 61–100 in the not free press group.

## Cross-References

► [Freedom](#)

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Data Source

All data, background information included, are available at the website of Freedom House. <http://www.un.org/en/documents/udhr/index.shtml>

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## Pressure/Tension due to Work

► [Occupational Stress in a Multicultural Workplace](#)

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## Preterm Born Babies

► [Low Birth Weight Babies](#)

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## Pretesting

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## Synonyms

[Pilot testing](#)

## Definition

Pretesting is the stage in survey research when survey questions and questionnaires are tested on members of target population/study population, to evaluate the reliability and validity of the survey instruments prior to their final distribution. Pretesting is widely regarded as indispensable in survey questionnaire development and is also crucial to improve data collection for quality-of-life research. It incorporates a variety of methods or combinations of methods.

## Description

Pretesting, probably as old as modern ► [sample survey](#), has evidently become a well-established practice by the late 1930s or early 1940s, as indicated by the title “Pretesting of Questionnaire” of Sletto’s (1940) paper in *American Sociological Review* and the remarks made by Katz (1940):

“In social surveys, moreover, it is an accepted practice to pretest attitudinal material to insure the exclusion of questions which can not be answered meaningfully by respondents. And this practice implies more qualitative analysis than do the trial runs of the polls.”(p. 277)

The goals of pretesting focus on identifying and fixing problems for both respondents and interviewers with regard to question content, structure and formatting, reducing ► [measurement error](#), and ultimately improving data quality. Misinterpretation of individual terms or concepts, confusion with the overall meaning of the question, problems with skip instructions, or questionnaire formatting may increase ► [measurement error](#) and result in missing data.

In the history of ► [survey research](#), researchers have developed many different methods to pretest survey instruments. The Census Bureau’s Methodology and Standards Council has divided these methods into two major categories: pre-field techniques and field techniques (U.S. Bureau of the Census 2003).

Pre-field methods, for example, respondent focus group, expert review, and cognitive interviewing, are generally used during the preliminary stages of questionnaire development. Field methods are used to test questionnaires under field conditions. They include interviewer debriefing/conventional pretesting, behavior coding, interviewer debriefing, respondent debriefing, response latency, split-sample test, and statistical modeling.

### Pre-field Methods

Respondent focus group uses in-depth group interviewing to gather information about a topic, to identify variations in language, terminology, or interpretation of questions and response options (U.S. Bureau of the Census 2003). The advantage of this method is that it produces information and insights made accessible by the group interaction in a limited period of time. However, respondent focus group is conducted in an early stage of the questionnaire development and does not permit a full test of the instrument.

Expert review draws on the expertise of experienced survey researchers in evaluating the questionnaire for potential interviewer and respondent task difficulty (U.S. Bureau of the Census 2003). It is useful to identify potential questionnaire problems, but is limited by lack of direct input from respondents.

Cognitive interviewing is to reveal the thought processes of respondents as they interpret and answer the survey questions. It can be conducted either concurrently or retrospectively, based on either thinking-aloud or probing paradigm. Thinking-aloud method asks participants to verbalize their thought processes in a laboratory setting, while the role of cognitive interviewer is to facilitate the verbalization but to intervene as little as possible (Ericsson & Simon, 1980; Loftus, 1984). When probing strategy is used, interviewers directly ask questions about the

basis for responses and guide the interaction generally (Belson, 1981; Converse & Presser, 1986). Researchers have argued for both advantages and disadvantages of thinking-aloud and probing, for example, probing may create problems of artificiality that thinking-aloud appears to avoid, thinking-aloud might interfere with the actual process of responding whereas probing should not (Beatty & Willis, 2007). The distinction between these two modes is not distinct however (Willis, 2005), and it is appropriate to adopt both in practice.

### Field Methods

Interviewer debriefing, or conventional pretesting, involves trained interviewers conducting a number of interviews in the field and then relating their experiences with administering the questionnaire and offering their views about the questionnaire's problems during the debriefing (Presser et al., 2004). Also, the distributions of response from the field may be tallied. Interviewer debriefing usually reveals questionnaire problems signaled either by the answers to the questions or by some other respondent behavior observed by interviewers when or after asking the questions. Thus, it is ill suited to uncovering problems that will not be visible in the reactions of respondents to the questions and that respondents themselves may be unaware of.

Behavior coding involves monitoring or reviewing the interaction between interviewers and respondents from live or taped field or telephone interviews. Certain behaviors indicative of a problem, for example, interviewers change the wording of the question, respondents ask for clarification, are coded. Questions that have large number of coded behaviors are seen as problematic. In addition to the frequency of the individual behaviors, the sequence of interviewer and respondent behaviors is also drawn on in an extension of behavior coding proposed by Van der Zouwen and Smit (2004). In contrast to the

other techniques, behavior coding requires a sufficient sample size to collect quantitative information and to address analytic requirements. This allows systematic detection of questions needing repair. However, it does not address the source of the problems. Similar to interviewer debriefing, behavior coding can only detect problems manifest in interviewer or respondent behavior.

Respondent debriefing informs respondents the completion of the main interview and then asks general probing questions or standardized, retrospective questions, to elicit information about respondents' experience of the interview and interpretations of survey questions (Martin, 2004). A successful respondent debriefing requires that question designers have a clear idea of potential problems so that good debriefing questions can be developed.

Response latency was introduced thanks to the widespread diffusion of computer-assisted ► [survey administration](#) in the 1990s. This method indirectly evaluate the questions through measurement of the time it takes a respondent to answer a question (Bassili & Scott, 1996; Draisma & Dijkstra, 2004). The underlying rationale is that longer delays signal respondent uncertainty and inaccurate responses. The disadvantage of this method is that it is less straightforward compared to the other methods. The promising properties of response latency lie in the ease and low-cost of collecting data.

The above-mentioned pretest methods identify questionnaire problems and suggest revisions to address the problems but are not sufficient to tell whether the revisions are improvements. Split-sample test is experimental comparison of the original and revised items or design to determine which one is better or to measure differences between them. Experimental comparison has long been used in ► [survey research](#). Sletto (1940) conducted three experiments to explore the impact of questionnaire length on response rate, the effect of different appeal letters, the differences between postal cards, and letters used as follow-up notices. More recently, split-sample test

is used to compare question wordings or even versions of entire questionnaires that vary in multiple ways (Fowler, 2004; Moore, Pascale, Doyle, Chan, & Griffiths, 2004; Tourangeau, 2004).

Statistical modeling refers to using statistical models to evaluate survey questions. The models explored by survey researchers include latent class analysis (LCA), item response theory (IRT) models, and the multitrait, multimethod (MTMM) measurement strategy (Andrews, 1984; Biemer, 2004; Reeve & Mâsse, 2004; Saris, van der Veld, & Gallhofer, 2004).

### Implications of the Proliferation of Data Collection Modes

Continuing technical innovations and new modes of administration, for example, computer-assisted personal interviewing (CAPI), computer-assisted self-interviewing (CASI), audio-CASI, interactive voice response, and web survey, have significant implications for the evaluation and testing of survey instruments. For example, response may be affected by the mode of questionnaire administration; as a result, pretesting must consider the delivery mode, the layout and design of the instrument, and the technical aspects of the hardware and software used (Presser et al., 2004).

### Discussions

Pretesting is crucial in survey research as questionnaire designers are trying to identify potential problems with the instrument and to reduce sources of ► [measurement error](#). There are a variety of pretesting methods developed as ► [survey research](#) and cognitive psychology advance. Each has its own advantages and disadvantages and is suitable to use at different stages. Comparison studies suggest a reasonable consistency across different pretesting methods and indicate that researchers need not to choose this method over that one; instead, combining different methods appears to be most fruitful (Forsyth, Rothgeb, & Willis, 2004;

Presser & Blair, 1994; Rothgeb, Willis, & Forsyth, 2001; Willis, Schechter, & Whitaker, 1999). Moreover, problem identification does not automatically lead to problem solving. Future research needs to address the challenges posed by expanding modes of administration, surveying children, and populations using multiple languages (de Leeuw, Borgers, & Smits, 2004; Harkness, Pennell, and Schoua-Glusberg 2004; Smith, 2004). Equally importantly, more research is needed to investigate the connection between problem identification and ► [measurement error](#), to gain more guidance in repairing the problems and improving the survey instrument.

## Cross-References

- [Measurement Error](#)
- [Reliability](#)
- [Study Population](#)
- [Survey Research](#)

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## Prevalence

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## Synonyms

Point prevalence; Prevalence proportion; Prevalence rate

## Definition

Prevalence is defined as the number of observation units in a population presenting specific conditions or characteristics at a particular point in time divided by the total number of observation units in the population at that time.

## Description

The concept of prevalence is generally used in descriptive epidemiology and represents one of the two main measures of disease or morbidity (Gordis, 2000; pp. 32–35). The other frequently used measure of morbidity is called incidence. Although these two concepts were developed within the field of epidemiology, they can be used in other contexts to denote the occurrence of a particular health-unrelated characteristic in the target population relevant

to quality of life research. For example, we may be interested in measuring the prevalence of people with tertiary education in a community or the prevalence of households with motorized transport.

Prevalence reflects the level of occurrence of a characteristic or condition at a certain point in time. It is affected by the incidence of a condition as well as its duration. The higher the incidence and duration of a condition, the greater its prevalence will be (Rothman, 2002; pp. 40–44).

Prevalence is generally expressed per 100 units (in the form of percentages). However, it can also be expressed using larger multipliers, such as 1,000 ( $10^3$ ) or 100,000 ( $10^5$ ). The choice is arbitrary and depends in the main on the level of prevalence, whereby larger multipliers are preferred when reporting rare characteristics or conditions. If we define  $a$  as the number of units in a given population with a specific characteristic at a given time and  $b$  as the number of units in the same population without a specific characteristic, prevalence can be defined as follows:

$$a/(a + b) \times \text{specific multiplier (e.g., 100)}$$

Although the formula to calculate the prevalence rate of a characteristic or condition is simple, obtaining valid prevalence estimates is not a straightforward matter. A series of factors may affect the numerator and denominator of the prevalence estimate (Gordis, 2000; pp. 36–38). Specifically, the numerator depends on how the characteristic or condition of interest is operationalized, on the ► [reliability](#) and validity of the measures used to assess it, and on the representativeness of the study sample. Different measures of the same construct may result in very different estimates. For example, studies examining the prevalence of health-enhancing levels of ► [physical activity](#) have reported very different prevalence rates when using different

instruments (Brown, Bauman, Chey, Trost, & Mummery, 2004; Peters et al., 2010). Hence, when reporting prevalence estimates, it is imperative that the precise operationalization of the condition/characteristic be clearly reported. It is also necessary to use measures with good measurement properties. The denominator may be adversely affected by our inability to obtain a representative sample of the population or reliably assess study eligibility criteria. It is, thus, important for prevalence studies to provide a detailed report of the sampling strategy and clear definitions of eligibility criteria.

Prevalence data or prevalence studies are useful in tracking the history of a characteristic, disease, or behavior and, from an epidemiological perspective, are fundamental and useful measures of burden of disease in a community (Gordis, 2000; p. 33). Prevalence data provide particularly useful information when the studied characteristic or condition is long lasting. They allow public health professionals, social and behavioral scientists, and policy makers to gain insight into the trends of certain diseases, conditions, or behaviors and to respond accordingly by planning and implementing interventions aimed at addressing an identified problem.

## Cross-References

- [Physical Activity](#)
- [Reliability](#)

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## Prevalence Odds Ratio

► [Odds Ratio](#)

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## Prevalence Proportion

► [Prevalence](#)

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## Prevalence Rate

► [Prevalence](#)

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## Primary Degenerative Dementia

► [Global Deterioration Scale \(Individuals\)](#)

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## Primary Goods

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### Synonyms

[Rawls' basic goods](#)

### Definition

The term “primary goods” has been introduced by John Rawls to denote the basic goods and liberties that all individuals in a society ought to have (Rawls, 1971, 2001). Under the principles of justice, all individuals in a society are expected to have equal right to basic liberties thus being able to advantage the most from the liberty they experience. Equal rights to basic liberties mean equal opportunities to all and a fair chance in realizing their aims and goals.

### Description

John Bordley Rawls (1921–2002), Professor at Harvard University at the time he died, was an American Philosopher and an influential thinker in the tradition of liberal political philosophy (Freeman, 2007; 2009; Wenar, 2008). His contribution to moral and political philosophy is well recognized and honored. Rawls was awarded the Schock Prize for Logic and

Philosophy (1999) and the National Humanities Medal (1999). Rawls' work is noted for its influence on a number of disciplines. The publication of *A Theory of Justice* (Rawls, 1971) has admittedly served for the revival of political philosophy albeit it has also received great attention from scholars in economics, law, political science, sociology, etc. (Freeman, 2007, 2009; Wenar, 2008).

Rawls (1957, 2001) work focuses on ► [social justice](#) as the outcome of fair allocations. He advocated that under a veil of ignorance, a fair agreement is one which situates all individuals as equals. Through a thought experiment, Rawls advocates the original position argument and the social contract device as central elements in his approach of achieving ► [distributive justice](#). In justice as fairness, Rawls accepts human beings to be both rational and reasonable. Rational individuals wish to achieve certain ends. At the same time, individuals might also be reasonable if they are happy to achieve these ends cooperatively, that is, through adhering to mutually acceptable regulatory principles. In the original position and under a veil of ignorance, the principles of justice that should prevail are comprised of the ► [liberty](#) principle and the fair equality of opportunity principle. The liberty principle establishes equal basic liberties for all citizens, whereas a basic liberty entails the freedom of conscience, association, and expression as well as democratic rights. Rawls expands the list of the traditional liberal basic liberties to include a personal property right, in order to underline the importance of moral capacities and self-respect, a fact that differentiates his theory from the argument of a natural right to self-ownership advocated by classical ► [liberalism](#) (John Locke) and libertarianism (Robert Nozick). The fair equality of opportunity principle is necessary if liberties are to represent meaningful options for all individuals in a society. ► [Social exclusion](#) and ► [marginalization](#) impede the real opportunities of people, yet differences in endowments (e.g., natural talents) are expected to yield different benefits for individuals, that is, the difference principle.

In his influential work on Political Liberalism, Rawls (1993) addressed the issue of stability, and how this could be achieved when a society is structured along his two principles of justice. An equally influential work refers to The Law of Peoples (Rawls, 1999) wherein Rawls formulated a comprehensive theory of international politics.

## Cross-References

- ▶ [Distributive Justice](#)
- ▶ [Liberalism](#)
- ▶ [Marginalized Communities](#)
- ▶ [Social Exclusion](#)
- ▶ [Social Justice](#)

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## Prince George, British Columbia, Canada

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## Definition

Prince George is a city in the central interior of the Province of British Columbia, Canada, about 800 km north of Vancouver.

## Description

At the 2006 census, the city had 70,981 inhabitants, including 35,545 (50.1 %) females and 4,045 (5.7 %) residents with a Bachelor's degree. The age distribution included 19.2 % aged 0–14, 71.2 % aged 15–64, and 9.6 % aged 65 and over. The median per capita income was \$27,670 (Can), with \$39,728 for males and \$20,274 for females (BC Stats, 2009).

In most years from 1994 to 2008, the city had at least one mailout survey sent to a random sample of 2,000 households each year. A core set of

items in these surveys consisted of about a dozen focused on residents' ► **perceived quality of life**. In 1998, the city entered into a partnership with the Institute for Social Research and Evaluation at the University of Northern British Columbia that committed both partners to sponsoring at least one survey per year on topics jointly selected by them but always including the core set. Results of most surveys may be found on the websites of the city and Institute.

The general format of the core set of items was a variation of Andrews and Withey's (1976) Delighted-Terrible Scale as revised in Michalos (1980). ► **Satisfaction with life as a whole** and with domains of life was introduced as follows.

Here are some aspects of people's lives. Please indicate how satisfied you are with each of them. Indicate whether you are (1) very dissatisfied, (2) somewhat dissatisfied, (3) a little dissatisfied, (4) about evenly balanced, (5) a little satisfied, (6) somewhat satisfied, (7) and very satisfied with each of the following.

How satisfied are you with the following? (Please circle the number indicating your response.)

Your house, apartment, or mobile home	1	2	3	4	5	6	7
Your ► <b>neighborhood</b>	1	2	3	4	5	6	7
Your ► <b>family</b> relations	1	2	3	4	5	6	7
Your living partner	1	2	3	4	5	6	7
Your job	1	2	3	4	5	6	7
Your friendships	1	2	3	4	5	6	7
Your ► <b>health</b>	1	2	3	4	5	6	7
Your religion or spiritual fulfillment	1	2	3	4	5	6	7
Your financial security	1	2	3	4	5	6	7
Your recreational activities	1	2	3	4	5	6	7
Your ► <b>self-esteem</b>	1	2	3	4	5	6	7
Your life as a whole	1	2	3	4	5	6	7
Your overall ► <b>quality of life</b>	1	2	3	4	5	6	7

Respondents' ► **happiness** was measured with the following item.

Considering your life as a whole, how happy would you say you are? (Please circle your response.)

Very unhappy	1
Somewhat unhappy	2
A little unhappy	3
Evenly balanced	4
A little happy	5
Somewhat happy	6
Very happy	7

Table 1 gives the mean satisfaction and happiness scores for 14 items appearing in 13 city surveys taken in the 1994–2008 period. Across the whole period, the respondents' levels of satisfaction with their living partners are higher than all others, followed immediately by satisfaction with their family relations. Explanations of happiness, satisfaction with life as a whole, and satisfaction with the overall quality of life were given for most surveys listed in the table using a Bottom-Up Model with satisfaction in domains of life, standard demographic variables (e.g., age, sex, ► **education**, employment status), and a variety of other measures used as explanatory variables (predictors, independent variables). Examples of the variety of topics explored in the city with the aim of measuring their impact on the perceived quality of life with and without the core domain satisfaction variables and demographic variables include public services usage, ► **taxes**, satisfaction, and preferred changes (Michalos, 1996; Michalos & Zumbo, 1999); criminal victimization (Michalos & Zumbo, 2000); ► **health** and ► **health care** (Michalos, Zumbo, & Hubley, 2000); ethnicity and ► **modern prejudice** (Michalos & Zumbo, 2001); health and health care of older people (Michalos, Hubley, Zumbo, & Hemingway, 2001; Michalos et al., 2007); healthy days measurement of health (Michalos & Zumbo, 2002); policing services (Michalos, 2002); leisure activities and health (Michalos & Zumbo, 2003); ► **arts-related activities** (Michalos, 2005); and youth, aboriginals, and the unemployed (Michalos & Orlando, 2006).

**Prince George, British Columbia, Canada, Table 1** Prince George mean satisfaction<sup>a</sup> and happiness<sup>b</sup> scores, 1994–2008

	1994	1997	1997	1998	1998	1999	2000	2000	2000	2001	2003	2004	2005	2007	2008
Domains of life															
Your house	5,8 N = 501	5,4 July N = 715	5,5 Nov. N = 737	5,8 Nov. N = 723	5,6 Dec. N = 743	5,8 April N = 554	5,7 Nov. N = 430	5,6 May N = 698	5,6 Nov. N = 618	5,7 Nov. N = 387	5,6 Nov. N = 519	5,6 April N = 411	5,6 Nov. N = 519	5,6 April N = 411	5,6 May N = 657
Your neighborhood	5,7	5,4	5,3	5,9	5,3	5,6	5,6	5,5	5,6	5,5	5,6	5,5	5,7	5,5	5,7
Your family relations	5,9	5,9	6,0	5,7	5,6	6,0	5,9	5,9	5,9	5,8	5,9	5,8	5,8	5,9	5,8
Your living partner	6,1	6,1	6,3	5,9	6,0	6,3	6,4	6,2	6,1	6,1	6,2	6,1	6,2	6,2	6,2
Your job	5,4	5,4	5,4	5,1	5,3	5,4	5,5	5,2	5,2	5,3	5,2	5,3	5,3	5,6	5,3
Your friendships	5,8	5,9	5,8	5,6	5,8	5,9	5,8	5,8	5,6	5,7	5,6	5,7	5,6	5,8	5,6
Your health	5,6	5,6	5,4	5,3	5,3	5,5	5,6	5,4	5,2	5,4	5,2	5,4	5,2	5,3	5,1
Your spiritual fulfillment	5,4	5,4	5,3	5,0	5,2	5,4	5,5	5,2	5,3	5,2	5,3	5,2	5,3	5,3	5,3
Your finance security	4,7	4,8	4,6	4,3	4,0	4,8	4,6	4,6	4,5	4,8	4,5	4,8	4,7	5,2	6,0
Your recreation act.	5,0	4,9	4,9	4,7	4,9	5,1	5,0	5,1	5,0	5,1	5,0	5,1	4,8	5,1	5,0
Your self-esteem	5,5	5,6	5,5	5,2	5,4	5,6	5,7	5,5	5,4	5,5	5,4	5,5	5,4	5,7	5,6
Your life satisfaction	5,6	5,8	5,8	5,5	5,6	5,9	5,7	5,7	5,6	5,7	5,6	5,7	5,6	5,8	5,6
Your quality of life	5,7	5,6	5,6	5,5	5,3	5,7	5,6	5,7	5,4	5,6	5,4	5,6	5,5	5,6	5,6
Your happiness	5,6	5,6	5,5	5,6	5,4	6,0	5,5	5,8	5,7	5,9	5,7	5,9	5,7	5,9	5,8

<sup>a</sup>Based on 7-point Likert scales running from “very dissatisfied = 1” to “very satisfied = 7”

<sup>b</sup>Based on 7-point Likert scale running from “very unhappy = 1” to “very happy = 7”

Source: Surveys by the Institute for Social Research and Evaluation, University of Northern British Columbia

## Cross-References

- ▶ [Urban Ecology](#)
- ▶ [Urban Health](#)
- ▶ [Urban Quality of Life Estimates](#)

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## Principal Component Analysis

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## Definition

Principal components analysis is a particular – and commonly deployed – form of factor analysis.

Principal components analysis first identifies a latent variable which is as close to (as correlated with) all of the original variables as possible. It then identifies a second latent variable uncorrelated with the first, which is as close to the residual variation in the original variables as possible; and continues until it has exhausted all of the variation, creating  $n$  latent variables, where  $n$  is the total number of original variables being studied.

Principal component analysis is widely used across the social sciences to identify general patterns in large data sets. It has been widely used, for example, in the categorization of different types of neighborhood in cities (often termed factorial ecologies) that have been used not only in descriptive analyses of the urban residential fabric but also in commercial marketing strategies – generally known as geodemographics – focused on particular types of neighborhood where there are common patterns of purchasing and other behaviors (geodemographic classifications are widely used in British electoral campaigns, for example).

As set out in the discussion of factor analysis, principal components analysis differs from classical factor analysis because, in deriving latent variables, the former treats the entire variance in the correlation (or similar) matrix when it is searching for commonality, whereas the latter searches only within the common variance.

## Cross-References

- ▶ [Simple Component Analysis](#)

## Recommended Reading

Rogerson, P. A. (2010). *Statistical methods for geography: a student's guide* (3rd ed.). London: Sage.

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## Principal Stratification

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### Definition

A *principal stratification* with respect to a posttreatment variable is a partition of units into latent groups defined by the joint potential values of that posttreatment variable under each of the treatments being compared.

*Principal causal effects* are comparisons of ► [potential outcomes](#) within a principal stratum.

### Description

#### Introduction

Principal stratification has been proposed by Frangakis and Rubin (2002) as a general framework to address causal inference problems where treatment comparisons require to be *adjusted for* posttreatment variables, which are on the *causal pathway* between the treatment and the primary endpoint.

Principal stratification has its seeds in the instrumental variable methods as described in Angrist, Imbens, and Rubin (1996), and Imbens and Rubin (1997), and it has been developed and formalized in the potential outcome approach to causal inference.

A *principal stratification* with respect to a posttreatment variable is a partition of units into latent classes defined by the joint potential values of that posttreatment variable under each of the treatments being compared. By definition, principal strata are not affected by treatment

assignment; therefore, a principal stratification can be used just like any classification of units into cells defined by pretreatment variables to define meaningful causal estimands within principal strata, to discover treatment effect heterogeneities, and to state identifying assumptions as behavioral assumptions on the principal strata. A principal stratification is the core of the *principal stratification framework*, which can be defined as a general approach to formalize and address causal inference problems where causal estimands of interest are defined in terms of posttreatment intermediate variables. A *principal stratification analysis* focuses on the analysis of principal strata and principal strata effects: once a principal stratification has been defined, the objective is to draw inference on principal strata membership and principal strata effects (comparisons of treatments within principal strata), or more generally on the distribution of potential outcomes within strata.

A class of examples, where principal stratification is crucial to define and causally interpret the parameters of interest, includes randomized experiments suffering from posttreatment complications, such as noncompliance with treatment assignment (e.g., Angrist et al., 1996; Hirano et al., 2000; Imbens and Rubin, 1997), unintended missing outcomes (e.g., Mealli and Pacini, 2008), and truncation by death (e.g., Rubin, 2006), combinations of these complications (e.g., Frangakis and Rubin, 1999; Mattei and Mealli, 2007) and extensions to nonbinary intermediate variables (Jin and Rubin, 2008; Schwartz et al., 2011). Principal stratification is a key organizing principle also for addressing the topic of direct and indirect effects, arising when an intermediate variable may mediate the effect of the treatment on the response, in some way channeling a part of the treatment effect (e.g., Mealli and Rubin, 2003) and the problem of surrogate endpoints, where focus is on defining the concept of “good” surrogate, that is, the criteria that an intermediate variable should be satisfied to be used in place of the primary endpoint, when measurement of the primary outcome is too expensive, inconvenient, or unfeasible in a reasonable time spell.

### Principal Strata and Principal Causal Effects

Consider a group of units, indexed by  $i = 1, \dots, n$ . Let  $W_i$  denote the treatment assignment for unit  $i$ :  $W_i = 1$  if the unit is assigned to the active treatment and  $W_i = 0$  if the unit is assigned to the control treatment. The objective is to assess the *causal effect* of assignment on an outcome  $Y$ . Let  $S$  stand for an additional posttreatment variable, which is on the causal pathway between the treatment,  $W$ , and the main endpoint,  $Y$ . Assume that there are no pretreatment variables or to be already within cells defined by a specific value of such variables.

As running example, consider a randomized experiment with two drug treatment conditions. The outcome of primary interest is Quality of Life (QoL) at 1 year after assignment. The patients in the study are seriously ill, and some will die before completion of the study. Because survival may be affected by the treatment, it is a posttreatment variable as QoL. Therefore, focus can be on evaluating the causal effects of the drug on both QoL and survival. Drawing inference on the effect of the treatment on survival status is standard. Drawing inference on the effect of the treatment on QoL is more tricky, because QoL is “truncated (censored) by death,” that is, QoL can be observed only on patients who do not die and is not only unobserved but also undefined in some sense when death occurs. Formally, QoL can be defined on an extended space, including the positive real numbers and an asterisk,  $\{R, *\}$ , where the asterisk represents the QoL for patients who die (Rubin, 1998, 2000). Traditional approaches to address the problem of truncation by death often assume QoL as missing or censored or assign it a value of zero. These approaches do not account for the fundamental difference between truncation by death and standard missing or censored data situations and do not generally lead to properly defined causal estimands (e.g., Zhang and Rubin, 2003).

Let  $Y_i(w)$  and  $S_i(w)$  denote the potential outcomes of  $Y$  and  $S$ , respectively, if unit  $i$  were assigned treatment  $W = w$ ,  $w = 0, 1$  (the Stable Unit Treatment Value Assumption, SUTVA, is assumed, Rubin, 1980). The observed data include the assigned treatment level,  $W_i$ , and the

observed values of the outcomes, which can be defined as  $S_i^{obs} = W_i S_i(1) + (1 - W_i) S_i(0)$  and  $Y_i^{obs} = W_i Y_i(1) + (1 - W_i) Y_i(0)$ .

Traditional analyses of scientific problems where treatment comparisons need to be adjusted for a posttreatment confounded variables  $S$  are typically based on a standard method that directly controls for (conditions on) observed values of that posttreatment variable,  $S_i^{obs}$ , resulting in estimates that generally lack causal interpretation (e.g., Rosenbaum, 1984). The key to understanding that such adjustments may be unsatisfactory is to recognize that  $S_i^{obs}$  is  $S_i(W_i)$ , that is, the observed value of one of two potential values  $S_i(0)$ ,  $S_i(1)$ , depending on treatment assignment. Principal stratification as general framework for adjustment for the posttreatment variable always generates causal effects because it always compares potential outcomes for a common set of units, defined by stratifying units on the joint values of the potential values of the intermediate variable,  $S$ . Formally,

The basic principal stratification  $P_0$  with respect to post-treatment variable  $S$  (with support  $S$ ) is the partition of units  $i = 1, \dots, n$  such that, all units within any set of  $P_0$ , have the same vector  $(S_i(0), S_i(1))$ .

A principal stratification  $P$  with respect to post-treatment variable  $S$  is a partition of the units whose sets are unions of sets in the basic principal stratification  $P_0$  (Frangakis and Rubin, 2002).

Henceforth, the posttreatment intermediate variable  $S$  is assumed to be binary (e.g., taking on values 0 and 1), although the framework of principal stratification can be immediately generalized to posttreatment variables that are categorical or continuous (e.g., Jin and Rubin, 2008; Schwartz et al., 2011), multivariate posttreatment intermediate variables (e.g., Mattei and Mealli, 2007), as well as to categorical or continuous treatment variables, multivariate treatment variables, or combinations of these variables.

If  $S$  is a binary variable, the basic principal stratification cross-classifies units into four latent groups:  $00 = \{i: S_i(0) = S_i(1) = 0\}$ , which comprises a proportion  $\pi_{00}$  of all units;  $10 = \{i: S_i(0) = 1, S_i(1) = 0\}$ , which comprises

a proportion  $\pi_{10}$  of all units;  $01 = \{i: S_i(0) = 0, S_i(1) = 1\}$ , which comprises a proportion  $\pi_{01}$  of all units; and  $11 = \{i: S_i(0) = S_i(1) = 1\}$ , which comprises a proportion  $\pi_{11}$  of all units. Then, an example of principal stratification  $P$  is the partition of subjects into two principal strata, given by the union of the basic principal strata  $00$  and  $11$ , and the union of the basic principal strata  $10$  and  $01$ , respectively. The first principal stratum,  $00 \cap 11$ , includes subjects whose posttreatment variable is unaffected by treatment in the study (i.e., with  $S_i(0) = S_i(1)$ ), and the second principal stratum,  $10 \cap 01$ , includes the remaining subjects (i.e., with  $S_i(0) \neq S_i(1)$ ).

In the QoL study,  $S$  represents the survival indicator, and patients can be classified into the following four principal strata:  $DD \equiv 00$ , those who would die under either treatment assignment, for whom  $Y_i(0) = Y_i(1) = *$ ;  $LD \equiv 10$ , those who would live under control but die under treatment, for whom  $Y_i(0) \in \mathbb{R}_+$  and  $Y_i(1) = *$ ;  $DL \equiv 01$ , those who would die under control but live under treatment, for whom  $Y_i(0) = *$  and  $Y_i(1) \in \mathbb{R}_+$ ; and  $LL \equiv 11$ , those who would live under either treatment assignment, for whom  $Y_i(0) \in \mathbb{R}_+$  and  $Y_i(1) \in \mathbb{R}_+$ .

A principal causal effect is a comparison between the potential outcomes  $Y_i(0)$  and  $Y_i(1)$  within a particular stratum (or union of principal strata). Formally,

Let  $P$  be a principal stratification with respect to the posttreatment variable  $S$  and let  $G_i$  indicate the stratum of  $P$  to which unit  $i$  belongs. Then a principal effect with respect to that principal stratification is defined as a comparison of potential outcomes under standard versus new treatment within a principal stratum  $g$  in  $P$ , i.e., a comparison between the ordered sets  $\{Y_i(1): G_i = g\}$  and  $\{Y_i(0): G_i = g\}$  (Frangakis and Rubin, 2002).

The key property of principal strata is that they are not affected by treatment assignment, because the ordered pairs  $(S_i(0), S_i(1))$  are viewed as fixed characteristics of the subjects, and therefore they can be used just as any pretreatment variable to define subgroup causal effects. Critically, a causal effect must be a comparison of potential outcomes under treatment and control on a common subset of units.

Principal effects are always well-defined causal effects, because they are comparisons of potential outcomes under treatment and control on a common subset of units: (union of) principal strata.

A well-defined real value for the causal treatment effect on QoL exists only for patients belonging to the  $LL$  principal stratum. Therefore, the average treatment effect of primary interest is the average principal causal effect for the  $LL$  group:  $E[Y_i(1) - Y_i(0) \mid S_i(0) = 1, S_i(1) = 1]$ , which is usually called the Survivor Average Causal Effect (*SACE*). For the  $LD$  and  $DL$  groups, inference can only focus on the marginal distribution of QoL under control and under treatment, respectively, while for the  $DD$  patients there is no information on QoL.

Unfortunately, the principal stratum to which a subject belongs cannot be, in general, observed, because only the survival status under control,  $S_i(0)$ , or under treatment,  $S_i(1)$ , but not both, can be observed for any unit. What can be observed are the following four groups:  $OBS(0,0) = \{i: W_i = 0, S_i^{obs} = 0\}$  (those who are assigned to control and  $S_i^{obs} = S_i(0) = 0$ , i.e., die);  $OBS(0,1) = \{i: W_i = 0, S_i^{obs} = 1\}$  (those who are assigned to control and  $S_i^{obs} = S_i(0) = 1$ , i.e., live);  $OBS(1,0) = \{i: W_i = 1, S_i^{obs} = 0\}$  (those who are assigned to treatment and  $S_i^{obs} = S_i(1) = 0$ , i.e., die); and  $OBS(1,1) = \{i: W_i = 1, S_i^{obs} = 1\}$  (those who are assigned to treatment and  $S_i^{obs} = S_i(1) = 1$ , i.e., live). Each individual is observed to fall into one of these four groups and also belongs to one latent group. If all four principal strata exist, each observed group would be a mixture of two principal strata: those in  $OBS(0,0)$  can belong to either  $00$  or  $01$ ; those in  $OBS(0,1)$  can belong to either  $10$  or  $11$ ; those in  $OBS(1,0)$  can belong to either  $00$  or  $10$ ; and those in  $OBS(1,1)$  can belong to either  $01$  or  $11$ .

### Inference with Principal Strata

Inference about principal causal effects involves prediction of the subjects' missing memberships to the principal strata as well as prediction of the subjects' missing potential outcomes. Without making any distributional assumptions, large

sample bounds for principal causal effects can be obtained under unconfounded treatment assignment mechanisms. For instance, Zhang and Rubin (2003) derived large sample bounds for *SACE* and showed how these bounds can be sharpened under additional assumptions, such as, monotonicity, which rules out the existence of the *LD* group (patients who would live under control, but would die under treatment), and stochastic dominance, which implies that the QoL distribution for the *LL* group under treatment (control) is stochastically higher than the QoL distribution for the *DL* group (*LD* group) under treatment (control).

In finite sample, estimated bounds may turn out to be uninformative, in which case making additional assumptions may be useful. If pretreatment variables are available, auxiliary information from them can be used to enhance efficiency of estimation and to sharp the bounds: pretreatment variables can improve both prediction of the missing potential outcomes as well as prediction of principal strata membership. Further sharpening of the bounds can be pursued

exploiting (semi-)parametric models. Although both Bayesian and likelihood methods can be applied, Bayesian inference appears to be particularly appropriate for dealing with problems of causal inference. A Bayesian principal stratification analysis allows one to transparently specify causal models and explicitly define and separate structural behavioral assumptions. Moreover, model assumptions and priors on parameters can be clearly defined.

In model-based causal inference with principal strata, a general stochastic model for the potential outcomes and principal strata conditional on the pretreatment variables, denoted by  $X_i$ , should be specified. To this end, the joint distribution of the potential outcomes and principal strata conditional on  $X_i$  can be factorized into the product of the principal strata model, which describes, as a function of the pretreatment variables and an unknown parameter  $\theta^{(S)}$ , the probabilities of the principal strata and the models for the potential outcomes in each of the principal strata, which depend on the second parameter  $\theta^{(Y)}$ :

$$\begin{aligned} \mathcal{L} + (\theta^{(S)}, \theta^{(Y)} | \mathbf{W}, \mathbf{X}, \mathbf{S}^{obs}, \mathbf{Y}^{obs}) = & \\ & \prod_{i \in OBS(0,0)} \left[ \sum_{s=0,1} p(S_i(0) = 0, S_i(1) = s | X_i; \theta^{(S)}) \cdot p(Y_i(0) | X_i, S_i(0) = 0, S_i(1) = s; \theta^{(Y)}) \right] \\ & \times \prod_{i \in OBS(0,1)} \left[ \sum_{s=0,1} p(S_i(0) = 1, S_i(1) = s | X_i; \theta^{(S)}) \cdot p(Y_i(0) | X_i, S_i(0) = 1, S_i(1) = s; \theta^{(Y)}) \right] \\ & \times \prod_{i \in OBS(1,0)} \left[ \sum_{s=0,1} p(S_i(0) = s, S_i(1) = 0 | X_i; \theta^{(S)}) \cdot p(Y_i(1) | X_i, S_i(0) = s, S_i(1) = 0; \theta^{(Y)}) \right] \\ & \times \prod_{i \in OBS(1,1)} \left[ \sum_{s=0,1} p(S_i(0) = s, S_i(1) = 1 | X_i; \theta^{(S)}) \cdot p(Y_i(1) | X_i, S_i(0) = s, S_i(1) = 1; \theta^{(Y)}) \right] \end{aligned}$$

where  $\mathbf{W}$ ,  $\mathbf{S}^{obs}$ , and  $\mathbf{Y}^{obs}$  are  $n$ -dimensional column vectors with  $i$ th elements equal to  $W_i$ ,  $S_i^{obs}$ , and  $Y_i^{obs}$ , respectively, and  $\mathbf{X}$  is a matrix with  $n$  rows and  $i$ th row equal to  $X_i$ . Based on the principal stratification model, inference on the causal parameters of interest can be drawn using alternative methods of computational statistics,

including methods for iterative maximization, such as the EM algorithm (Dempster et al., 1977) or its extensions, and methods for iterative simulation, such as Markov chain Monte Carlo techniques involving the data augmentation method of Tanner and Wong (1987). These methods allow one to disentangle the mixture

components by imputing the missing principal strata membership and to exploit the complete-data likelihood function, based on observing  $\mathbf{W}$ ,  $\mathbf{S}^{obs}$ ,  $\mathbf{Y}^{obs}$ , and  $\mathbf{X}$  as well as the vector of principal strata membership  $\mathbf{G}$ . Clearly a Bayesian approach requires also to specify a priori distributions, whose choice can be of considerable importance.

In some studies, one may also wish to impose some restrictions on the models, such as monotonicity, stochastic dominance, and exclusion restrictions (which imply that the unit-level causal effects are zero for units belonging to the 00 and 11 principal strata). These additional assumptions may facilitate inference, allowing one to uniquely disentangle the mixtures of distributions associated with latent principal strata. However, depending on the substantive empirical setting, (some of) these additional assumptions may be not reasonable. For instance, exclusions restrictions cannot be invoked in randomized experiments suffering from truncation by death, where they would rule out a priori treatment effects for the LL group that are being sought. Relaxing these assumptions usually leads to models that are weakly identified, weakly in the sense that the likelihood function has substantial regions of flatness, and thus it cannot be approximated well by the standard asymptotic normal distribution. From a Bayesian perspective, even when the likelihood is rather flat, if the prior is proper, so will be the posterior.

### Additional Applications of Principal Stratification

#### Noncompliance

In most research involving human subjects, the study, although carefully implemented, may suffer from complications due to noncompliance with the randomly assigned treatment. Let  $S_i(w)$  be the indicator for the treatment received (1 for active, 0 for control) given assignment  $w$ . Units in the target population can be partitioned into four types based on their compliance behavior:  $c$  (compliers if  $S_i(w) = w$  for  $w = 0, 1$ ),  $n$  (never-takers if  $S_i(w) = 0$  for  $w = 0, 1$ ),  $a$  (always-takers if  $S_i(w) = 1$  for  $w = 0, 1$ ), and  $d$  (defiers if

$S_i(w) = 1 - w$  for  $w = 0, 1$ ). This stratification of units in subpopulations characterized by their potential compliance is a special case of principal stratification. In the presence of noncompliance, the average causal effect that is, generally, of primary interest is the complier average causal effect (CACE), which is a principal causal effect, namely, the causal effect of assignment for the subpopulation of compliers. CACE can be identified under the exclusion restrictions for never-takers ( $Y_i(1) = Y_i(0)$  for all  $i$  with  $S_i(1) = S_i(0) = 0$ ) and always-takers ( $Y_i(1) = Y_i(0)$  for all  $i$  with  $S_i(1) = S_i(0) = 1$ ) and the monotonicity (or no-defier) assumption ( $S_i(1) \geq S_i(0)$  for all  $i$ ) (e.g., Angrist et al., 1996).

#### Unintended Missing Outcomes

When there are unintended missing outcomes, the posttreatment potential variable  $S_i(w)$  represents a response indicator for  $Y_i(w)$ : the observation of  $Y_i(w)$  is missing if  $S_i(w) = 0$ . Therefore, units under study can be stratified into four principal strata, according to the joint values of the two potential response indicator: 11, those who would respond under treatment and under control; 01, those who would respond under treatment but not under control; 10, those who would not respond under treatment but would respond under control; and 00, those who would never respond regardless of treatment assignment. Note that, while causal effects of the treatment are well defined for the whole population, and thus for all latent groups, only in stratum 11 can one observe  $Y_i(1)$  for some respondent units under treatment and  $Y_i(0)$  for some other respondent units under control. On the contrary, in the other three strata, the outcome can be observed only for respondents in at most one of the two treatment arms. What makes stratum 11 interesting is the fact that only in this stratum can one hope to learn something about the causal effect, even if it may not be an interesting stratum per se.

#### Direct and Indirect Effects

Many research questions involving causal effects are often concerned with understanding the causal pathways by which a treatment affects an

outcome. Principal causal effects naturally provide information on the extent to which a causal effect of the treatment on the primary outcome occurs together with a causal effect of the treatment on the intermediate outcome. Specifically, a principal strata direct causal effect of the treatment, after controlling for the intermediate outcome, exists if there is a causal effect of the treatment on the primary outcome for subjects belonging to principal strata where the mediator is not affected by the treatment (principal strata 00 and 11).

### Surrogate Endpoints

In studies where measurement of the primary outcome,  $Y$ , may be too expensive or unfeasible in a practical time spell, surrogate variables are often used to evaluate the effects of the treatment on  $Y$ .

Frangakis and Rubin (2002) propose a principal surrogate criterion based on principal stratification to define and evaluate a surrogate: an intermediate variable  $S$  is a principal surrogate if all the principal strata effects for the subpopulations where the treatment does not affect the intermediate variable (i.e.,  $S_i(0) = S_i(1)$ ) are zero. Therefore, if  $S$  is a good surrogate, causal effects of treatment on outcome  $Y$  may only exist when causal effects of treatment on the posttreatment variable  $S$  exist.

### Concluding Remarks

Principal stratification is a general framework that can be used to describe and address intrinsically different problems. Although a principal stratification analysis generally focuses on some specific principal strata effects, substantial information on the causal problem at hand can be obtained by conducting a *full* principal stratification analysis, where the distributions of pretreatment variables and potential outcomes in each principal stratum are investigated.

### Cross-References

► [Potential Outcomes](#)

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## Printmaking

- ▶ [Arts and Quality of Life](#)

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## Priorities

- ▶ [Importance Rating\(s\)](#)

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## Privacy Preferences

- ▶ [Introvert/Introversion](#)

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## Privacy, an Overview

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### Definition

“Selective control of access to the self or to one’s group” (Altman, 1975, p. 18).

“Privacy is the claim of individuals, groups, or institutions to determine for themselves when, how and to what extent information about them is communicated to others” (Westin, 1967, p. 7).

### Description

This discussion revolves around two highly influential theories of privacy that have developed within the fields of psychology (Altman, 1975) and political science (Westin, 1967). Both theories reflect a Western philosophical approach to privacy which can be different from the perception of privacy in other cultures (Altman, 1977). Privacy is an important concept in Western countries (especially England), and it is within this context that privacy will be discussed. Even within a society, there are alternatives to the norms, particularly among those who have been institutionalized or are mentally ill (Chapman & Carder, 2003; Goffman, 1961; Ittelson, Proshansky, & Rivlin, 1970). It is important to recognize these differences at the start of the discussion in order to emphasize that the definition of privacy will be culturally specific and based on societal norms.

In Western thought, it has been argued that the most private aspect of the individual is the mind, an inner sanctum to which only the individual has access. The body acts as a conduit and a boundary between the mind and the world beyond. Control of access to the self (i.e., the body and the mind) is a key theme that runs through both Westin and Altman’s work.

### Westin’s Theory

Westin’s theory is based on the control of information about the self. He suggests that the desire for privacy is a continually changing goal, balanced with a desire to participate in society and reveal information about the self. He theorizes that there are four types of privacy depending on the situation the individual is in: solitude, intimacy, anonymity, and reserve. Solitude is selected by individuals in situations where they wish to be free from observation by others. An individual chooses intimacy when they are part of a small group that wishes to be close with one another to the exclusion of others not in the group. For an individual in a crowd, anonymity allows them to express themselves freely, safe in

the knowledge that they are unimpeded by identification. Reserve can be described as a psychological barrier used to prevent unwanted intrusion (Westin, 1967, p. 31). Through the use of these four types of privacy, an individual is able to develop and maintain a sense of autonomy. The process involves emotional release (when a person can shed their mask and be themselves) and self-evaluation (the absorption and integration into the self of information which an individual has received).

Westin's four types of privacy have been corroborated and added to through empirical research (Marshall, 1974; Pedersen, 1979). Marshall and Pedersen independently identified six types of privacy, bringing more depth to Westin's original four. Marshall identified intimacy, not neighboring, seclusion, solitude, anonymity, and reserve as types of privacy in her research on suburban households. In Pedersen's locationally nonspecific research, he identified solitude, anonymity, reserve, isolation, intimacy with friends, and intimacy with family. Both studies, as well as Westin's work, suggest that the location where a person seeks privacy can have ramifications for achieving particular types of privacy. For example, Marshall's study highlighted that five of her six privacy types were achievable in the suburban home (anonymity in an urban crowd being the exception). Solitude can be achieved in locations other than the home; for example, national parks and urban forests are specifically used by people seeking solitude (Hammit, 2000). However, Pedersen (1979) suggests that solitude does not require the individual to be in a remote location. He claims that being alone and away from people is isolation and that for some individuals this would be an unpleasant experience rather than a desired goal.

### Altman's Theory

As with Westin's theory, Altman's theory is based on control. Altman's theory and definition of privacy revolve around the premise that privacy is used to control access by others to the self

or one's group. Privacy is controlled through the use of one or a combination of behavioral mechanisms: verbal, nonverbal, environmental, and culturally based (Altman, 1975). Verbal mechanisms are how and what people say to one another to obtain their preferred level of privacy. Nonverbal mechanisms are body language and facial expressions used to regulate privacy. They are frequently used when a person is standing or sitting too close to someone; for example, arms and legs are used as barriers, and eye contact is commonly avoided (*ibid.*). Altman identifies two types of environmental mechanisms: clothing and personal space. Wearing the clothing you wish to wear can be interpreted as a sign that an individual is in control of themselves and their privacy (*ibid.*). Personal space is used to regulate privacy by controlling the distance between the self and other people. The amount of space between people can indicate the degree of intimacy between them (Hall, 1969), although this varies widely between cultures. The fourth behavioral mechanism is culture; the norms and customs for regulating privacy vary widely. Physical barriers, such as closed doors, are an important feature of privacy regulation in Western culture, whereas in other cultures (e.g., Javanese culture), physical barriers are not used at all (Altman, 1975).

As a result of the constant use of behavioral mechanisms, privacy regulation is an active and dynamic process that continually adapts as the situation changes. The process of control is viewed as a balancing act between an individual's desired level of privacy and their actual level of privacy. Altman understands this as an "interpersonal boundary-control process" (*ibid.*, p. 29). The ideal level of privacy is achieved when the desired level and the actual level are equal. When this does not happen, a person can be left feeling crowded (actual privacy is lower than desired privacy) or isolated (actual privacy is higher than desired privacy). Regulating privacy is important for individuals for three reasons. The first reason is that it can help in the management of interactions between the self and others, thereby contributing to self-definition. The second reason is that "privacy . . . provides the

opportunity for a person to assimilate experiences and information, and to examine possible future relationships with others” (Altman, 1976, p. 25). The third reason is that sufficient privacy allows a person self-knowledge, defining them as an autonomous individual. As a result of good privacy regulation, a person is more able to interact with others because they are aware of their own personality and limitations (ibid.).

Altman’s conceptualization of privacy has been explored across many different subject areas (Margulis, 2003). The effect of the environment on individual privacy is an important aspect of Altman’s theory (1975), where the environment is the “objective, physical environment,” that is, the environment we are in and which we move through (Margulis, 2003, p. 420). The relationship between the objective, physical environment and privacy has been explored in a variety of settings such as the home, mental institutes, schools, and workplaces (e.g., Archa, 1977; Kupritz, 1998). Consistent across the various studies is an understanding that the objective, physical environment has the potential to impact on the behavior of occupants (Margulis, 2003).

### Altman and Westin Compared

A comparison of Westin’s and Altman’s theories of privacy is helpful, and there are many more similarities than differences between the theories. Both authors view privacy as a means of controlling access to the self, as well as a means of developing self-identity and evaluating the self. They also classify privacy: Altman names his classifications as types of privacy situations (1975, 1976), and Westin calls them states and functions (1967). Pedersen suggests that Westin’s states were developed in an ad hoc manner, although Pedersen’s empirically tested states are remarkably similar to those devised by Westin (Pedersen, 1979). There are two major differences between the theories. First, Altman’s theory is more comprehensive and encompasses all aspects of privacy phenomena, whereas Westin’s theory concentrates on information privacy. It has been suggested that Altman’s

comprehensive approach lacks adequate definitions and that the relationships between concepts are vague (Foddy, 1984); however, this does enable other researchers to expand and delineate concepts and definitions. The second difference is that although Westin does not present a clear definition of secrecy, he focuses on the similarities between privacy and secrecy (Westin, 1967; Margulis, 2003). Conversely, Altman focuses on the relationship between privacy and the environment and how the environment can affect privacy. Also, Altman is explicit that his theory is about the relationship between controlling privacy and controlling social interactions with others.

### Cross-References

- ▶ [Built Environment](#)
- ▶ [Gated Communities](#)
- ▶ [New Urbanism](#)
- ▶ [Public Housing](#)
- ▶ [Sense of Place](#)
- ▶ [Urban Design](#)
- ▶ [Urban Renewal](#)

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## Private Community

- ▶ [Gated Communities](#)

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## Private, Public, and Collective Self-Constraint

- ▶ [Independent/Interdependent Self](#)

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## Privation

- ▶ [Deprivation](#)

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## PRO – Patient-Reported Outcome

- ▶ [Translating Health Status Questionnaires/Outcome Measures](#)

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## Probability Distribution

- ▶ [Estimator](#)

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## Probability of a True Positive Decision

- ▶ [Power Analysis](#)

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## Probability Proportional Sampling

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### Synonyms

[PPS sampling](#); [Probability proportional to size sampling](#); [Unequal probability sampling](#)

### Definition

Probability proportional sampling, usually known as probability proportional to size (PPS) sampling, is an unequal probability sampling technique, in which the probability of selection for each sampling unit in the population is proportional to an auxiliary variable.

### Description

Probability proportional sampling is used in ▶ [survey research](#) when the sampling units vary in size or in other important aspects that the researchers want to take into account in the sample design. With probability proportional sampling, the inclusion probability for each sampling unit is different and is proportional to an auxiliary variable, which is usually a size measure for each of the sampling units. The size measure can be a measure of population size or geographical size of the sampling units or a composite measure for other related information about the sampling units, depending on the purpose of the survey. When probability proportional sampling is used, a larger sampling

unit has a higher probability of being selected into the sample. The auxiliary variable for each sampling unit in the population must be greater than zero so that all elements in the population have a known and nonzero inclusion probability.

Probability proportional sampling is widely used in survey research with multistage sample design. Because of cost and other practical considerations, simple random sampling is not always feasible in quality of life research. In practice, multistage sample designs are more commonly used in population-level surveys. In multistage samples, equal probability of selection for the primary sampling units (PSUs), which may vary in the population size, can subsequently lead to unequal selection probability for the ultimate sampling units. That is, an element from a small PSU will have a higher probability of being selected into the sample than an element from a large PSU. In contrast, equal selection probability for ultimate sampling units is possible if the sampling is done with probability proportional to size in the early stage of a multistage sample. Therefore, many large-scale social surveys with complex sample design have implemented probability proportional sampling in at least one of the sampling stages. Examples of these surveys include Current Population Survey (CPS), Eurobarometer (EB), Health and Retirement Study (HRS), National Health Interview Survey (NHIS), National Survey of Families and Households (NSFH), and Programme for International Student Assessment (PISA).

Probability proportional sampling is also sometimes used in one-stage cluster sampling, when the clusters are geographical areas (such as counties, districts) or organizations (such as schools, hospitals, and factories) that vary in size. In such cases, probability proportional sampling may reduce sampling variance and improve precision for estimation, if the auxiliary information used in the sampling is correlated with the variables of interest (Hartley & Rao, 1962).

A variety of selection procedures for implementing probability proportional sampling has been proposed since 1940s. Probability

proportional sampling can be done either with or without replacement. Hansen and Hurwitz (1943) first proposed a sampling procedure with inclusion probability proportional to size and with replacement. A few years later, Madow (1949) and other researchers proposed various procedures for probability proportional sampling without replacement (e.g., see Horvitz & Thompson, 1952; Hartley & Rao, 1962; Durbin, 1967). Although probability proportional sampling with replacement is relatively simple, probability proportional sampling without replacement is more common in practice, for its relative efficiency over probability proportional sampling with replacement (Brewer & Hanif, 1983). However, implementing probability proportional to size sampling without replacement is more complicated than sampling with replacement.

Brewer and Hanif (1983) and Chaudhuri and Vos (1988) comprehensively reviewed various procedures of probability proportional sampling without replacement. Each of the sampling procedures differs in their features, strengths, and limitations. For example, some of these methods are only applicable in selecting two sampling units per draw. Also, the inclusion probability for a sampling unit can be exactly or approximately proportional to its size, depending on the selection procedure chosen. Among the variants of probability proportional sampling procedures, systemic sampling with probability proportional to size (also known as systemic PPS sampling) is one of the simplest probability proportional sampling procedures. Systemic PPS sampling procedure was first proposed by Madow (1949). PISA is an example of surveys that used systemic PPS sampling. In PISA, schools were sampled with systemic PPS sampling. Although systemic PPS sampling is relatively simple to use, an unbiased variance estimator for systemic PPS sampling is hardly obtainable. For detailed descriptions of different selection procedures for probability proportional sampling, readers can consult Cochran (1977); Brewer and Hanif (1983); Levy and Lemeshow (2011), and Thompson (2012).

There are several disadvantages of probability proportional sampling. First, researchers have to know some auxiliary information about sampling units in the population before the sampling process begins. In surveys that the PSUs are geographical areas such as cities or districts, it is convenient to use census information to assist the sampling process. For other types of sampling units such as schools, factories, or hospitals, researchers have to gather information about the size of each sampling unit beforehand. When the auxiliary information is not readily available, researchers may use other related information to estimate the size measure. In such cases, the technique is called probability proportional to estimated size (PPES) sampling. Nevertheless, probability proportional sampling is infeasible when no auxiliary information about the sampling units is available prior to the survey.

In addition, special attention to variance estimation is always required when probability proportional sampling is used. Variance estimation is difficult for some sample designs with probability proportional sampling such as systemic PPS sampling. Since the most popular statistical software packages in social science (such as SAS, SPSS, and Stata) by default assumed that the data to be analyzed are from simple random sampling, researchers who analyze data from a sample with probability proportional sampling have to specify the sample design, sometimes with the help of some specialized modules, for their analysis.

### Cross-References

- ▶ [Census](#)
- ▶ [Estimator](#)
- ▶ [Eurobarometer](#)
- ▶ [Inference, Statistical](#)
- ▶ [National Health Interview Survey \(NHIS\)](#)
- ▶ [Programme for International Student Assessment \(PISA\)](#)
- ▶ [Quality of Life Research](#)

- ▶ [Sample Survey](#)
- ▶ [Sampling Error](#)
- ▶ [Subsample](#)
- ▶ [Subsampling](#)
- ▶ [Survey Research](#)

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### Probability Proportional to Size Sampling

- ▶ [Probability Proportional Sampling](#)

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### Probing Questions or Probes

- ▶ [Follow-Up Questions](#)

## Probit Ordinary Least Squares (POLS)

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### Definition

It is an econometric method intended as an alternative to the ordered probit analysis in the context of happiness economics. See also ► [Cardinal Ordinary Least Squares \(COLS\)](#).

### Description

This method is intended as an alternative to ordered probit (OP) analysis or COLS. Actually, it seems to be a viable alternative to OP if the number of explanatory variables is large. The comparative advantage of the method is that it is much less computer intensive and yields in most cases approximately the same results as OP or COLS. It stems from van Praag and Ferrer-i-Carbonell (2004).

OP is the established workhorse to analyze categorical questions nowadays. It is applied to all types of questions where the answer is in terms of ordered response categories like “bad,” “good” or “probable,” and “rare.” Those questions are found in the context of satisfaction questions, such as the Cantril question, propensity questions, and ordinal probability questions. In an increasing number of cases, the categories are just numerically labeled, running from 1 to 5, etc. At the moment, most satisfaction questions are formulated in terms of numerical response categories.

It is well known that OP starts from the idea that there is a latent variable  $u = \beta'x + \varepsilon$ , which we observe discretely. The error term  $\varepsilon$  is assumed to be  $N(0,1)$  distributed. If the number of explanatory variables is large and only mildly correlated, the central limit theorem predicts that  $\beta'x$  will be approximately normally distributed in the sample, and hence, the same holds for the sum

$\beta'x + \varepsilon$ , and on this assumption, the POLS method is based.

The situation in OP and in POLS is the following. We have a partition into intervals  $I_1, \dots, I_j$ , where  $I_j = (\mu_{j-1}, \mu_j]$ , where we assume that if respondent  $n$  answers the response  $j_n$ , there will hold  $u_n \in I_{j_n}$ . The chance on finding this response is  $p_j(x_n) = N(\mu_j - \beta'x_n) - N(\mu_{j-1} - \beta'x_n)$ . Then OP prescribes to maximize the joint likelihood  $p_{j_1}(x_1) \dots p_{j_N}(x_N)$  of the sample with respect to the unknown parameters  $\beta$  and  $\mu$ . It is well known that if the number of different categories tends to infinity, then OP tends to ordinary least squares. The problem with OP is no longer in the requirement to evaluate normal integrals on a large scale. There is plenty of software, which makes applying OP a matter of routine. However, the problem comes with the generalizations. It is well known that OLS stands at the basis of all multivariate linear methods like linear multi-equations systems and the analysis of panel data. It stands to reason that, since the essential difference between OLS and OP is the difference in the observation, precisely or categorically, of the dependent variable, all methods belonging to the body of multivariate linear analysis will find their counterparts in OP problems where the dependent variable(s) is observed categorically. It is here that the OP method becomes difficult to apply, and in fact, it is frequently impossible to apply it in practice, due to the great number of high-dimensional integrals to be calculated. For instance, if we have a longitudinal data set of 6 periods, consisting of 1,000 individuals and a non-diagonal error covariance matrix, we would have to compute 1,000 six-dimensional integrals, and as the OP method is necessarily iterative, for say five iterations, we would have to evaluate 5,000 six-dimensional integrals. This becomes soon prohibitive in practice. The POLS method is devised to escape this problem.

We reduce the problem to an OLS version as follows by making use of the fact that the sum result  $u$  is approximately normally distributed. The chance on its observation is the sample frequency  $p_1$ , and the corresponding interval for  $u$  is  $(-\infty, \mu_1]$ , where  $\mu_1$  is found

from the equation  $N(\mu_1) = p_1$ . Hence, we assign to  $u$  for individuals in the first category  $\bar{u}_1 = E(u | -\infty < u \leq \mu_1) = \frac{-n(\mu_1)}{N(\mu_1)}$ . Similarly, we find for the second category  $N(\mu_2) = p_1 + p_2$ , and accordingly,  $\bar{u}_2 = E(u | \mu_1 < u \leq \mu_2) = \frac{n(\mu_1) - n(\mu_2)}{N(\mu_2) - N(\mu_1)}$ , where we use a well-known formula for conditional averages of the normal distribution (see, e.g., Johnson and Kotz (1970) and Maddala (1983)).

Now the POLS method consists in regressing the equation  $\bar{u}_{jn} = \beta'x_n + \beta_0 + \varepsilon_n$ . This method may be generalized to the other members of the class of linear multivariate methods without requiring computer-intensive integral evaluations. Experience (see, e.g., van Praag and Ferrer-i-Carbonell (2004) where the outcomes of OP have been compared to POLS outcomes) shows that the  $\beta$  estimates are almost the same except for a factor of multiplication. Hence, the trade-off ratios between variables  $\beta_i/\beta_j$  will be approximately the same, and we are mostly only interested in those trade-off ratios. This holds for the reliability in terms of  $T$  ratios as well.

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**Problem Behavior**

- ▶ [Deviance](#)
- ▶ [Family Features and Violent Behavior](#)

**Problem Drinking**

- ▶ [Substance Abuse](#)

**Problem Structuring Methods**

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**Synonyms**

PSM

**Definition**

To some practitioners, PSMs can be thought of as first a step within the broad field of problem solving in that they involve the identification of the problem (or problem finding), their shaping (defining), and often the means to address potential problem resolution. For more convinced practitioners, PSMs can be considered as an entire method of thinking, “brands” or products which contain formulae for approaching issues of all kinds and even approaches which contain potential for paradigm shift on the part of the problem owner. PSMs have been used, celebrated, and criticized for some considerable time.

**Description**

In their landmark book, Rosenhead and Mingers (2001) defined PSMs as “*methods for structuring issues, problems and decision situations, rather than ‘solving’ them*” (page xiii) and provided a forum where the main methods could be compared and contrasted. Rosenhead and Mingers (2001) presented the PSM icons and aligned them in a sympathetic analytical conceptual framework – providing an opportunity to judge merits and potential weaknesses. The first chapter of their book sets out the history of the development of PSMs which are shown to have emerged from a shift in the way in which the world is seen. This in turn can be argued to be a result of the relative failure of traditional and largely

quantitative methods to cope with the complexity and “messiness” apparent in many human-centered systems. Within such messy systems a clearly identifiable problem may be the exception rather than the norm, and in practice there may be many problems and issues, all of which interact in complex ways and change rapidly over time. The chapter articulates what are often experienced as aird intellectual ideas and puts flesh on the bones by aligning organizations and personalities with change and flux. The chapter sets the scene for PSMs which were nonquantifiable, participatory, and shared between stakeholders in the problem context (for further elaboration of this point, see Taket & White, 2000 and Chambers, 2002).

Rosenhead and Mingers (2001) provide reviews of thinking and practice making use of a range of methods and methodologies (sometimes seen as “brands”), specifically: Strategic Options Development Analysis (SODA), Soft Systems Methodology (SSM), Strategic Choice Approach (SCA), Robustness Analysis (RA), and Drama Theory (DT). All these PSMs can be argued to have as their goal the liberating of linear forms of “problem solving” from conventional and closed mentalities. The methods and methodologies are linked to academics and/or practitioners and teaching establishments; they tend to be participatory in expression, involve action research (and related) approaches, and engage in reflective practice. They share many features and are well established in the literature and among PSM practitioners. However, it can be argued that this is indicative of problems with PSMs, both in terms of their formalization and the context of much of their application (e.g., the manner in which most PSMs are delivered, the “workshop”). Yet PSMs as sensemaking devices have much to offer, especially within challenging contexts – including projects involving emotive as well as more formal themes such as sustainable development. PSMs can be valuable but at the same time are often constrained within the boundaries of the typical vehicle of PSM practice – the project. A project approach can tend to focus on time and budget and preproject identified “outputs.” This point will be returned to,

relating it to contexts where “messy” issues of sustainable development, environmental change, democratizing agencies, and conflict (or “SEDC”) are experienced.

## PSMs in Different Use Traditions

Rosenhead and Mingers (2001) have detailed the specific use of PSMs by individuals and groups but have not really focused on how groups work per se. If PSMs are to have wide value, then this is seen primarily in the work of groups.

Others have explored the literature on group development (Smith, 2001). Rightly, Lewin (1947), with his defining work gave us the term “group dynamics.” The idea that groups had their own formative processes and that these could be understood and managed was widely described in the literature. Lewin’s work on how group minds could be unfrozen, changed, and frozen again led to a series of developments such as Tuckman’s stages model (Tuckman, 1965; Tuckman & Jensen, 1977) – which is important in that it provided notions of “forming,” “storming,” “norming,” and “performing” and which provided much of the foundation for the Linear model of group development (Smith, 2001 p. 17). The Linear model involves a “stages” approach to group development. Working from this foundation, Fisher’s notion of “decision emergence” (Fisher, 1970) developed the literature, and this had further impacts through to more contemporary ideas, e.g., Morgan et al.’s TEAM model (Morgan, Salas, & Glickman, 1994) and Gersick’s Punctuated Equilibrium (Gersick, 1991):

The model resulting from this research was based on the observation that teams alternated between periods of stasis and long periods of inertia that were “punctuated by concentrated revolutionary periods of quantum change”. (Smith, 2001 p. 35)

In the development of group thinking understanding, there have been noticeable divisions in the practice base which group work and PSM use involves. Bion (1961) was a formative agent in the development of the psychodynamic model. His work has found many advocates in the psychodynamic traditions (e.g., as seen in the work and

methods of the Tavistock and Bayswater Institutes (<http://www.tavinstitute.org/> and <http://bayswaterinst.org/index.html>). In a different domain, ideas relating to the group have been fed into “systems” thinking and practice (e.g., see Bateson (1972) and Maturana (1997)).

The applying of PSMs to the work of groups is an area worthy of note. Both the psychodynamic and systems traditions have innovated reflective and practical group working training ideas. The systems tradition is more familiar to most PSM practitioners. The role of the facilitator is unambiguously set out to guide and encourage the groups in *their* analysis of the problem and the methods applied. In this tradition it is the outputs of the group work that is the goal and the process is only important as the means to that goal. The facilitator may be contracted to help deliver these outputs within a defined time frame. This kind of approach may make use of approaches like Rich Pictures to allow groups to get to know each other in an informal manner (Carrizosa, 1997), but the approach never involves studying the group and its output in a psychological manner. The facilitator may intervene in various ways to help address “issues” that might emerge although care does need to be taken that the help does not overstep into a more therapeutic intervention (on the one hand) or into “leading” or “directing” (on the other). Intervention by an unpracticed facilitator can have major impact on group function. This is especially so if the facilitator feels under pressure in terms of timely delivery (workshop may last for a day or perhaps less) or ensuring that what emerges is in tune with the goals of those who are funding and paying for the event. There is always a risk associated with any attempt to intervene. However, this more active sense of the role of the facilitator is the model which has been much more fully explored in the area of management training and specifically within the Focus Group (Denning & Verschelden, 1993; Fern, 2001).

In the PSM systems tradition the work of groups is well summarized in the various group working ideas set out by the Systems Group at the Open University. The “systems summer school”

taught by the group “Experiencing Systems” (Open University, 2001) encouraged groups to work in a systemic manner with the aims:

- To introduce group members to one another in such a way as to enable them to learn a little about each other in a relaxed and informal setting;
- To ensure that the group forms;
- To heighten your awareness of group processes, and to show the value of reflecting on those processes;
- To introduce ways in which teams can work together;
- To introduce the idea of solving problems by using an explicit method for doing so. (Open University, 2001 p. 7)

It is useful to note that in the systems tradition there is no attempt to explore psychodynamic issues nor does the approach involve any attempt to accommodate or explore the unconscious as a factor in the ways in which groups work.

In contrast, in the psychodynamic field of practice, there is a necessary and expected need to take into account the operations of the conscious and unconscious within group work rather than the outputs per se. For example, Tavistock, working from the psychodynamic tradition, has developed the “Leicester Conference” ([http://www.tavinstitute.org/work/development/leicester\\_conference.php](http://www.tavinstitute.org/work/development/leicester_conference.php)) which claims it:

“Has been running since 1957, is designed for those who are looking to develop their leadership and managerial capacity to effect change in work groups and organisations and to improve their ability to work with complex and challenging issues. Each conference is a temporary organisation consisting of a series of events which are designed to enable the exploration of different work experiences and behaviour. So, there are no presenters as such; instead the conference staff offer working hypotheses based on their experiences and understanding of what is happening in the ‘here and now’ in the various events.” (Tavistock Website)

Similar but operationally different: “Managing Complexity in Organisations” of the

Bayswater Institute (<http://bayswaterinst.org/>). In this process groups are encouraged to:

- Explore the various internal and external forces which affect us, our roles and in our organisations;
- Design opportunities to explore the seemingly irrational and frequently unrecognised forces which may make for stress within groups and organisations;
- Develop ways of making such forces and their functions more explicit;
- Apply such understanding to the management of interdependencies and divergencies within and between groups, and to the management of 'boundaries' or interfaces with our environments;
- Widen the capacity for consultation, recognising the part it plays in managerial and professional competence. (Bayswater Website)

From psychodynamic to systems and from management schools to private consultants, PSMs as defined by Rosenhead and Mingers (2001) can be seen in terms of different use traditions and to be expressed, applied, and utilized in different and, at times, contrasting ways and for different purposes both in terms of the work of the group and in terms of the output expected from group processes.

### **PSMs Crossing the Use Tradition Boundaries: TTM**

More recently, attempts have been made to provide PSMs with crosscutting capacity to work both in terms of the facilitation of individuals and groups who wish to explore complex contexts but also to allow for self-reflective practice in the group, in line with psychodynamic methods. One such approach is Triple Task Methodology (TTM). TTM is a synthetic approach blending systemic, participatory, and action research.

It is systemic in that it applies focus to relationships between and within groups (Ackoff, 1995; Bertalanffy, 1968; Checkland, 1981; Flood, 1998; Senge, Ross, Smith, Roberts, & Kleiner, 1994).

It is participatory in that it attempts to answer research questions but also tries to understand what stakeholder held factors may have been at play in arriving at those answers (Chambers, 1997; Slocum & Thomas-Slayter, 1995; Stowell, West, & Stansfield, 1997).

It is action research (AR) in involving work within and with groups of stakeholders (Heron, 1996; Reason, 1994; Reason & Heron, 1995; Warmington, 1980).

The synthetic combination of these three makes TTM represents an adaptation from many other PSM techniques which are more focused on delivering outputs (possibly by representing "consensus" on a problem issue) and less concerned on the dynamic behind any real or supposed "consensus" and how the process may have influenced what emerged.

Participatory research takes many forms but the underlying philosophy is that all – be they "researcher" or "researched" – are involved in the design of a research process as well as in the interpretation of findings. In this sense power should be shared rather than being purely in the hands of the researcher. The key advantage can be summed up as "many heads are better than one" – especially if (as is usually the case) those many heads know more about the situation being explored than does the researcher. Indeed given that the situation may be complex, with numerous and multifaceted problems, it is highly likely that all participants, including the researcher, will learn from the insights of others. As a result the very process of doing the research can provide much learning and help bring about positive change, hence the term "action research" or a research process which is capable of and aiming at catalyzing action.

Some participatory action research methods stop at the point where outputs have been achieved (problems identified and shaped). Sometimes there is little or no attempt to appreciate the dynamics that may have been at play within the group to arrive at those outputs. Yet this is a key concern precisely because the situation under exploration is so complex and has the potential to impact on the problem structuring. Therefore, while it is likely that within each

group there will be some variation in perspective, as well as the meaning of terms such as “effectiveness,” participatory techniques can have a tendency to hide this and provide (an often incorrect) appearance of apparent consensus (Githens, 2009). The outcome of the analysis is inevitably framed by the experiences of those who were engaged with it but also the way in which they worked together. Thus, it is not unreasonable to consider that a number of different groups exploring the same situation could come up with a variety of divergent and indeed contradictory insights. Thus, unlike some approaches to action research, TTM begins with an assumption that it is not only what groups achieve while working together that matters but also the factors at play which have *allowed* them to get to where they have arrived at. TTM assumes that an understanding of this potential complexity of influence can help with an understanding as to why insights were arrived at and thus help with an appreciation of variation that may be seen between groups. Historically such variation in perspective has often been taken as a “given” and it is often in the hands of the facilitator(s) as to how they handle this. This association has often emerged in an anecdotal form. Experienced PSM facilitators can often “tell” when a workshop has worked “well,” whether some groups have been more insightful than others, whether the dynamics within some groups or the background of the individuals within those groups have hindered or helped their process of discovery, and so on. Thus, it is tempting to draw out an association between outputs and process, and unconsciously it is likely that facilitators will imbibe more value to some outputs that they consider to be richer in insight or perhaps more focused than are others, and in part this may be framed by their observations as to how the groups functioned. TTM attempts to bring this from the background to the foreground.

TTM, based on the Imagine PSM (Bell & Coudert, 2005; Bell & Wood-Harper, 2006; Bell & Morse, 2008), starts from that point and attempts to formally elucidate what the learning opportunities and associations may be. Eventually, and in a generalized sense, it may be

possible to provide a typography of groups with “outputs” and “process” as axes, and this may perhaps allow the identification of clusters which link these two variables (taking into account changes over time and group makeup). The key assumption here is that prior experience in action research can help inform facilitators in such ways as to enhance the effectiveness of the process. As pointed out above, this already happens either through debriefing meetings of facilitators during/after a workshop or through individual experience, and TTM provides a further enhancement of that learning. Critically, the typology provides a device for facilitator learning (be this facilitator as a member of the group or as an external researcher).

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## Problem-Focused Coping

- ▶ [Active Coping](#)
- ▶ [Emergency Workers’ Quality of Life](#)

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## Problems

- ▶ [Worries \(Global Measure\)](#)

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## Problem-Solving

- ▶ [International Literacy Assessments](#)

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## Problem-Solving in Technology-Rich Environments

- ▶ [International Literacy Assessments](#)

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## Procedural Democracy

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## Process

- ▶ [Design, an Overview](#)

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## Process of Achieving Projected Targets

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## Product Design

- ▶ [Design, an Overview](#)

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## Product Value, Educational

- ▶ [Institutional Quality and State Budget Cuts](#)

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## Productivity

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### Definition

#### Definition of Productivity

Productivity is formally defined as the ratio between the level of output and the level of inputs, a quantitative measure of production in terms of inputs. The OECD defines productivity as “the ratio of a volume measure of output to a volume measure of input.”

Productivity can be measured relating all inputs to output – total-factor productivity – or relating only one factor to output – single-factor productivity.

The most commonly used single-factor productivity measure is “labor productivity,” the total output per hour of work. Labor productivity relates to the total goods and services that a worker produces in a given interval of time, usually an hour. Labor productivity measures can be used at firm, industry, or country level. Labor productivity depends on other inputs – level of

production factors – and their productive efficiency – total-factor productivity. Hence, total-factor productivity can be the same in two different firms, but if one of them is more capital-intensive, it will have higher labor productivity.

It is straightforward to see that productivity can be increased either by increasing the level of output given the same level of inputs – output-enhancing productivity increases – or by keeping the same level of output but reducing the level of inputs – cost-reducing productivity increases. Thus, productivity increase can be achieved by different means, not necessarily excludable, and it does not need to mean higher output.

### Description

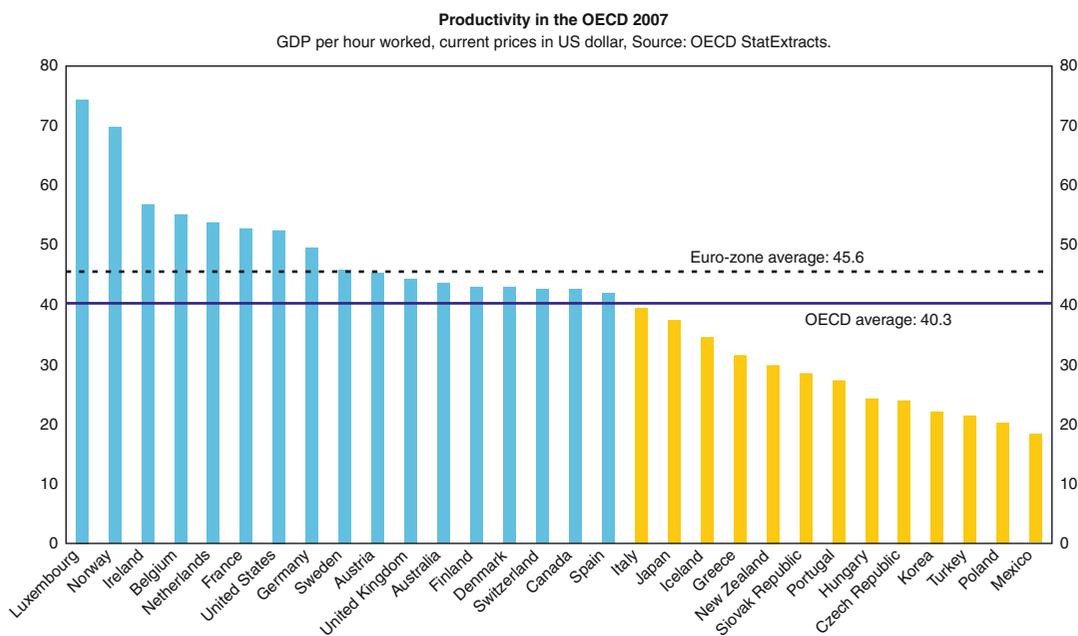
#### Sources of Productivity Growth

Productivity growth can be the result of different factors. The fundamental one is technological change, which itself may be of different types, purely technical, organizational, or distributional. Technological change relates to higher “know-how” to transform resources into output. It can be more efficient tools and machines, new technologies, better organization of production, better management, better distribution of resources, better work environment, etc. In this sense, research, development, and innovation (R + D + I) are essential. A further related factor is human capital accumulation; higher education and skills lead to higher productivity. But cultural and institutional factors are also relevant for productivity growth. Finally, incentives, mainly market opportunities, are also crucial to motivate productivity growth.

It is also important to notice that productivity level and opportunities for productivity growth are not the same in all activities. We can distinguish low-productivity from high-productivity activities or industries. Moving from the former to the latter is the typical long-term way of productivity growth.

#### Aggregate or National Productivity

Productivity of a country can be measured to indicate the productive capacity of its resources.



**Productivity, Fig. 1** Labor productivity in OECD countries in 2007

Aggregate productivity is in fact a key indicator of economic performance of a country.

Labor productivity of a country is usually measured using Gross Domestic Product (GDP) or Gross Domestic Value Added (GVA), in constant prices, as a measure of total output, and total hours worked in a year.

Several international organizations give measures of productivity for different countries. These measures are useful for international comparisons as well as to track evolution of specific countries over time. [Figure 1](#), for example, shows labor productivity for OECD countries in 2007.

Countries usually specialized in capital-intensive and/or highly skilled human capital sectors have higher labor productivity than countries specialized in low-skilled labor-intensive sectors.

### Productivity and Economic Performance

Both the level of productivity of a country and its evolution over time are fundamental determinants of economic growth (Saari, 2006). Constant

productivity growth, meaning more output and more income per capita, is fundamental for economic growth and increasing living standards of a country (Centre for the Study of Living Standards, 1998).

In terms of sustainability for a company or industry and of welfare for a region or country, the key point regarding productivity growth lies in the main source of that growth. When higher productivity is achieved through lower level of inputs, mainly lower employment, we can speak of “perverse” productivity growth. Crisis, due to employment destruction, can in fact generate productivity increases. “Good” productivity growth, on the other hand, comes from technological change and is related to higher output and, eventually, higher factor payments. This productivity growth means higher efficiency and leads to higher retributions and higher welfare.

### Productivity and Competitiveness

Productivity is usually related to competitiveness. The two can be related but do not mean

the same. Higher competitiveness can be achieved by lower factor payments, basically lower wages, without real higher productivity. Higher productivity, however, allows for higher competitiveness as well as higher constant or increasing factor retributions. In fact, constant and significant productivity increases, from technological change, are usually attributed to be the source of the long-term success of companies and industries and of sustained economic growth of regions and countries. Countries that base their competitiveness on lower wages tend to remain poor, while countries that base their competitiveness on higher productivity, through technical change, are able to increase their levels of national welfare. Each way heavily depends on sector specialization; while agriculture and low-skilled manufacturing are sectors where competitiveness tends to rely on lower wages, high-skilled industry and services are sectors where competitiveness relies more on high productivity and technical change and goes hand in hand with increasing living standards.

## Cross-References

► [Economic Efficiency](#)

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## Productivity in Service Economies

► [Performance Indicators](#)

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## Proenvironmental Behavior

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### Synonyms

[Behavior, sustainable](#); [Eco-friendly behavior](#); [Environmentally friendly behavior](#); [Environmentally responsible behavior](#); [Environment-preserving behavior](#); [Environment-protective behavior](#); [Favorable ecological behavior](#); [Green behavior](#); [Nature-friendly behavior](#)

### Definition

Proenvironmental behavior refers to any human behavior that has a positive direct or indirect impact, immediately or in the future, on maintaining ecological sustainability and/or enhancing ► [ecological well-being](#).

### Description

Proenvironmental behaviors can vary widely because all human actions can potentially impact ► [ecological well-being](#) (or well-being of the planet and its inhabitants). They range from very well-known (and symbolic) behaviors such as recycling paper to reducing car use and to ► [social activism](#). To make sense of this variety of behaviors, several classifications have been proposed (see Kaiser, 1998). While some classifications are based on the domain of life that is involved (e.g., ► [transportation](#), household, consumption, water management), others refer to how the resource is treated (e.g., recycled, reused, reduced). The difficulty and complexity of the behavior is also a criterion that can be used to organize proenvironmental behaviors. Finally, proenvironmental behaviors may also include behaviors that aim to enhance awareness of environmental issues, to build knowledge

of proenvironmental actions, and to change proenvironmental ► [attitudes](#), ► [values](#), and policies. Therefore, a comprehensive organization of proenvironmental behavior should distinguish between direct actions toward the environment and indirect actions that are mediated by individuals or others' ecological mind-set (or ecological intelligence; Goleman, 2009).

### The Five Rs of Proenvironmental Behavior

Proenvironmental behaviors can be organized according to two general categories: action oriented versus information oriented. The first category includes actions that an individual (or a group of individuals) makes to directly minimize his or her ► [ecological footprint](#) or enhance ecological well-being. These are often presented as the four Rs of environmental behavior: reduce, reuse, recycle, and recover. However, information-oriented proenvironmental behaviors are also important and lead to the fifth R: "rethink." Each of these five Rs includes subcategories of behavior.

"**Reduce**" refers to both the conservation of natural resources (e.g., reducing the use of water, paper, gasoline, the consumption of energy, food, and clothes) and minimizing the use of environmentally detrimental products (e.g., oil, ► [ozone-depleting substances](#), pesticides, and phosphates). For example, in the context of transportation, "reduce" encompasses several proenvironmental behaviors. Some of them strive to minimize the use of energy consumption by purchasing a low-fuel-consuming vehicle or using sustainable transportation (e.g., public or shared ► [transportation](#)) or animal- and human-powered transportation (e.g., walking, cycling). Others aim to use "green" energy that may have a lower detrimental impact on the planet (e.g., electric car). Reduce-type proenvironmental behaviors include both immediate actions and actions that have a long-term impact. For instance, one can reduce energy consumption by turning off lights when not in a room or by replacing conventional light bulbs with energy-efficient bulbs. The reduction of energy can also be achieved indirectly. For example, purchasing local food can be considered a reduce-type proenvironmental behavior because it means

a reduction in the energy required to transport food. Finally, it is worth noting that reduce-type behaviors are dominant in a voluntary simplicity lifestyle, where consumption is (voluntarily) reduced to the most basic and simple necessities of life.

"**Reuse**" commonly refers to giving objects a second life before they become waste. Examples are refilling plastic bottles, donating to charitable organizations, or buying second-hand clothing, equipment, furniture, and other items or using empty plastic containers for leftovers. Reuse-type proenvironmental behaviors can also include purchasing products specifically for reuse, such as travel mugs, cloth shopping bags, and glass water bottles or food containers instead of using plastic or Styrofoam.

"**Recycle**" can also refer to giving the objects a second life, but the "object" is actually transformed. The main objective of recycling is to reduce the amount of waste, especially environmentally toxic waste. When reducing and reusing is not possible, recycling is the alternative. Recycling aims to mimic the natural cycle that occurs in nature. The composting of food and kitchen waste is a natural form of recycling that is accelerated by human behavior. Recycling also contributes to reducing the use of energy to process the materials and prevents emissions of greenhouse gases and water pollutants. Although recycle-type behaviors are often considered as "easy" behaviors (in comparison to reuse and reduce; Green-Demers, Pelletier, & Ménard, 1997), the presence of facilities is an important factor in predicting this type of proenvironmental behavior.

"**Recover**" is maybe less known than the first three Rs. Recovery refers to both recovering energy from often neglected sources (e.g., burning trash to transform it into electricity, using ► [solar energy](#) or rain water, heating with naturally hot water) and restoring the natural environment in order to facilitate the return to a natural cycle (e.g., removing garbage, planting trees in agricultural fields, restoring rivers). Recover-type proenvironmental behaviors can be considered more nature oriented. The focus is on preserving nature's well-being by restoring

it and using only what the environment can offer (as opposed to the use of natural resources to maintain an unsustainable lifestyle while minimizing the negative impact on ecological well-being).

It is worth noting that the four Rs can apply to the same object. For example, individuals can reduce their consumption of plastic bottles, reuse them, recycle them, and recover them if found in natural environment.

“**Rethink**” is very different from the previous four Rs and is sometimes not considered as a form of proenvironmental behavior because it does not involve direct actions on the environment, natural resources, or products. Indeed, rethink-type proenvironmental behaviors include exchanges of information and social influences that aim to enhance awareness of environmental issues, build knowledge, and change attitudes, values, and policies. For example, people can read about environmental issues, keeping informed of the most recent developments and technology to facilitate reduce, reuse, recycle, and restore. However, a large part of rethink-type behaviors involve actions toward others by educating children and adults, engaging in conversations on environmental issues, and persuading government and industry to make decisions about environmental conservation (e.g., voting, signing petitions). This form of proenvironmental behavior can occur locally, such as a parent who educates a child, or globally, through social activism.

### Measurement

Proenvironmental behaviors can be assessed using methods common in psychology. The most direct measurement is the observation of individuals' behaviors. This can be done by observing the person acting on the environment (e.g., a person placing a plastic bottle in a recycling container) or the outcome of this behavior (e.g., the number of containers in a recycling bin, car use in a community, meter readings for energy use). While the first approach enables the study of psychological processes that may underlie proenvironmental behaviors, the latter method refers more to a sociological

approach in which the unit of analysis is the group or the society as a whole.

Direct observation is not always possible and may not cover all aspects of an individual's life. Therefore, scientists have developed more indirect measures of proenvironmental behaviors that rely on self-report surveys. The most common assessment tool is a general questionnaire that requires individuals to indicate, retrospectively, the frequency of proenvironmental behaviors or simple agreement on statements regarding their habits (see Kaiser, 1998 for a review and example of a general measure of ecological behavior). However, to address the common problems associated with general self-report (e.g., memory bias, lack of specificity and focus), researchers can opt for online measures of proenvironmental behaviors. For example, daily diaries or event-sampling methods can be used to assess proenvironmental behaviors as they occur on a daily basis or at specific times during the day.

The above measures enable the assessment of self-reported proenvironmental behaviors as they are currently performed or as they were performed in the past. However, other researchers have considered using intentions as indicators of behaviors (cf. Kaiser, 1998). Although it is well accepted that the intention-behavior correlation is often weak, it is possible to consider not only past proenvironmental behaviors but also future proenvironmental behaviors as an indication of habit. This is only possible if the behavior to be performed is congruent with the individual's lifestyle rather than a new resolution that involves changing habits.

### Proenvironmental Behaviors and Quality of Life

Proenvironmental behaviors have many implications for individuals' ► [quality of life](#). First, enhanced quality of life may be experienced as a direct consequence of one's proenvironmental behaviors (e.g., protecting an urban forest and enjoying time spent there). However, some proenvironmental behaviors require substantial changes to one's lifestyle and finances

(e.g., commuting by bicycle, installing solar water heating). The benefits may not be experienced immediately or even directly; the impact of proenvironmental behaviors may be delayed or experienced by other people or possibly even future generations. Thus, the positive effects of proenvironmental behaviors on quality of life are not always observed during or immediately following the behavior. However, an ecological lifestyle can be associated with long-term enhancement in quality of life.

► [Social well-being](#) can also be influenced by proenvironmental behaviors. Indeed, several researchers consider proenvironmental behavior as one branch of ► [prosocial behavior](#) (see Kaiser, 1998) and a potentially positive influence on social relations and community wellness.

Finally, by definition, proenvironmental behaviors positively impact ► [ecological well-being](#). Behavior is often characterized as proenvironmental based on criteria related to environmental science and ecology, however. Because all human actions can potentially impact the environment, it is important to consider the behavior within an ecological well-being model where a harmonious relationship between humans and nature is central.

## Cross-References

- [Attitude Measurement](#)
- [Basic Needs](#)
- [Car Ownership](#)
- [Charitable Donations](#)
- [Community Well-Being Index](#)
- [Ecological Footprint](#)
- [Ecological Literacy](#)
- [Ecological Well-Being](#)
- [Energy Consumption Per GDP](#)
- [Energy Efficiency Indicator](#)
- [Food Production and Supply](#)
- [Life Satisfaction and Sustainable Consumption](#)
- [Measurement Methods](#)
- [Nature Relatedness and Subjective Well-Being](#)
- [Ozone](#)
- [Parent-Child Relationship\(s\)](#)
- [Policy Analysis](#)

- [Prosocial Behavior](#)
- [Self-Report Bias in Estimating Cross-Sectional and Treatment Effects](#)
- [Social Activism](#)
- [Social Cohesion](#)
- [Social Well-Being](#)
- [Solar Energy](#)
- [Survey Research](#)
- [Sustainable Lifestyles](#)
- [Sustainable Transportation and Well-Being](#)
- [Transportation and the Quality of Life](#)
- [Value Theories](#)
- [Voting Behavior](#)
- [Walkability](#)
- [Water Consumption](#)

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## Professional Quality of Life Scale (PROQoL)

- [Emergency Workers' Quality of Life](#)

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## Profile Analysis

- [Multiple Scaling](#)

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## Profile of Nonverbal Sensitivity (PONS)

- [Measuring Emotion Recognition Ability](#)

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## Prognosis

- ▶ [Duke Severity of Illness Checklist](#)
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## Program

- ▶ [Democracy and Bureaucracy](#)
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## Program Evaluation

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### Definition

Program evaluation is a systematic way to collect, analyze, and use data to answer questions about a program so that the program can be improved and its effectiveness documented.

### Description

Program evaluation answers questions about a program's process and its outcomes. Process evaluation questions focus on describing the activities conducted in support of the program's objectives and the extent to which the program was implemented as planned. Answering process evaluation questions while a program is being implemented also allows us to identify problems and make necessary changes while the program is still operational. Example process evaluation questions include the following: What activities were implemented in support of the program? What was the reach of the program? Did the target audience react favorably to the program? How many materials were developed and distributed throughout the program? Under what context and environmental factors was the program

implemented? What lessons were learned from the program implementation? Outcome evaluation questions focus on the extent to which the program was effective in changing the targeted outcomes (e.g., attitudes, beliefs, behaviors, clinical values). Example outcome evaluation questions include the following: Was the program effective in increasing knowledge about X? Was the program effective in reinforcing positive attitudes about X? Was the program effective at positively influencing beliefs about X? Was the program effective in increasing intentions to X? A comprehensive evaluation must answer both process and outcome evaluation questions. For example, a program may be successful in attaining its process objectives, but if we do not have information about outcomes, we will not know if the program is worthwhile. Similarly, a program may be successful in changing participants' knowledge, attitudes, or behaviors, but if we do not have data about the program's implementation, we will be unable to identify the parts of the program that are associated with the changes.

Conducting a program evaluation requires a systematic, structured, and consistent method of collecting and analyzing data about the program (Administration for Children and Families, 2010). A program evaluation plan is a written document that specifies the design and details the practices and procedures used to conduct the evaluation. Developing an evaluation plan early allows time for review, obtaining all necessary ethical approvals or clearances, making necessary changes or adjustments, and testing out information collection procedures and instruments before beginning the data collection process.

*Preparing to Evaluate a Program.* One of the first steps in preparing for an evaluation is to engage stakeholders (Centers for Disease Control and Prevention [CDC], 1999). Stakeholders are the people or organizations that have a stake or interest in the evaluation results. Stakeholders may include sponsors, collaborators, partners, staff, target audience, family members of the target audience, and advocacy groups. Engaging

stakeholders early ensures that their perspectives are understood and can be reflected in the evaluation design. The scope and level of stakeholder involvement will vary for each program evaluation. For example, in some cases, stakeholders may be involved in designing and conducting the evaluation, while in other cases they are simply kept apprised of progress through meetings, reports, or other modes of communication.

The next step is to describe the program being evaluated. The description should include the program's need, expected effects, activities, resources, stage of development, context, and logic model. The statement of need describes the nature and magnitude of the problem or opportunity, which populations are affected, whether the need is changing, and in what manner the need is changing. The program's expected effects suggest what the program needs to accomplish to be considered successful. Because effects tend to unfold over time in most programs, it may be helpful to organize them by time (shorter and longer term). Activities are specific steps, strategies, or actions the program does to effect change. Program resources include the time, equipment, information, funding, and other assets available to conduct program activities. The stage of program development simply reflects the program's maturity as programs that have recently received funding will differ from those that have been operating for some period of time. The description of the program's context includes the setting and environmental influences within which the program operates (Worthen, Sanders, & Fitzpatrick, 1996). Finally, a logic model provides a structural framework for your evaluation (Julian, 1997). It represents a series of logically related assumptions about how the program will work and how it will bring about the desired change or effect in the target population. A logic model generally includes inputs, activities, outputs, and results or outcomes that may range from immediate to intermediate to long term. A logic model can be displayed in a flow chart, map, or table as long as it portrays the sequence of steps leading to the program's outcomes.

*Designing the Evaluation and Collecting Data.* The evaluation should strive to convey a well-rounded picture of the program and results should be perceived by stakeholders as believable and relevant for answering their questions. The evaluation needs to be focused to ensure that it assesses the issues of greatest concern to stakeholders while efficiently using time and resources (Taylor-Powell, Steele, & Douglah, 1996). Items to consider when focusing an evaluation include the evaluation's purpose, users, questions, and methods. Specifying the purpose of an evaluation helps to prevent premature decision-making about how the evaluation should be conducted. For example, the purposes of conducting a program evaluation may include gaining insight, changing practice, and/or assessing effects. Users are literally the people who will use the results of the evaluation. It is important to involve users to clarify how they intend to use the results, prioritize evaluation questions and methods, and prevent the evaluation from becoming misguided or irrelevant. Specifying the program evaluation questions establishes boundaries for the evaluation by indicating what aspects of the program will be assessed (Patton, 1997). Being clear about the evaluation questions and the units of analysis is necessary to guide the selection of methods that are best suited for gathering the evaluation data. Program evaluation methods are drawn from scientific research methods, particularly those developed in the social, behavioral, and health sciences (Cook & Reichardt, 1979; Rossi, Freeman, & Lipsey, 1999). Program evaluation methods should be selected to provide the appropriate data to address the evaluation questions. Program evaluation designs include experimental, quasi-experimental, and observational. All methods, designs, and data have limitations. Therefore, using multiple sources of and methods for collecting and analyzing data is desired (Bickman & Rob, 1998).

To help determine the type of data needed, the source of the data, methods for collecting the data, and timeline for collecting the data, it can be helpful to complete an evaluation planning matrix. Begin by listing the evaluation questions

as your evaluation questions will determine the kinds of data needed to address them. In the next column, list the data needed to address each question. In the third column, identify appropriate sources for the data. There may be a range of potential sources for every data element (e.g., persons, documents, observations). In deciding the best sources of data, consider availability, accessibility, accuracy, and burden on the source. In the next column, list the data collection instruments. In the final column, indicate the timeline and/or frequency for collecting each data element.

It is likely that the evaluation team will need to develop at least some of the data collection instruments. In some instances, you may have the option of selecting from existing instruments or developing your own. There are advantages and disadvantages to either approach. The primary advantage of using existing instruments is that they are often standardized, valid, and reliable. The primary disadvantages are that they may not be directly relevant to your program and may not always be culturally appropriate for your target population. Whether you decide to use existing instruments or develop your own, it is critical that the evaluation team establish a set of procedures to ensure that data are collected in a consistent and systematic manner. For example, data collection procedures should include when the information will be collected, where it will be collected, who will collect it, and how it will be collected. It is good practice to pilot test your instruments and procedures with a small sample of individuals who are similar to your target population to determine whether the instruments and procedures are effective before they are implemented in the full scale evaluation. Pilot testing also allows the team to improve the data collection instruments or procedures as needed before implementation. Once data collection begins, it is important to monitor the process to ensure consistency. As data are collected, the team may begin to analyze it.

*Analyzing Evaluation Data.* Analyzing program evaluation data is often an ongoing process. The team will likely begin to analyze process evaluation data as it is collected, and

this process will continue throughout the course of the program's implementation. The analysis process involves reviewing the data to detect patterns or themes. Often times, analysis begins as a descriptive process. The evaluation team describes what the program did (or is doing), who did it, and the characteristics and number of participants. The evaluation team compares the information collected during the course of the process evaluation with the program's objectives to determine whether there are any differences between what was planned and what actually occurred. If there are differences between the program's objectives and its actual implementation, the team can analyze the data to identify the reasons for the differences (i.e., if not, why not?). Process evaluation data can be used to identify barriers encountered as well as factors that facilitated implementation. The process of documenting and striving to understand problems in attaining a particular program objective is just as important (if not more important) as documenting program implementation successes. If process evaluation data are provided and analyzed on an ongoing basis, it will provide opportunities for the program to improve and better meet the needs of participants. Often, initial program objectives change during the course of implementation to improve the program in response to information learned during the process evaluation.

Statistical analyses are used to understand changes that occur among program participants as a group (Wholey, Hatry, & Newcomer, 1994). It is quite possible that some of the program participants change a great deal, others change only slightly, and others do not change or change in an unexpected direction. Statistical analyses enable the evaluation team to assess the overall effectiveness of the program as well as its effectiveness with different types of program participants. Statistical analyses are important to conduct as part of a program evaluation because they help the evaluation team to determine whether any changes that are demonstrated by the program participants are a result of the program instead of just by chance. The types of statistical analyses are extensive, and each

statistical test requires that the data be analyzed in a certain way. There are also different statistical tests for different types of data. Another important consideration is that it is important to analyze not only the progress of participants who completed your program, but it is also important to analyze progress made by those participants who either dropped out or did not complete the program entirely. This can give you important insights into the evaluation.

Once the data are analyzed, the evaluation team will need to interpret the results to figure out what they really mean as well as the practical significance of what has been learned throughout the course of the evaluation (Weick, 1995). Based on the findings, and the interpretation of the findings, the team makes judgments about the merit, worth, or significance of the program. Finally, the program evaluation team is often expected to make recommendations for the future of the program (e.g., continue, expand, redesign, terminate). The recommendations are usually based on information beyond just the results of the evaluation such as the organizational and/or political context (Rogers & Hough, 1995).

*Reporting Evaluation Results and Lessons Learned.* Ensuring that findings from the program evaluation are used and lessons learned are shared requires effort on the part of the evaluation team. The most common way to report results from a program evaluation is in a report that documents the background and description of the program, the evaluation questions and logic model, the evaluation design, process and outcome evaluation results, conclusions, recommendations, and lessons learned. However, there are many different ways of reporting evaluation results depending on how the report will be used and who the intended audience will be, and sometimes an evaluation report is not the ideal vehicle for communicating the evaluation's findings. Therefore, it is useful to think about the various audiences for the evaluation results before you begin writing (e.g., program funders, program staff and agency personnel, potential funders, and advocacy organizations) to make sure the report (or whatever format is agreed upon) will be useful to each of them. It is critical

to report negative results as well as positive results in the report as there is as much to learn from program approaches or models that do not work as there are from those that do work. In addition, it is helpful to report results that may not be conclusive but that show promise and may warrant further study. The evaluation report should also acknowledge strengths, weaknesses, and limitations of the evaluation. In addition to producing a formal evaluation report, the evaluation team may want to take advantage of other opportunities to share what has been learned through the evaluation with others. For example, some alternative ways to disseminate evaluation results include producing press releases or articles for local publications like newsletters or journals, making presentations at conferences and professional meetings, holding town hall meetings, listing the evaluation report or other evaluation-related publications in relevant databases, posting them on electronic bulletin boards or clearinghouses, making telephone calls, and scheduling meetings to share experiences and results.

## Cross-References

- ▶ [Effect Size](#)
- ▶ [Focus Groups](#)
- ▶ [Indicator Selection Criteria](#)
- ▶ [Policy Evaluation](#)
- ▶ [Program Implementation](#)
- ▶ [Program Planning](#)
- ▶ [Qualitative Methods](#)

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## Program Implementation

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### Synonyms

Ability to ensure planned action; Achieving results; Connection between policymakers and administrative level; Process of achieving projected targets

### Definition

Policy implementation encompasses those actions by public or private individuals (or groups) that are directed at the achievement of objectives set forth in prior policy decisions (Van Meter & Van Horn, 1974).

### Description

A division has traditionally been set up between the administration and the public policies. The former refers to the person responsible for implementing policies designed by decision makers, and the latter is the real policy space.

This separation pushes the implementation process into the background, and it focuses primarily on the previous stages.

In the 1970s, the lack of vision regarding implementation as another stage of the policymaking process started to gain importance when the results from a number of policies were very different from those expected.

Thus, implementation has become a stage in the process which explains the difference, or implementation deficit, between the design of a policy and the results obtained.

In the same way, defining or adopting a public policy does not mark the end of the policymaking process as it continues through alternative means (Parsons, 1995).

There are different approaches to understanding the implementation process; some of the most important are listed below:

#### I. The Rational Approach or Top-Down Approach

The top-down approach was the first to be developed, and it is in line with the rational model. It understands the public policy process as a linear sequence of activities in which there is a clear division between policymaking and implementation (Buse, Mays, & Walt, 2005).

According to Pressman and Wildavsky (1984), the key is the ability to design a system in which causal relationships between the objectives set and the actions necessary to achieve them are clear and strong.

Under this approach, implementation is understood as a rational and hierarchical process which requires political, administrative, and financial resources in order to attain the objectives set out at central level. It also requires good management, appropriate coordination, and good control mechanisms.

The success of implementation is based on the ability to ensure and coordinate the different elements required. At the same time, failure to achieve the results is understood as adopting an inappropriate strategy or the wrong mechanism.

In this context, the researchers tried to define the characteristics and factors of correct implementation.

Hogwood and Gunn (1984) try to describe the complexity of this approach and the numerous variables needed to achieve effective objectives, and they developed ten conditions for achieving “perfect implementation”:

1. The circumstances external to the agency do not impose crippling constraints.
2. Adequate time and sufficient resources are available.
3. The required combination of resources is available.
4. The policy is based on a valid theory of cause and effect.
5. The relationship between cause and effect is direct.
6. Dependency relationships are minimal – in other words, the policymakers are not reliant on groups or organizations which are themselves interdependent.
7. There is an understanding of, and agreement on, objectives.
8. Tasks are fully specified in correct sequence.
9. Communication and coordination are perfect.
10. Those in authority can demand and obtain perfect compliance.

## II. Alternatives to the Rational Model, Bottom-Up Approach

The rational theory was severely criticized, particularly because it did not include those

who were in charge of finally implementing policies in its interpretation of the process.

Critics of this approach state that even under systems characterized by a high level of centralism, there is always a wide margin in which those responsible for conducting the processes can introduce important changes which alter the results of the policies.

This approach emphasizes that those responsible for implementing policies have a high level of discretion, which is very important for carrying out the implementation process.

Not only can having the discretion to act alter the results obtained, but it can also provoke changes to the objectives of the program.

Lipsky (1980) is one of the researchers who have contributed the most to this theory, introducing the concept of “street-level bureaucrats” to refer to employees who attend clients directly.

The studies carried out by Wetherley and Lipsky (1977) analyze the implementation of policies on social programs from this perspective. The conditions (administrative capacity, availability of resources, coordination, control capacity) outlined in the rational approach as necessary for correct implementation formed part of these policies. However, unexpected results were obtained, thus generating, for example, an excess workload on those responsible for providing services.

## III. Managerialist Model

The managerialist model was first developed in the 1980s following criticism of the traditional bureaucratic model.

New public management refers to a number of management strategies which were drawn from the private sector to modernize public management by means of a market logic orientation.

The managerialist model is similar to the aforementioned rational or top-down model, as both advocate the success of implementation is in the ability to correctly anticipate the coordination and control mechanisms necessary to transform objectives into actions.

The new public management strategies focus on aligning the institution mission and vision with the strategic objectives of the programs and designing suitable mechanisms for transmitting these objectives to those responsible for carrying out the processes.

Performance evaluation, management by objectives, and incentive schemes are some of the mechanisms which are combined with the strategies to achieve these results.

The level of discretion in this model is understood as a principal-agent problem in which the different control mechanisms and incentives are what enable objectives to be achieved and in this way decrease the levels of uncertainty when bureaucrats act.

#### IV. The Implementation of Different Policies

Public policies differ not only in their content but also in the various factors associated with them. Having different public policies means that there is a wide cross section of implementation processes and that the problems associated with this vary.

Furthermore, the coordination costs may rise depending on the number of agencies involved and the coordination needs.

Likewise, policies which affect a small number of people and universal policies require different levels of capacity, administrative resources, and control.

Monetary transfer policies have much more control of street-level bureaucrats, unlike policies which deliver more complex products such as work-related training.

In general terms, these characteristics, among others, mean that the type of policy which is being dealt with encounters different levels of complexity during implementation.

Policies which require minor or incremental changes to the base situation, and those which have a high level of consensus, increase the probabilities of success implementation (Parsons 1995).

At the same time, Ripley and Franklin (1982) state that distributive policies, for example, those which supply resources to different groups, are usually easy to

implement. However, regulatory policies which regulate and control certain processes or activities are usually more difficult to implement. Redistribution policies which transfer resources from one group to another are the most difficult to implement.

#### V. Summary of the Different Models

Different visions of how to understand the implementation process, with the objective of improving it, have been provided by both the top-down and bottom-up models and the contributions made by managerialism and other approaches.

Sabatier and Mazmanian (1979) tried to combine the top-down and bottom-up models. In their studies, they compiled a list of six conditions needed for the effective implementation of policies:

1. Clear and logically consistent objectives
2. Adequate causal theory
3. An implementation process structured to enhance compliance by implementers
4. Committed, skilful, implementing officials
5. Support from interest groups and legislature
6. No changes in socioeconomic conditions that undermine political support or the causal theory underlying the policy

Although the synthesis produced by Sabatier (1986) facilitates a good control system for implementation processes, it does not enable the different theories to be condensed into one model.

Likewise, Elmore (1985) highlights the importance of establishing different starting points for analyzing implementation, describing regressive mapping (bottom-up) and progressive mapping (top-down) models, and stressing that far from trying to synthesis the two, it is necessary to be aware of the different frameworks of analysis during the implementation process.

Linder and Peters (1989) state that there are certain factors which play a key role in any implementation process:

- (a) Features of policy instruments
- (b) Policy style and political culture
- (c) Organizational culture
- (d) Context of the problem situation

(e) Decision makers' subjective preferences

The aforementioned factors enable two groups of relevant variables to be identified: government capacity and the complexity of the particular policy field (Buse et al., 2005).

Under this distinction, the top-down theory is understood as an approach which reveals the government capacity and central administration capacity to coordinate and implement processes. However, the bottom-up approach focuses primarily on the factors determining the type of policy, the variables not considered, the different events that were not planned, and the interaction between the bureaucrats and direct beneficiaries of the different programs, among other factors.

### Final Considerations

Public policies must be understood as a continual logic, and despite the fact that the different stages give greater insight into the process, there is a close relationship between each one of them, and they are constantly fed by and feeding into each other.

Implementation furthers the policymaking process through different mechanisms, and it establishes a fundamental connection between the administration and the policymakers.

Implementation is a critical step in obtaining the desired effects of the objectives put forward in the design.

There are different models which deal with the implementation process. However, the two which have given the greatest insight into the process are the top-down and bottom-up models.

Even if there have been attempts to design models which condense the different perspectives and which specify the requirements for appropriate implementation, it is important to use this input to understand the process, rather than to determine specific conditions for success.

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### Program Planning

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### Synonyms

[Anticipation of possible public conflicts](#); [Design of specific project to implement](#); [Ideas of think tanks](#); [Trouble shooting alternatives in program planning](#)

## Definition

Public policymaking can be understood as the process of establishing a particular group of ideas as a specific project to be implemented.

## Description

### General Policy Framework and Policymaking

The framework in which public policies are developed is like a triangle in which different elements interact (Buse, Mays, & Walt, 2009).

The *actors*, which may be individuals, groups, or organizations, are found in the center of the triangle. There may be various actors involved in designing the policies, and they may or may not be within the government, for example, different interest groups or even the civil society organized in different ways.

The *process* refers to the stages in policy development. The easiest way to understand the policy process is by dividing it into different stages: identification of the problem, policymaking, implementation, and evaluation.

The *content* of policies refers to their very core, and it represents the result of the decision-making and policymaking processes.

The *context* in which the policy process is developed is also a determining factor of policymaking. These factors are categorized into four types by Leichter (1979):

- Situational factors are impermanent and unpredictable. They have the ability to change the definition of policies, and examples include natural disasters or periods of economic crisis.
- Structural factors are usually permanent variables and they form the overall framework. They may be the political system or demographic and economic factors, among others.
- Cultural factors are different for each society and must be considered during policymaking as they can determine the success or failure of a policy, despite the fact that it has been well designed technically.
- Exogenous factors, also known as international factors, are variables which are

determined by the supranational context, for example, the influence which different international organizations can have.

Firstly, the discussion will focus on the principal theories about the policymaking process. Secondly, the decision-making process of policymaking will be described. Lastly, the different styles of policymaking will be categorized.

### The Policymaking Process

#### The Importance of Ideas

There are different theories about how to convert ideas into projects and subsequently into policies.

For authors such as Keynes, the ideas are what determine the policymaking process. This author suggests that key individuals and their ideas play a more important role than any other factors. In this way, knowledge, advisors, and experts are more important than other factors and variables, such as power groups.

Along the same line, professional groups and organizations which specialize in the thought and design of public policies are very influential.

At present, think tanks have become very important. These organizations may be independent or even associated to a particular political stream or university. Since the first organizations were created in the 1970s, they have gradually grown and their influence in policymaking has become stronger.

Hall (1989) studies the importance of ideas and concludes that they must have at least three factors to influence public policymaking.

The three success factors identified by the author are that the ideas are adapted to the present economic situation; that they appear as part of the dominant political interests; and that they are feasible in administrative terms.

#### The Garbage Can Theory

According to March and Olsen (1976), the policymaking process is making its way into unknown territory, and it cannot be understood as an elaborate succession of steps which stem from ideas.

The authors believe that the interaction between problems and solutions is unorganized. It is as if the problems are thrown into various

garbage cans at different points in time and in the same way, the solutions are thrown in and so they pair up with each other, thus starting the policymaking process.

#### Political Streams

John Kingdon (1984) considers the nature of the garbage can theory, in which different problems and solutions find each other by chance and in turn shape public policy agendas.

According to this author, there are three different streams:

1. Problem stream: Kingdon states that for a problem to be defined as such, individuals must not only realize that there is a situation in conflict, but they must also be convinced that they have to do something to change it.

The decision makers decide, on the basis of a number of criteria, which problems will be considered a priority and those which they will not deal with.

2. Public policy stream: Kingdon defines this stream as “primeval soup” referring to the evolutionary theories in which different ideas would find each other wandering freely and they would combine to provide solutions. In this context, various actors invest their resources in creating alternative public policies, in the hope that they will appear on the agenda.

3. Political stream: the political stream is set up on the basis of various factors which frame the political discussion at different points in time. The circumstances which determine the political stream establish a general framework within which countries make decisions at precise moments.

Kingdon recommends that these three streams come together at specific times, and he compares this to the launch window of a space mission. When the three streams come together, a problem is recognized, solutions are made available to the decision makers, and finally, there is an appropriate political time for policymaking.

#### Coalition Promoters and Policies as a Continuum

In contrast to the classical vision which separates the policy process into different stages, Sabatier

and other authors suggest that segmenting the policymaking agenda is moving away from reality.

Sabatier and Jenkins-Smith (1993) suggests having various “coalition promoters” who try to influence decision-making. These groups modify public policies and thus obtain results which generate feedback and learning opportunities. In turn, this is used by different coalitions to improve their level of understanding of the process, and it also affects how the groups act at successive stages of the process.

The author puts particular emphasis on the preponderance of the elite at the different stages. It is, therefore, very important to understand which factors influence the elites when adopting ideas.

#### The Public Policy Process as a Funnel

The aforementioned visions reveal that ideas and thinking groups are a fundamental part of policymaking.

However, some investigators focus on the external circumstances and processes as generator axes of policies.

According to Hofferbert (1974), policymaking is determined by framework level elements and not by the influence which different groups involved in discussing the ideas may have.

This author believes that there are three main factors which determine public policy agendas: geographic conditions and historical background, the social and economic makeup, and the political behavior of the masses.

These factors are measured in turn by governmental organizations and the behavior of elites.

The effect of the policies is a process in which the determining factors define different policies through a funnel, spanning the decision-making space, so that finally the institutions and elites define the result.

#### Institutional Framework

The institutional approach brings some important aspects to the policymaking process.

A policy must be institutionalized if it is to process from being an idea to being implemented.

Institutions are not only important during the implementation stage, because they form internal coalitions which have a significant influence in designing policies.

A broad perspective is essential for understanding institutional characteristics, which encompass everything from administrative units to political systems.

The political system will determine different mechanisms for policymaking. Some of the factors which structure and influence the policymaking and decision-making processes are presidential or parliamentary regimes and unitary or federal state systems.

### The Decision-Making Process

There are a number of theories which deal with the decision-making process for public policymaking. Two of the most controversial theories are the rational model and the incrementalist model. There is also a third alternative or “intermediate” model.

#### Rational Model

Policymaking is usually understood from a rational perspective.

Simon (1957) states that the rational process is based on selecting the best alternative, which best adapts to the organization’s objectives, from a number of options.

To achieve this, decision makers must follow four steps. Firstly, the problem to be solved must be clearly defined by trying to determine its causal chain and thus isolate it from secondary problems.

The second step is to clarify objectives and goals relating to the problem and the decision makers must make priorities.

The third step is to create a list of strategies which would enable the aforementioned objectives to be achieved.

Lastly, a rational process must be created in which each alternative is evaluated separately to determine the consequences, adverse effects, and costs associated with this.

#### Incrementalist Model

Charles Lindblom (1959) suggests an alternative approach known as “muddling through.”

Under this approach, the author states that policy change is not based on maximizing decision makers’ objectives but rather the ability of different interest groups to reach agreements.

The incrementalist model suggests that policymaking must generate changes by means of small reforms. This alternative enables the results generated to be evaluated and, in this way, avoid errors when adopting radical decisions.

According to Lindblom, this model does not endeavor to make significant changes, which can be achieved in the same time frame but rather take small steps starting from the status quo and thus decrease the implications associated with making the wrong decisions.

#### The Intermediate Model, “Mixed Scanning”

Amitai Etzioni (1967) suggests the “mixed scanning” model as an alternative to the two previous models.

According to this author, there must be a distinction between important and less important decisions.

The process consists in compiling an overview of the different problems and an overall assessment, which will be used to make important decisions. There is therefore no need for a full review of each one of the problems.

At a later stage, detailed reviews are carried out of the different parts of the problem which are considered a priority, and in this way more definite decisions can be made.

#### Standards for Policymaking

According to Richardson (1982), there are different policymaking standards in every country.

This author defines four aspects of public policy style. They relate to the levels of participation and the policymakers’ and decision makers’ ability to anticipate.

With regard to the level of participation of different actors, the author suggests that there is a dichotomy between the forms of consensus. For example, in some cases, the decision makers

welcome the participation of different stakeholders. However, in non-participative systems, policymakers impose their decisions on the other actors.

Depending on the level of anticipation with which the policymakers act, these forms of consensus can be defined as either “anticipatory,” because of the tendency to predict and anticipate circumstances, or “reactionary” if they always act in response to problems.

The policymakers who create policies for problems in an anticipatory style while trying to reach a consensus are found in the first quadrant. In the opposite quadrant are governments which do not generate a consensus but rather react to different problems once they have happened, trying to solve them by means of imposing their decisions.

## Final Considerations

Policymaking is a complex phenomenon which is closely related to the agenda setting stage of problems and the implementation of decisions.

There are various theories and models which try to explain which factors contribute to specific ideas under certain conditions, achieving priorities and finally resulting in the creation of policies.

In the same way, the mechanisms which find solutions to problems have trade-offs between the ideal way of decision-making and the conditions which make it possible.

Policymaking is also in line with a number of structural characteristics of the political model in each country, as well as the different groups which influence the process.

Furthermore, it is important to understand policymaking as a continuous phenomenon between the different stages of the process.

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## Programme for International Student Assessment (PISA)

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### Definition

The Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) assesses 15-year-old students’ skills and knowledge in more than 70 countries. PISA was carried out in 2000, 2003, 2006, 2009, and 2012. The key subjects of assessment vary across time: reading (2000 and 2009), mathematics and problems solving (2003 and 2012), and science (2006). The PISA 2012 also includes, for some countries, computer-based assessment of mathematics and reading, and assessment of financial literacy.

### Description

The OECD’s Programme for International Student Assessment (PISA) (Organisation for Economic Co-operation, & Development

[OECD], 1999) tests the skills and knowledge of 15-year-old students contributing to the appraisal of education systems in more than 70 countries. PISA includes questionnaires to be answered by students and school principals and tests not curriculum-based (e.g., mathematics and problems solving). The tests are independent from school programs because the focus is on the applications of knowledge across diverse contexts. PISA's website (<http://www.oecd.org/pisa/>) includes key results and analysis for each survey edition: PISA 2000 (OECD, 2000a, 2000b, 2001, 2002a, 2002b), PISA 2003 (OECD, 2003), PISA 2006 (OECD, 2006), and PISA 2009 (OECD, 2010a). The website also contains PISA databases, in-depth reports, working/research papers, test questions, assessment frameworks, technical reports, manuals and guidelines, and technical notes, among other resources. PISA 2012 results will be available in December 2013.

Because PISA collects information on student behavior, aspirations, and environment, PISA data are used to evaluate some aspects of children's well-being. Bradshaw, Hoelscher, and Richardson (2007), constructed an index of child well-being in the European Union, considering eight clusters (children's material situation, housing, health, ► [subjective well-being](#), education, children's relationships, ► [civic participation](#), and risk and safety), and three of those clusters include variables obtained from PISA data. For example, children's material situation (percentage of children reporting less than six educational possessions and percentage of children reporting less than ten books in the home), education (reading literacy attainment, mathematics literacy attainment, science literacy attainment, and percentage of pupils aged 15 years aspiring to low-skilled work), and children's relationships (family meals around a table several times a week and just talking with parents several times a week).

PISA data are also used in the research of the impact of socioeconomic characteristics of parents on students' performance (Marks, 2008), the influence of students' performance on labor market quality (Chen, & Luoh, 2010) or country's

scientific research and economic performance (Yu, DiGangi, & Jannasch-Pennell, 2012), the causes of the differences of students' skills and knowledge between countries (Willms, 2004), the costs of low education (OECD, 2010b), and the study of the links between educational achievement, occupational success, and well-being (Samuel, Bergman, & Hupka-Brunner, 2012).

## Cross-References

- [Better Life Index](#)
- [School Attendance](#)
- [School Enrollment](#)
- [School Experiences](#)
- [School and Student Engagement](#)
- [Youth in Transition Survey \(YITS\) Canada](#)

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## Progress

### ► Development

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## Progress in International Reading Literacy Study (PIRLS)

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## Synonyms

### PIRLS

## Definition

Reading literacy is the foundation for learning across all subjects. It plays an important role in recreation and personal growth and equips young children to participate fully in their communities and the larger society.

Because developing reading proficiency is vital to every child's development, the ► [International Association for the Evaluation of Educational Achievement](#) – more widely known as IEA – conducts a regular assessment of children's reading literacy and the factors associated with its acquisition in countries around the world. IEA's Progress in International Reading Literacy Study, called PIRLS, focuses on the achievement of young children in their fourth year of schooling and their experiences with learning to read at both home and school. PIRLS is conducted by the TIMSS & PIRLS International Study Center at Boston College under the leadership of Drs. Ina V. S. Mullis and Michael O. Martin.

## Description

Inaugurated in 2001, PIRLS is administered every 5 years to measure progress in students' reading achievement as well as trends in the associated home and school contexts for learning to read. The results of each cycle of PIRLS are summarized in the *PIRLS International Report*, and an international database and User Guide are made available to the public to encourage further analysis of the PIRLS data. The number of countries participating in PIRLS has grown with each subsequent assessment cycle. Nearly 60 educational systems from all around the world are participating in PIRLS 2011.

The fourth year of schooling is the focal point for PIRLS because it is an important transition point in children's development as readers. Typically, at this point, students have learned how to read and are now reading to learn. For a variety of reasons, however, there are countries where most children in the fourth grade are still developing fundamental reading skills. Thus,

beginning in 2011, IEA has extended PIRLS to meet the needs of these countries by offering PIRLS at grade levels beyond fourth grade and by developing a less complex reading assessment designed to be a stepping stone to PIRLS. This newly developed assessment has been named prePIRLS.

The prePIRLS assessment reflects the same conception of reading as PIRLS but is less difficult and is designed to test basic reading skills that are a prerequisite for PIRLS. The reading passages are shorter, with easier vocabulary and syntax. Students' ability to read and answer questions about these passages can provide valuable information about their strengths and weaknesses in reading comprehension. This new assessment offers an excellent basis for countries with relatively low levels of learning to systematically measure and improve children's learning outcomes.

While prePIRLS can provide useful information, countries whose students have not yet developed the reading comprehension competencies necessary for success on PIRLS at fourth grade may choose to participate at the fifth or sixth grade. IEA encourages participation in PIRLS at the fifth or sixth grade for these countries because participation at a higher grade could provide valuable information about students' strengths and weaknesses in reading, whereas participation at the fourth grade would provide little information except that the assessment was too difficult.

## PIRLS Assessment

The *PIRLS Assessment Framework* serves as a blueprint for each cycle of the PIRLS and prePIRLS assessments of reading literacy. This framework defines reading literacy as "the ability to understand and use those written language forms required by society and/or valued by the individual. Young readers can construct meaning from a variety of texts. They read to learn, to participate in communities of readers in school and everyday life, and for enjoyment."

## Reading Purposes and Processes

PIRLS assesses two aspects of students' reading literacy that serve as the foundation of reading comprehension: purposes for reading and processes of comprehension.

The PIRLS assessment focuses on two overarching purposes for reading that account for most of the reading done by young students both in and out of school:

- Reading for literary experience
- Reading to acquire and use information

Within each of these reading purposes, four types of comprehension processes are assessed in PIRLS:

- Focus on and retrieve explicitly stated information.
- Make straightforward inferences.
- Interpret and integrate ideas and information.
- Examine and evaluate content, language, and textual elements.

Figure 1 shows the reading purposes and processes assessed by PIRLS and the percentages of the two tests devoted to each. Both the PIRLS and prePIRLS assessments devote half of the test to each of the purposes for reading. However, because prePIRLS is designed for students earlier in the process of learning to read, a larger percentage of items (50 % of the assessment) is devoted to measuring the ability to focus on and retrieve explicitly stated information – the essential foundation of reading comprehension.

PIRLS assesses students' reading skills by having them read an authentic literary or informational text (e.g., a story or article) and then answer a series of questions that measure the various comprehension processes. The complete PIRLS assessment consists of ten reading passages and accompanying questions (known as items), and the prePIRLS assessment consists of eight less difficult reading passages and accompanying questions. However, to keep the assessment burden on any one student to a minimum, each student is presented with only two of these passages according to a systematic booklet assembly and rotation procedure. This way, the testing time is limited to 80 min per student, with an additional 15–30 min for a student questionnaire.

PIRLS		prePIRLS	
<b>Purposes for Reading</b>		<b>Purposes for Reading</b>	
• Literary Experience	50%	• Literary Experience	50%
• Acquire and Use Information	50%	• Acquire and Use Information	50%
<b>Processes of Comprehension</b>		<b>Processes of Comprehension</b>	
• Focus on and Retrieve Explicitly Stated Information	20%	• Focus on and Retrieve Explicitly Stated Information	50%
• Make Straightforward Inferences	30%	• Make Straightforward Inferences	25%
• Interpret and Integrate Ideas and Information	30%	• Interpret and Integrate Ideas and Information	25%
• Examine and Evaluate Content, Language, and Textual Elements	20%	• Examine and Evaluate Content, Language, and Textual Elements	25%

**Progress in International Reading Literacy Study (PIRLS), Fig. 1** Percentages of the PIRLS and prePIRLS reading assessments devoted to reading purposes and

processes (Adapted from *PIRLS 2011 Assessment Framework* (p. 14), by Mullis, Martin, Kennedy, Trong, and Sainsbury (2009). Reprinted with permission)

### Reading Passages in the PIRLS Assessment

To reach the goal of approximating an authentic reading experience in PIRLS, the reading passages presented to students must be typical of those read by students in their everyday experiences. Examples of literary texts typically used in PIRLS include short stories, narrative extracts, traditional tales, fables, and myths. Informational texts include textbook or expository passages, biographies, and brochures and could include charts, tables, or diagrams.

In the context of an international study, attaining authenticity in the assessment reading experience may be somewhat constrained by the need to translate a text into numerous languages for many cultures. Thus, care is taken to choose texts that can be translated without loss in meaning or in potential for student engagement.

The appropriateness and readability of texts for assessing fourth-grade students is determined through review by educators and curriculum specialists from countries participating in the assessment. Among the criteria used to select texts are topic and appropriateness for the grade level; fairness and sensitivity to gender, racial,

ethnic, and religious considerations; nature and level of linguistic features; and density of information. In addition, the time constraints of the test situation place some limits on the length of texts. Generally, texts selected for PIRLS are no longer than 800 words so students have time to read the entire passage and answer the comprehension questions.

As a basis for measuring trends over time, each cycle of PIRLS retains six passages and items from past assessments – three literary and three informational. These are supplemented by four new passages and associated items. Examples of released passages and items are provided in both the *PIRLS Framework* and the *PIRLS International Report* for each assessment cycle.

### Question Types in the PIRLS Assessment

Students' ability to understand text through the four PIRLS comprehension processes is assessed via questions that accompany each text. Two question formats are used in the PIRLS assessment – multiple choice and constructed response. Each multiple-choice question is

worth one point. Constructed-response questions are worth one, two, or three points, depending on the depth of understanding required. Multiple-choice questions represent up to half of the total number of points on the assessments.

### prePIRLS 2011 Assessment Design

The prePIRLS assessment follows the PIRLS student populations and assessment design as closely as possible, with changes made only when appropriate for the prePIRLS context. Following the design that has proven effective in previous cycles of PIRLS, prePIRLS also uses a matrix sampling technique for the administration of the assessment, using eight blocks instead of ten.

### PIRLS Encyclopedia

Each assessment cycle, the *PIRLS Encyclopedia* provides a profile of each country's education system and general data on economic and educational indicators, with a particular focus on reading education for primary school children. Each country is responsible for submitting a chapter that describes the organization of its education system, along with the reading curriculum, including goals, materials, and instruction, and information on assessment of reading achievement.

### Background Questionnaires

An important purpose of PIRLS and prePIRLS is to study the community, home, and school factors associated with children's reading literacy in the fourth grade. To that end, PIRLS and prePIRLS administer questionnaires to students, their parents, their teachers, and the principals of their schools. In addition, information is collected from each country about national education policies.

The *Student Questionnaire* is completed by each student who participates in the PIRLS reading assessment. It asks about aspects of students' home and school lives, including demographic information, home environment, school

climate for learning, out-of-school reading behaviors, and attitudes toward reading.

The *Learning to Read Survey (Home Questionnaire)* is addressed to the parents or primary caregivers of each student taking part in the PIRLS data collection. It includes questions about language spoken in the home, preschool experiences, books in the home, and parents' education and involvement. Also, it collects information on early literacy and numeracy activities, and parents' reading activities and attitudes toward reading.

The reading teacher of each fourth-grade class participating in PIRLS is asked to complete a *Teacher Questionnaire*. The questionnaire includes questions about teachers' background and education, the school climate for learning, attitudes toward teaching, classroom characteristics, and student engagement. It also asks about reading instructional time and approaches, computer and library resources, and homework.

The *School Questionnaire* is to be filled out by the principal of each school taking part in PIRLS. This questionnaire asks about school characteristics, instructional time, resources and technology, parental involvement, school climate for learning, teaching staff, the role of the principal, and students' reading readiness.

The *Curriculum Questionnaire* is completed by the National Research Coordinators from each country participating in PIRLS. This questionnaire asks about national policies related to reading education and curricula in the primary grades.

### Further Information

For further information about PIRLS, please visit the TIMSS & PIRLS International Study Center's website at <http://timssandpirls.bc.edu/>.

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## Progress Index

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### Synonyms

[Index of progress](#); [Societal development](#)

### Definition

The Progress Index is a broad measure of ► [societal development](#) that combines net national income, ► [life expectancy](#), ► [school enrollment](#), and the ► [ecological footprint](#) of 22 OECD countries for the period 1970–2008. It was first published in November 2010 by the German think tank “Center for Societal Progress” (Bergheim, 2010).

### Description

The ► [Progress](#) Index is one approach to measuring societal development in a broad way by

including different aspects of well-being. It is an aggregate index that allows comparisons over time and across countries. The Progress Index was developed for two reasons. Firstly, the aim was to stimulate the discussion about societal progress in Germany. Here the index – known as “Fortschrittsindex” – has received a significant amount of media attention. Secondly, the index was a contribution to the global research program on broad-based welfare indicators as it explicitly takes into account the time series properties (stationary or nonstationary) of the underlying data.

### Choice of Components

The first major challenge for aggregate indices as well as for dashboards is the decision about which variables to include. For the Progress Index, four filters were applied to identify appropriate variables. The first filter was that the components should be linked to human well-being. Insights from ► [Positive Psychology](#) (e.g., Diener & Seligman, 2004 or Lyubomirsky, Sheldon, & Schkade, 2005) and ► [Happiness](#) Research (e.g., Bergheim, 2007) were used and generated a long list of candidates.

The second filter ensured that there is some theoretical support for including the components. Five theories confirm that there is plenty of support for measuring well-being in a very broad way. The theories range from the pyramid of needs by the psychologist Abraham Maslow (1973), via the evolutionary theory of economic change by the American economists Nelson and Winter (1982) and the theory of cultural development by the Austrian economist Friedrich August von Hayek (1988) all the way to the theory of capabilities by the economic philosopher Amartya Sen (2000) and the theory of ► [human development](#) by the political scientists Inglehart and Welzel (2005).

The third filter was data availability. Several factors relevant to human well-being are not (yet) available as time series at the country level: mental health, TV consumption, measures of thankfulness, and ► [meaning of life](#). Some factors are only available in measures that are far from perfect. For example, education should ideally be measured in quality-adjusted years of

education including life-long learning, but these data are not yet available.

The fourth filter was the most important one and has been applied in such an explicit fashion only for the Progress Index: The time series needed to be nonstationary, that is, they needed to be able to move up or down without a limit set by their definition or observed in reality. Otherwise it will not be possible to observe progress over the longer term, because stationary series by definition always revert back to their stable long-term average. This filter proved to be binding for a large number of potential components such as ► [life satisfaction](#), ► [trust](#), or economic freedom, which are all bounded by the scales on which they are assessed.

Only four variables were able to pass the four filters: net national income, life expectancy, school enrollment, and the ecological footprint. The footprint is a borderline case because it does not feature prominently in happiness research and the test statistics for nonstationary measures are small relative to the power of the panel estimation method.

### Aggregation

The second major challenge on the way towards a ► [composite index](#) is the weighting of the different components. There are no guidelines on how to do this for nonstationary time series (Nardo et al. (2008)) is mostly about indices for one point in time). Here the Progress Index offers a novel approach using nonstationary panel econometrics: For three of the four components – income, life expectancy, and education – the data alone determine the weights. The panel unit roots tests of Breitung (2000) and Im, Pesaran, and Shin (2003) and the panel cointegration tests of Pedroni (2000) and Breitung (2005) were used to uncover the relationships between the series. These methods were applied to growth empirics in Bergheim (2008) and take into account the data for the 22 countries reviewed.

The results show that a 10 % increase in net national income goes hand in hand with a long-run increase in life expectancy by a little more than 1 year. This implies that a 10 % increase in

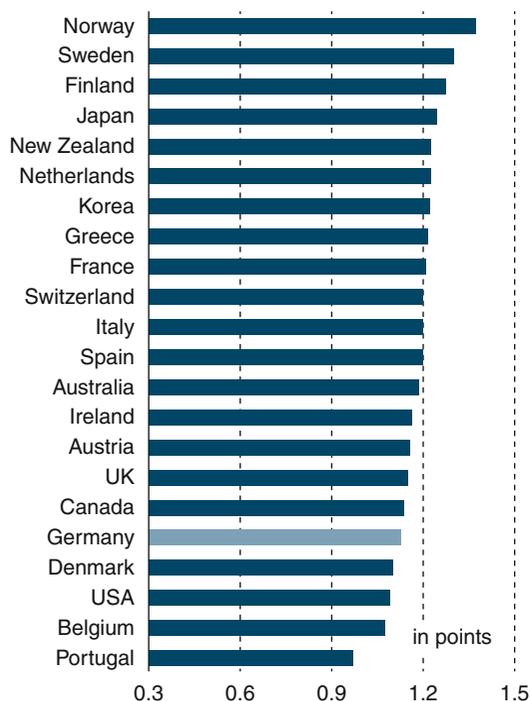
income gets the same weight in the Progress Index as one additional year of life expectancy. However, a long-term increase in the level of the Progress Index cannot be achieved via an increase in just one of the two variables. Since the two are in a cointegration relationship with each other, they will always move hand in hand in the long run. A second link exists between income and education (or alternatively between life expectancy and education, since income and life expectancy are closely related as discussed): In the long run, a 10 % increase in income goes hand in hand with an increase of the enrollment rate of pupils and students by five percentage points.

In the calculation of the aggregate index, the reference point is Germany in the year 2000, where it is set at 1.0. Values for other countries and other years are calculated from this base using the weights derived from panel cointegration tests. The only exception is the ecological footprint, where the data were not able to set a weight. Therefore, different weights are offered that range from zero to a weight that leaves the overall index roughly equal to the ranking of the footprint itself. Based on rank changes, an intermediate weight is used as the baseline for further calculations.

### Results

The top rankings in the Progress Index for 2008 are held by Norway, Sweden, and Finland. For Norway, the high level of prosperity can partly be traced to the abundance of oil, but it already ranked third in 1970. Sweden had been ranked first in 1970, then fell to ninth by 1990, and is now second. Finland has seen a rapid rise. Belgium and Denmark are two more European countries that rank relatively low, partly based on their high ecological footprint according to the latest data. The USA, which had still held sixth place in 1990, fell to the third to last place in 2008. The lowest life expectancy and the second highest per capita ecological footprint among 22 countries outweigh the relatively high income level (Fig. 1).

All 22 countries analyzed have made progress over the past 10 years: Life has objectively



**Progress Index, Fig. 1** The Progress Index in 2008 (With permission from Center for Societal Progress)

improved in those countries which were already rich and highly developed. Progress has been especially rapid in South Korea, where life expectancy and income in particular have been growing at a rapid rate. Greece, Ireland, and New Zealand also showed a relatively favorable development from 1998–2008. The recent economic crisis, however, indicates that developments at least in Greece can be expected to be less dynamic in the coming years (and there are also doubts about the quality of some of the data on Greece). Germany witnessed above average and noticeable progress in the past 10 years. Switzerland made the least progress in the past 10 years, continuing its relative decline. The Netherlands and the USA also did not show much progress. In the USA, a barely increasing life expectancy, stagnating numbers in the education field, and the increasing ecological damage offset relatively rapid advances in income.

## Discussion

The Progress Index should be seen as a contribution towards a consensus on how to measure societal progress in a broad way. Thereby it adds to the work of OECD (2009a, 2009b) and Stiglitz, Sen, and Fitoussi (2009). It offers time series for 22 countries and includes four variables that repeatedly come up in other projects, and it offers a data-based way of aggregation. It is the only index which provides time series for several countries and which considers both income and the environment. Existing aggregate indices do not offer this combination: The ► [Human Development Index](#) does not consider the environment; the ► [Happy Planet Index](#) does not consider income and education; the Legatum Prosperity Index does not provide time series; and the ► [Canadian Index of Well-Being](#) is calculated just for one country.

## Cross-References

► [Composite Index](#)

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to run the US-financed Marshall Plan for reconstruction of a continent ravaged by war. Encouraged by its success and the prospect of carrying its work forward on a global stage, Canada and the US joined OEEC members in signing the new Organisation for Economic Co-operation and Development (OECD) Convention on 14 December 1960. The OECD was officially born on 30 September 1961, when the Convention entered into force and today brings together 34 member countries. The OECD’s mission is to promote policies that will improve the economic and social well-being of people around the world. The OECD provides a forum in which governments can work together to share experiences and seek solutions to common problems. The OECD works with governments to understand what drives economic, social, and environmental change.

The OECD Statistics Directorate (STD) collects and analyzes economic and social statistics from member and nonmember countries. It aims at disseminating data that is as comparable internationally as possible. STD is responsible for the coordination of all OECD statistical activities and the development of the OECD statistical information system. It promotes the dissemination of key OECD statistics through tools such as the OECD Factbook, dynamic graphics, and innovative web-based tools.

## Progress of Societies: OECD Projects

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### Brief History

The Organisation for European Economic Co-operation (OEEC) was established in 1947

### Activities/Major Accomplishments/Contributions

“Measuring Well-Being and the Progress of Societies” is one of the strategic priorities of the organization identified by the OECD Secretary-General. The Statistics Directorate is leading the work of the development of new indicators on people’s well-being and societies’ progress drawing on the expertise developed by the OECD over the past 10 years. This expertise builds on the leadership that the organization played in the context of the OECD-hosted “Global Project on Measuring the Progress of Societies,” driven by work the organization did

beginning with the first OECD World Forum in Palermo, Italy, in 2004.

One of the main outputs of the OECD work on measuring well-being and progress was the launch of the OECD Better Life Initiative, in May 2011 on the occasion of the OECD's 50th Anniversary. The *OECD Better Life Initiative* ([www.oecd.org/betterlifeinitiative](http://www.oecd.org/betterlifeinitiative)) brings together several strands of work and aims to promote "Better Policies for Better Lives," in line with the OECD's overarching mission. The two main pillars to this initiative are *How's Life?* and *Your Better Life Index*. *How's Life?* is a report that provides a comprehensive picture of well-being in OECD countries and other major economies, by looking at people's material conditions and quality of life across the population. *Your Better Life Index* is an interactive web-based tool that allows citizens to measure and compare well-being across countries according to the importance they give to the various dimensions of people's well-being.

In parallel to these initiatives based on the better use of existing indicators, the OECD is also leading methodological research to lay the foundation for better statistics in the future. Such methodological research is structured around the three main themes of "material conditions," "quality of life," and "sustainability."

### Material Conditions

Measuring people's material conditions (i.e., their command over commodities) requires looking not only at their income but also at their assets and consumption expenditures and at how these economic resources are distributed among different people and population groups. It also requires focusing on the economic resources of households rather than on measures pertaining to the economic system as a whole (e.g., GDP per capita). The OECD is working in different directions such as measuring disparities in national accounts, measuring services produced by households for their own use, exploring the differences between growth in real GDP per capita and real household income per capita, and developing an integrated framework for the analysis of microdata on household income, expenditures, and wealth.

### Quality of Life

Economic resources, while important, are not all that matters for people's well-being. Health, human contact, education, environmental quality, civic engagement, governance, security, and free time are all fundamental to our quality of life, as are people's subjective experiences of life, i.e., their feelings and evaluations. Measuring quality of life requires looking at all of these elements as a whole: economic and non-economic, subjective and objective as well as at disparities across population groups. The OECD's work on quality of life mainly focuses on developing guidelines on the measurement of subjective well-being.

### Sustainability

Sustainability of well-being over time can be assessed by looking at the set of key economic, environmental, social, and human assets transmitted from current to future generations and how these assets are affected by today's actions, policies, and behaviors. The OECD is working to develop metrics that better capture whether the broad notion of economic, environmental, social, and human capital is sustainable.

The OECD is also developing a framework to identify the main drivers of well-being and to assess the overall impact of alternative policy options on people's life. The framework is meant to evaluate the various benefits and costs of policies enacted simultaneously or of a single policy affecting many dimensions at the same time. It also includes a mapping exercise, identifying the best approaches that translate well-being measures into policy-making decisions. The ultimate purpose is to bring considerations of well-being more firmly into government decision-making and to provide governments with advice on the well-being effects of policy options.

The OECD is pursuing its role as a focal point for networking and information sharing in the areas of human well-being and quality of life through the organization of a range of regional conferences and world fora. Since 2004, the OECD has organized several regional and thematic events that aim to promote the

importance of measuring well-being and progress and exchange experiences in how to do it. The series of OECD World Fora on “Statistics, Knowledge and Policies” were particularly significant. They were organized in Palermo (2004), Istanbul (2007), Busan (2009), and New Delhi (2012). The regional series were organized in Mexico City (2011), Tokyo (2012), Rabat (2012), and Paris (2012). Many of these regional events resulted in regional networks to further this work.

In order to facilitate, networking and information sharing, at the Busan World Forum in 2009, the OECD launched Wiki progress ([www.wikiprogress.org](http://www.wikiprogress.org)), a global platform for sharing information in order to evaluate social, environmental, and economic progress. Its core mission is to connect worldwide organizations and individuals wishing to develop new, smarter measures of progress. It is open for contribution to all members and communities who have an interest in the concept of “progress” – students and researchers, civil society organizations, governmental and intergovernmental organizations, multilateral institutions, businesses, statistical offices, community organizations, and individuals. Current networks include child well-being (Wikichild), gender equality (Wikigender), and Wikiprogress Africa, America Latina, and Europe.

## Cross-References

► [Istanbul Declaration](#)

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## Progress, Past, and Future (Global Measure)

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## Definition

Progress is a concept which motivates and justifies human actions. It refers to a journey from what is considered as inferior towards what is considered as superior; in other words, it refers to the—not necessarily unique—course towards the achievement of those goals which have been set for—and wishfully by—the members of a society. Progress is intrinsically good and, consequently, convenient for societies. Being progress a vague concept, it is each society’s duty to give substance to it by considering what is superior and worthy of social aspiration. For this reason, it is of relevance to raise the question about the precise conception of progress each specific society wants to hold. It is clear that the conception of progress may change in time and space. Furthermore, in a specific space and time it is possible for some conceptions to coexist. There are currently many global, regional, and local initiatives addressing the issue of which conception of progress we should hold in the twenty-first century.

## Description

For centuries, the idea of progress has accompanied human activity and thinking. Great social thinkers put considerable effort on imagining how a society in which progress is present looks like. Scientists have occupied themselves with the task of advancing knowledge and technicians with the task of implementing it in order to generate progress. Politicians and policy makers justify their decisions on the basis of their

contribution to progress. The idea of progress allows for comparing and ranking societies as well as for assessing the performance of different social regimes (Rojas, 2009).

Without doubt the main topic in the idea of progress is the notion that better state society must aim for and that state has been associated to “*the liberation of humans from all physical compulsions which torment them*” (Nisbet, 1980). Saint Agustin (*The City of God*) and Joaquin de Fiore conceived a final state where humans are full of happiness, absolute joy, spiritual quietness, and peace. Thinkers such as Moro, Bacon, Campanella, Saint Simon, and Comte entertained themselves imagining how society would look in that final and future stage (Claeys & Sargent, 1999).

As expected, the well-being of humans is a fundamental issue in the reflections about a better society. In some occasions the concern focuses in the nature of relationships between human beings (ethical and moral progress); in many occasions it focuses on the possibilities of consumption and on the satisfaction of material needs (material or economic progress); in not a few occasions the interest is in the existence of the minimum conditions which are considered as necessary for the well-being of people (social progress). During the last decades there has been a growing interest in the well-being experienced and reported by people.

The twentieth century was dominated by the association between economic growth and progress. The expansion of society’s capacity of producing goods and services, the raising in consumption possibilities, and the proliferation of commodities were considered as good indicators of the progress of societies. It was argued that the availability of goods and services allows for a greater satisfaction of needs, which is expected to result in greater well-being. Hence, economic growth and people’s well-being were assumed to be highly correlated. This conception of progress as economic growth faces many critiques. A traditional critique points towards the problems involved in measuring the availability of goods and services; it states that gross domestic product (GDP) per capita—or any of its variations—is

an imperfect indicator of the availability of economic goods and services in a country. Another traditional critique affirms that GDP per capita is an indicator of central tendency, and for such reason it hides problems of distribution within societies. A more recent critique states that material progress makes complete omission of the sustainability of the planet, and, as a consequence, it does not contemplate for the well-being of future generations (Easterlin 1974; Hirsch, 1976; Mishan, 1967, 1977; Offer, 2007; Stiglitz et al., 2009).

There has also been some criticism of the assumed relationship between consumption and well-being. Economic theory is weak in explaining such association. It is not clear how much additional well-being is obtained when the production of goods and services increases. It has been argued that a higher purchasing power does not guarantee a higher economic satisfaction (Rojas, 2008; Scitovsky, 1976). In addition, the proliferation of commodities does not necessarily ensure the satisfaction of basic psychological needs such as competence, autonomy, and relatedness (Kasser, 2002; Kasser & Ryan, 1999). It may even happen that economic growth is accompanied by a reduction in the capacity to satisfy these needs (Lane, 2000; Sudgeen 2005).

The Social Indicators movement associated progress to the habitability conditions for a person’s environment (Estes, 1984; Veenhoven, 2000). This movement follows a substantive approach to conceptualize progress on the basis of a list of conditions which are considered relevant for people having a good life. Progress ends up being associated with the achievement of those habitability conditions in the list. The list of conditions considered as relevant may grow considerably. It is possible to talk about political, economic, health, social, and environmental conditions. Each condition is characterized by a long list of indicators, which leads to a proliferation of indicators (McGillivray & Noorbakhsh, 2007). The welfare regimes literature (Vogel, 1994) constitutes a related approach which focuses on the nature of state intervention. A similar substantive approach is

followed by the Capabilities and Functionalities movement (Sen, 1979, 1993). The movement focuses on people's access to those capabilities that allow their freedom to choosing functionalities. According to this approach, progress should be measured in the expansion of people's capabilities and not in their functionalities. However, the approach is not clear regarding which elements constitute the list of relevant capabilities and whether this list equally applies to everybody and everywhere.

The recent emergence of the subjective well-being approach has raised the issue of which well-being progress aims to and how to better measure that well-being (Haybron, 2003; Veenhoven, 1991). It is argued that the relevant well-being is that which is experienced by people and that the best way to measure it is by directly asking people rather than by presuming or imputing it (Rojas, 2007). People do have different kinds of experiences that constitute their well- or ill-being, such as hedonic, evaluative, and affective types of experiences (Rojas & Veenhoven, 2013). People do also summarize these experiences and are able to assess their well-being in terms of how satisfied they are with their life or how happy they are. Hence, the approach calls for a conception of progress as an increase in people's happiness (Rojas, 2013). It also distinguishes between people's well-being—understood as people's experience of being well—and the large list of potential explanatory factors. The approach calls for measuring well-being on the basis of people's reported happiness, while it calls for acting to increase well-being by fostering its relevant explanatory factors. The approach allows for identifying these explanatory factors, and it recognizes that their relevance may change across regions and over time.

## Cross-References

- ▶ Consumption
- ▶ Economic Growth
- ▶ Gross Domestic Product (GDP) and Happiness
- ▶ Happiness

- ▶ Subjective Well-Being
- ▶ Sustainability
- ▶ Well-Being

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## Progress, Societal

### ► Societal Progress

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## Progressive Taxation

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## Synonyms

[Distributive justice](#); [Graduated tax rates](#); [“Taxing the rich”](#)

## Definition

Progressive taxation is the rise in the rate of payment due as one’s income base increases.

## Description

“The private revenue of individuals,” wrote Adam Smith in 1776, “arises ultimately from three different sources: Rent, Profit, and Wages. Every tax must finally be paid from some one or other of those three different sorts of revenue, or from all of them indifferently.” One of his four canons of tax design was they be levied according to one’s ability to pay. But he also recognized that land was the source “which can best bear to have a . . . tax.” Indeed prior to the industrial age, most taxes were collected from land rent. The advent of industry and related trade, however, created forms of wealth and income besides that which could be linked discernibly to land. This led to the conclusion that one’s “ability to pay” – what is today called “progressive taxation” – relates mainly to income of persons rather than on bases such as land and sales transactions, *in personam rather than in rem*.

Today, we use terms like “proportional,” “progressive,” and “regressive,” often measured by a statistical technique known as the *Gini* coefficient. A tax is progressive with respect to income if the ratio of tax revenue to income rises when moving up the income scale, proportional if the ratio is constant, and regressive if the ratio declines. The extent of progressivity can be applied to a particular tax, to several taxes taken together, and for a given time period like a year or lifetime. Increased rates are justified on grounds that one’s marginal propensity to consume has less utility as one’s income rises. Progressivity is defended on grounds of fairness; morally speaking, no human being is worth so much more than another as indicated by wealth and income differences.

If everyone paid taxes at the same rate, they would be proportional but not progressive. Progressivity can be achieved by using one rate if exemptions are created for lower incomes

and/or by applying successively higher rates for brackets as increments increase. A widespread consensus has emerged to measure individual income: net consumption of wealth for a given period. One can also create progressivity by instituting a “negative income tax” for those below a certain threshold, thereby bringing everyone to a minimum standard of living. This idea is also known as a citizen’s dividend (CD) or a basic income guarantee (BIG). From an administrative standpoint, it has been suggested that such entitlements should be universal rather than setting up an unwieldy administration to decide who is eligible and who is not. Approached by this latter design or by income exemptions (or both), it is possible to achieve far greater income equity to all members of a society.

There are no widely accepted or objective criteria by which to know how progressive a tax regime should be. The original American federal tax rate in 1916 was set at 7 % on all income over \$4,000 for a married couple household. The highest marginal rate was 15 %. Congress increased this to a top marginal tax bracket of 90 % during the presidential era of Franklin Roosevelt. Today, the top federal US tax rate is 35 % even though American household incomes are arguably more disparate than any time in history. In fact, the earliest income taxes were not targeted to wages at all but rather upon rents and dividends. Above the median, most incomes come from these sources, what J.S. Mill called the “unearned increment” and William Gladstone called “lazy incomes.” Yet today, tax designs have been essentially reversed, taxing unearned income at lower rates than wages, or largely exempting rents and dividends, and referring to them as “capital gains.” The argument for this is that although higher incomes have lower marginal utility to households, they are the resources of capital reinvestment and not consumption.

Although taxing agents may treat all income alike, there is sound moral ground for not doing so. Of the three classes noted by Smith above, wages are earned income, obtained by effort of brain or brawn. Rents, on the other hand, are essentially windfall gains from an owner’s title

to some part of nature. Since the market value of any rent flow is a consequence not of what an owner does but comes rather from the community’s economic vitality and demand, it is unearned income. Rent is the value that results from a society’s joint effort and use of spaces, times, natural commodities like air, water, land, radio waves, and many other natural resources. Mill advocated taxing rents because, he said, “landlords grow richer in their sleep without working, risking or economizing.” As did Smith, Mill (1871) argued “the increase in the value of land, arising as it does from the efforts of an entire community, should belong to the community and not to the individual who might hold title.” Henry George (1879) expanded upon this classical tradition of political economy to develop a full-blown theory and regarded the private retention of socially created rent as tantamount to theft of the commons. Because corporations and people of considerable means hold the preponderance of titles to natural resources, taxes on rents are demonstrably more progressive than taxes on earned income.

Progressivity measures can also apply to taxes on capital goods usually at the point of sale. Retail sales taxes are typically applied on a unit basis *or ad valorem*, usually at the point of transaction. They are normally regressive for any short-term period, but some have argued that they are less so over the course of a household’s life. For items like foods, medicines, books, and clothing, as well as articles purchased for resale, making them exempt from taxes often mitigates their regressive nature. With the advent and growth of mail order and Internet sales beyond taxing jurisdictions, efforts are now being made to collect a comparable “use tax” when an item would otherwise escape capture. But the administrative difficulty of collection leads many taxing powers to ignore or exempt them. Services too are often subject to sales taxes, but they are really taxes on labor wages.

Not all revenue streams paid to governments should be regarded as taxes and measured according to ability to pay. Alternative revenues, sometimes called taxes sometimes not, are applied according to benefits received such as access to

parking space, swimming pools, and tennis courts; on wear and tear on public goods and services; or by social harm incurred. They are usually called user fees or environmental fees (or charges). Still, other revenues are imposed on behavior which society disapproves of, technically called sumptuary (sin or indulgence) taxes. The ability-to-pay standard is not typically used here; the benefit standard obtains even though poor people indulge in such behavior. We have seen the expansion of government-sponsored and operated lotteries in recent years, which are accepted politically because they are “voluntary” payments.

Taxes, no matter how few and flat the rates, have significant downside effects and negatively impact markets relative to what activity would prevail in their absence. It stands to reason that revenue drops when high rates of tax capture are imposed; such taxes typically constitute a damp on economic activity, distort market choices, create greater complexity, foster underground economies, and delegitimize collection regimes and perhaps government itself. These inefficiencies are called excess burden or deadweight loss and are the strongest argument for keeping rates low. Typical policy responses are to spread revenue streams over as many tax bases as possible in the belief that minimizing rates reduces such negative impacts. This is thought to assure more stable and reliable revenue streams and cover all bases. It further guarantees that no market arena is given special advantage. But such policies typically fail to take into account tax shifts to those bearing the ultimate burdens.

For this reason, economists argue that taxes should be levied on bases with fixed supply or what are low supply elasticities. Land is the ideal tax base: as Mark Twain and Will Rogers both observed, “they ain’t makin’ it any more.” The same rule applies to most natural resources. In contrast, when taxes are imposed on labor or capital goods, their burden is ultimately shifted to land in any case. This matter is typically referred to as “tax incidence,” a recognized phenomenon traceable to the beginnings of tax theory of the French Physiocrats of the early eighteenth century.

Tax shifting is given too little attention, even in the academic literature. To be sure, empirical studies are difficult to undertake, but considerable insight can be grasped through better appreciation of tax theory. The most important points are revealed in the acronyms ATCOR, that “all taxes come out of rent,” and EBCOR, that “excess burden comes out of rent.” Although many economists have addressed these concepts, Mason Gaffney (2009) is responsible for putting a name to them.

The closest approximation most nations have to taxing rents on a major scale is a tax on real property, which is really two taxes, a tax on land rent and a second tax on structures, which are really capital goods. As now applied, the two parts tend to negate one another, as the tax on improvements penalizes development and maintenance whereas the tax on the land rent engenders its improved use. The property tax is less progressive than a tax on land rent alone would be, even though a good case can be made that it is more progressive than not.

Opportunities for progressive taxation exist by taxing wealth. The difficulty, however, lies in the fact that wealth takes so many different forms that evasion is easy. Since land cannot be concealed or spirited away, taxing land rent has often been promoted as most suitable for progressive taxation. A land value tax is arguably a wealth tax as much as an income tax. Because a tax on the rental value of land cannot be shifted, and because poor people typically own no land, the tax burden is typically split between those households that do own real property and nonresidential titleholders (mostly business and commercial establishments) that own parcel sites in high-value locations. It is with good reason that other noted economists have recently endorsed the venerable classical economic idea of taxing natural resource rents.

All this becomes even clearer when one assesses the interstate and inter-municipal comparison of tax burdens. Claims made about some of the lowest-taxed regions or states often show upon exploration that they are also the most undeveloped, neglected, and compromised. Increasing tax obligations in support of public

services can relieve many burdens and encumbrances citizens bear privately. The enrichment of the public sector has the virtue of distributing wealth and benefits among the widest population.

## Cross-References

- ▶ [Gini Coefficient](#)
- ▶ [Interest](#)
- ▶ [Justice](#)
- ▶ [Public Good](#)

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## Progressively Lowered Stress Threshold Model

- ▶ [Dementia and Self-Reported Purpose in Life](#)

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## Project Appraisal Techniques

- ▶ [Project Evaluation](#)

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## Project Design

- ▶ [Design, an Overview](#)

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## Project Evaluation

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## Synonyms

[Capital budgeting method](#); [Investment decision-making](#); [Investment projects](#); [Metrics of project evaluation](#); [Project appraisal techniques](#); [Real investment evaluation](#)

## Definition

A real investment project is an intention or proposal to make use of scarce productive resources with the objective of producing or expanding the production of specific goods or services in quantities and qualities. The proposal for this production must satisfy accurate economic, financial, and social criteria.

## Description

A real investment project is an intention or proposal to make use of scarce productive resources with the objective of producing or expanding the production of specific goods or services in quantities and qualities. The proposal for this production must satisfy accurate economic, financial, and social criteria. Many modern financial theories suggest that such criteria should make use of analytical instruments which could bring together the private entrepreneurial and social objectives. In any economic activity, the private objectives – that is, what is intended to be accomplished – cannot be isolated from the external impacts or effects that they generate on the economic agents of a society. In general, the quantification of both private and social objectives must be carried out.

In view of this, in any investment project, it is appropriate to distinguish between the social and private entrepreneurial evaluation of selected objectives. The former can be carried out by the use of a social Cost-Benefit Analysis (CBA). The other viewpoint for analysis, that is, the private perspective, makes use only of modern financial management criteria in order to measure the private economic and financial viability of an investment project. Here both approaches are presented, first the private evaluation and next the social evaluation.

## Financial Project Evaluation

An investment project must take into account the uncertain values of the future cash-flow streams along the time periods defined by the economic duration of the proposed investment. Thus, to determine the present value of the future inflows

and outlays, the time value of the money (the opportunity cost of the capital invested) must be considered. In other words, the risk of the investment project should be incorporated into the analysis of economic and financial feasibility of the identified investment.

In Benninga, (2006), Damodaran, (2012), De Thomas & Gensing-Pophal, (2001), Hirst, (1988), Proctor, (2004), and Tennent & Friend, (2005), the main indicators to appraisal, the private and financial viability of an investment are presented. The most commonly used and reliable indicator to assess the economic and financial feasibility of any investment project is the *net present value (NPV)*. Using the concept of the time value of the money, the *NPV* for a particular investment is the sum of the discounted periodical (usually annual) net cash flows minus the investment outlay carried out in the present time. In mathematical notation, this set of computations can be expressed as

$$NPV = \sum_{t=1}^n \frac{NCF_t}{(1 + WACC)^t} - INV_0.$$

In this formula,  $n$  is the economic duration of the investment,  $t$  is the time period,  $NCF$  the *net cash flow*,  $WACC$  the discount factor, and  $INV_0$  the initial investment undertaken in the time period before the productive operational cycles. The discount factor  $WACC$  is the *Weighted Average Cost of Capital*. The mathematical expression for calculating this discount factor is

$$WACC = W_e K_e + W_d K_d (1 - \tau).$$

Here  $W_e$  is the equity fraction,  $K_e$  the cost of equity,  $W_d$  the debt fraction, and  $K_d$  the cost of debt and the marginal tax rate.

The *NPV* is the net present value of the investment. If  $NPV > 0$ , the project should be accepted; otherwise, it should be rejected. The *NPV* metric is not immune to some criticisms. With this measure, generally a larger investment will have a larger present value. Therefore, a ranking supported simply on *NPV* would have a tendency to favor large investments over small

investments. In spite of this limitation, this is the most robust measure for evaluating a project.

A complementary measure to *NPV* in assessing the viability of an investment project is the *Internal Rate of Return (IRR)*. It is the maximum rate that an investment can pay to both inside and outside investors. Mathematically the formula is

$$0 = \sum_{t=1}^n \frac{NCF_t}{(1 + IRR)^t} - INV_0.$$

In this equation, *IRR* is an unknown value which must be calculated. The investment project should be accepted if  $IRR > WACC$  otherwise it should be rejected. Note that this rate requires *WACC* as a term of comparison. There are a number of criticisms that could be levelled at this decision-making criterion. The fundamental criticism is that it favors projects with a fast payout or that are short-term in nature.

Another complimentary measure to those referred to is the *Payback Period (PP)*. This metric calculates the length of time required to recover the cost of investment. Logically, the investment with the lowest *PP* is the best one. The shortest *PP* is preferred because (a) the investment costs are recovered faster and (b) a lower *PP* is observed as less risky. Obviously, the longer the *PP*, the more uncertain the future inflows. For this reason, *PP* is frequently used as a measure of risk. The mathematical formula of this metric is

$$PP = t + \left( \frac{X}{Z} \right).$$

In this functional expression, *t* is the number of periods before the final *Payback Period*; *X* the total discounted outstanding value to be paid back at the beginning of the *PP*, so as to bring the discounted cumulative *NCF* minus  $INV_0$  to zero; and *Z* the total discounted *NCF* in the whole *PP*. Nonetheless, there are a number of limitations to *PP* as a measure of project evaluation. The

fundamental one is that *PP* does not include the net returns after the break-even point of the investment.

More measures of project evaluation could be specified. However, those mentioned above are generally the most commonly used in the project appraisal technique.

The metrics of evaluation described constitute part of the *Capital Budgeting Model (CBM)* (Damodaran, 2012). Capital budgeting is the planning procedure for the acquisition of resources whose proceeds are expected to carry on for more than one time period. The necessary steps to build the *CBM* are (a) generation of capital investment project proposals, (b) estimation of cash-flow streams, (c) evaluation and selection of projects to be implemented, and (d) revision or post-auditing of previous steps before the final investment decision.

The *CBM* is no more than a part of the full process of the *Investment Project Evaluation Analysis (IPEA)*. Briefly, the fundamental steps of this analysis are as follows:

1. Identification and technical description of the proposed real investment.
2. Development of strategic analyses, such as the *Strengths, Weaknesses, Opportunities, and Threats (SWOT)* and *Structural Porter Analyses*; here the specific strategic analyses *Life Cycle of Product, Learning Curve, and Boston Consulting Group (BCG) Matrix* could also be considered.
3. Description and quantification of *Capital Expenditure*.
4. Proposal of specific optimal *Capital Structure*.
5. Full description of main *assumptions* for the development of financial statements; the results of the project assessment are crucially dependent upon the strength and consistency of the assumptions defined.
6. Development of a variety of *Financial Statements*, fundamentally: *Income Statement, Cash Statement, and Balance Sheet*. To support these maps, auxiliary maps must be constructed, such as *Depreciation Map, Working Capital Map, and Debt Service Map*.
7. Evaluation of the investment project by using the metrics above described.

8. Use of both *Univariate and Multivariate Sensitivity Analyses*. The underlying principle of these is to measure the impact of the assumed critical variables upon the values of metrics.
9. Use also of the *Scenarios' Analysis* which could be defined as a sophisticated multivariate analysis. Considering an infinite or a very large number of scenarios, the *Monte Carlo Analysis* can be carried out.

Finally, it is worth emphasizing again that the *Investment Project Evaluation Analysis* is done under the context of uncertainty because the stream of outflows and inflows are uncertain. Thus, the concept of risk is a fundamental issue that must be taken into consideration. Stakeholders' conceptions of risk are diverse (chances of ruin, possibility of loss, variability of return, and probability of an undesirable outcome), and there are different categories of risk: business risk, external risk, price-level risk, interest rate risk, exchange rate risk, and marketability risk (Kurowski & Sussman, 2011).

### Economic and Social Project Evaluation

CBA is the "conceptual framework applied to any systematic, quantitative appraisal of a public or private project to determine whether, or to what extent, that project is worthwhile from a social perspective. CBA differs from a straightforward financial appraisal in that it considers all gains (benefits) and losses (costs) to social agents" (European Commission, 2008, p. 246). Social or non-directly productive projects must be evaluated in a global viewpoint, including the effect on all agents (individuals, families, firms, and state). Examples of social or non-directly productive projects are projects which (a) improve the quality of individual and collective life (e.g., public health, social security, cultural and leisure activities, social housing, environmental conservation, pollution control, fishery management, provision of leisure parks), (b) ensure the maintenance of collective life (e.g., defense, security, policing, crime prevention), and (c) support activities related to productive activities (e.g., education and training, scientific research, infrastructures (Del Bo & Florio, 2010) such as highways, bridges and dams, transports (Geurs, Boon, & Van Wee, 2009),

communication, energy (European Commission, DG Transport and Energy, 2006), railways). Social CBA can be applied to evaluate private and public projects from a social perspective. The terms economic analysis (e.g., evaluation of economic efficiency prices) and socioeconomic analysis (e.g., social and cultural effects) are frequently used interchangeably in project evaluation literature (Kurowski & Sussman, 2011). The economic analysis supports the selection of the entity (public, private, or both) which should carry out the project and the evaluation of the contribution of the project to global goals like development.

CBA is frequently applied to public projects, infrastructure funding, and development funding in developed (Beria, Giove, & Miele, 2012; Del Bo & Florio, 2010; European Commission, 2008; European Commission, DG Transport and Energy, 2006; Florio & Vignetti, 2012; Geurs et al., 2009; HM Treasury, 2003) and developing countries. International organizations develop and apply economic and social project evaluation (Asian Development Bank (ADB), 2002; Independent Evaluation Group (IEG), 2010; Jenkins, 1997; Schwartz & Berney, 1990; United Nations Industrial Development Organization (UNIDO), 1980)

The European Union Guide to Cost-Benefit Analysis (European Commission, 2008) defines five steps for Cost-Benefit Analysis (CBA) of a project's net impact on economic welfare:

1. Market prices or public tariffs are converted into shadow prices (also termed economic prices or accounting prices) in order to reflect social opportunity costs. The inputs are converted using conversion factors (e.g., the conversion factor for labor cost depends on nature and size of regional unemployment) and the outputs are converted using consumers' willingness to pay (WTP). The shadow price of goods is its "social value" evaluated as the contribution of it to social welfare measured by the marginal social welfare change (in money) caused by the additional net availability of those goods. Conversion factors are the ratios of shadow prices to observed market prices.

2. Inclusion and monetary evaluation of externalities. Externalities exist where there is no market link between those taking an activity, which has consequences for material welfare, and those affected by that activity. Externalities can be negative or positive. The runoff of chemicals from irrigated farmlands into a river making pollution injury is an example of negative externality. Internalizing externalities in CBA until recently was largely ignored; however, with present advances in nonmarket valuation techniques, the situation is changing and environmental goods (or bads) are one domain where CBA has progressed as shown by a literature review in (Pearce, Atkinson, & Mourato, 2006). There are two main groups of methods of nonmarket valuation: the production approach (e.g., a dose/reponse method grounded on a production function where natural capital as water quality is included) and the utility approach, a demand side approach (e.g., based on consumer utilities computed by Revealed Preference Method or Stated Preference Method) (Campbell & Brown, 2003).
3. Inclusion of indirect effects if they are relevant and were not incorporated in shadow prices or externalities. Indirect effects are quantity or price changes arising in secondary markets. An example of indirect effects of a transport project: changes in production, employment, and housing at specific localities (HM Treasury, 2003).
4. A social discount rate (SDR) discounts costs and benefits. Costs and benefits are discounted with a real social discount rate. European Commission suggests as SDR benchmark value 5.5 % for Cohesion and Instrument for Pre-Accession Assistance countries and for convergence regions elsewhere with high growth outlook (European Commission, 2008). The SDR is also named economic discount rate (EDR) and is not consensual in the literature (Evans, 2007). SDR or EDR can be computed for a country as the weighted average of several projects of investment (e.g., public, private, foreign) or vary from project to project (Kurowski & Sussman, 2011).
5. Finally, the economic performance indicators are computed, for example, economic net present value (ENPV), economic rate of return (ERR), and the benefit-cost (B/C) ratio. Benefit-cost ratio is the net present value of project benefits divided by the net present value of project costs and is used to appraisal independent projects. A project is accepted if B/C is equal to or greater than one.  
 Example of nonmarket benefits (or cost) impact valuation of projects in health is the quality of life measured by the quality-adjusted life year (QALY). QALY reflects the quantity and quality of life generated (or destroyed) by health or other projects. The benefit is computed as the arithmetic product of life expectancy and a measure of the quality of the remaining life years. EuroQol instrument (<http://www.euroqol.org/home.html>) estimates of the number of QALYs gained by the recipients of a project (European Commission, 2008).  
 In (Brent, 2009; Campbell & Brown, 2003; Harberg, 1965; Harberger & Jenkins, 2003; Kurowski & Sussman, 2011; Weiss & Potts, 2012) the economic and social project evaluation, methodologies are presented in detail, discussed, and illustrated. In [(Kurowski & Sussman, 2011), p. 276–278] both financial and economic analyses, framework and perspectives are compared concerning applicability (all projects vs. public and private), objectives (maximization of private return/investor benefits vs. increasing living standards/public benefits), prices (market vs. shadow), capital investment (invest for rate of return vs. mobilize for social welfare), effects (direct vs. direct and indirect), discount rate (cost of capital or WACC vs. SDR), natural resources (resource requirements vs. environment preservation), and location (minimize operating costs vs. economic stimulus, strategic value).

## Cross-References

- ▶ Benefit-Cost Analysis
- ▶ Cost-Benefit Analysis
- ▶ Cost-Effectiveness Analysis
- ▶ Cost-Efficiency Indicators
- ▶ Opportunity Cost

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## Project P.A.T.H.S. (Promotion of Quality of Life in Chinese Adolescents)

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## Synonyms

Positive youth development program; Youth enhancement program

## Definition

The Project P.A.T.H.S. is a positive youth development program designed to promote holistic development of junior secondary school students in Hong Kong.

## Description

### Background and Program Development

There are very few systematic and multiyear prevention and positive youth development programs in Hong Kong. Available youth enhancement programs also suffer from three deficiencies – overemphasis on adolescent problems, predominance of one-shot programs, and lack of systematic and long-term evaluation (Shek & Yu, *in press*). To promote holistic development among adolescents in Hong Kong, the Hong Kong Jockey Club Charities Trust approved HK\$400 million in 2004 to launch a project entitled “P.A.T.H.S. to Adulthood: A Jockey Club Youth Enhancement Scheme.” The word “P.A.T.H.S.” denotes Positive Adolescent Training Through Holistic Social Programs. The trust invited academics of five universities in Hong Kong to form a research team with the Hong Kong Polytechnic University as the lead institution to develop a multiyear universal positive youth development program to promote holistic adolescent development in Hong Kong, with the first author as the principal investigator. Besides developing the program, the research team also provides training for teachers and social workers who implement the program and carries out longitudinal evaluation of the project. In view of the overwhelming success of the program, the project was extended for another cycle (2009–2012 school years), with an additional earmarked grant of HK\$350 million (Shek & Ma, 2010).

There are two tiers of programs (Tier 1 and Tier 2 Programs) in this project. The Tier 1 Program is a universal positive youth development program for secondary 1 to secondary 3 secondary school students, normally with 20 h of training in the school year at each grade. Because research findings suggest that roughly one fifth of adolescents would need help of a deeper nature, Tier 2 Program is generally provided for at least one fifth of the students who have greater psychosocial needs at each grade (i.e., a selective program).

The overall objective of the Tier 1 Program is to promote holistic development among junior secondary school students in Hong Kong. To achieve this objective, program activities and curriculum incorporating the 15 positive youth development constructs highlighted by Catalano, Berglund, Ryan, Lonczak, and Hawkins (2002) were developed. The 15 positive youth development constructs include promotion of bonding, cultivation of resilience, promotion of social competence, promotion of emotional competence, promotion of cognitive competence, promotion of behavioral competence, promotion of moral competence, cultivation of self-determination, promotion of spirituality, development of self-efficacy, development of a clear and positive identity, promotion of beliefs in the future, provision of recognition for positive behavior, provision of opportunities for prosocial involvement, and fostering prosocial norms. With reference to a quality of life (QOL) framework, positive youth development indicators (such as spirituality and psychosocial competencies) can be regarded as indicators of QOL.

The project is pioneering and groundbreaking in Hong Kong and other Chinese contexts in many aspects. This is the first positive youth development project that provides 60 h of universal training on positive youth development for students in the junior secondary school years. The project also includes the development of a multiyear positive youth development program, provision of training on a massive scale, and implementation of rigorous evaluation. Besides, the work involves the collaboration of five universities, different government departments, NGOs providing school social work service, and the education sector. Finally, longitudinal evaluation is utilized over a long period of time involving the collection of different data from different sources. The background philosophy and manuals in English and Chinese can be seen in the website of the project (<http://www.paths.hk>).

### Training of Program Implementers

As program implementers are important factors affecting program success, systematic training is provided to the potential program implementers.

At each grade, potential program implementers normally receive 20 h of training before implementing the program in their schools. In the original training mode, there are 3 days of training at each grade. In day 1, the conceptual foundation, program philosophy, curriculum issues, and evaluation methods are introduced. In the second and third days, teaching units in the curriculum as well as skills and strategies (such as experiential learning cycle) are focused upon. In the training program, the potential program implementers are strongly encouraged to reflect on their motivation to teach the program and identification with the philosophy behind positive youth development. Other aspects of teaching such as student motivation, classroom management, cross-cultural differences in student learning, and experiential learning are also covered in the training program. The principles underlying the design of the training programs can be seen in Shek and Wai (2008). The content of the training programs can be seen in Shek and Merrick (2010).

In a series of evaluation studies based on quantitative and qualitative methods, there is evidence showing that the training programs are effective in helping the trainees to acquire knowledge and skills about program implementation. For example, subjective outcome evaluation based on quantitative measures revealed that most of the participants found that the programs promoted their knowledge and skills about program implementation. Analyses of the qualitative data also revealed that the training programs could promote reflective practice in the program participants (Shek & Chak, 2010a, b).

### Evaluation of the Program

Utilizing the principle of triangulation, a wide range of evaluation strategies have been used to evaluate the Tier 1 Program, particularly with respect to the question of whether the program can promote holistic development of the program participants. These evaluation strategies are presented in the following sections, and the related evaluation findings are summarized in Table 1.

1. *Objective Outcome Evaluation (One-Group Pretest-Posttest Design)*: In the experimental implementation phase, utilizing a one-group pretest-posttest design, data on objective indicators were collected from 546 students before and after they participated in the program. Positive changes in the program participants in various measures of positive youth development were observed.
2. *Objective Outcome Evaluation (Randomized Group Trial)*: In the full implementation phase, 24 experimental schools (N = 4,049 students) and 24 control schools (N = 3,797 students) were randomly selected to participate in a randomized group trial at the beginning of the program. Based on the longitudinal data collected, analyses using individual growth curve modeling generally showed that compared with the control participants, students in the experimental schools displayed a higher level of positive development and lower levels of substance abuse as well as delinquent behavior.
3. *Subjective Outcome Evaluation Based on Program Participants*: Students were invited to complete a subjective outcome evaluation form after completion of the program. Related quantitative and qualitative findings showed that program participants had positive views about the program and the program was beneficial to the participants. The subjective outcome evaluation findings were found to converge with objective outcome evaluation findings and the related changes.
4. *Subjective Outcome Evaluation Based on Program Implementers*: Program implementers (e.g., teachers and social workers) were invited to respond to a subjective outcome evaluation form after completion of the program. Related quantitative and qualitative findings showed that different program implementers had positive views about the program and they strongly felt that the program could promote the holistic development of the program participants.
5. *Subjective Outcome Evaluation (Secondary Data Analyses)*: To create a sense of ownership, program implementers were invited to

**Project P.A.T.H.S. (Promotion of Quality of Life in Chinese Adolescents), Table 1** A summary of the major evaluation findings of the Project P.A.T.H.S.

Evaluation strategy	Sample size	Major findings
1. Objective outcome evaluation (one-group pretest-posttest design)	N = 546 students in the experimental implementation phase	<ul style="list-style-type: none"> <li>Compared with pretest, students showed better positive development at posttest (Shek, 2006)</li> </ul>
2. Objective outcome evaluation (randomized group trial)	N = 4,049 students in the experimental group and 3,797 students in the control group at wave 1	<ul style="list-style-type: none"> <li>Compared with the control school participants, students in the experimental group displayed better positive youth development and less risk behaviors (Shek &amp; Ma, 2011; Shek &amp; Yu, 2011)</li> </ul>
3. Subjective outcome evaluation based on the participants	N = 206,313 students in the initial phase of the project	<ul style="list-style-type: none"> <li>Quantitative and qualitative findings showed that program participants had positive views about the program and its benefits (Shek &amp; Sun, 2010)</li> <li>Subjective and objective outcome evaluation findings were convergent (Shek, 2010a)</li> </ul>
4. Subjective outcome evaluation based on the implementers	N = 7,926 implementers in the initial phase of the project	<ul style="list-style-type: none"> <li>Quantitative and qualitative findings showed that program implementers had positive views about the program and its benefits (Shek &amp; Sun, 2007)</li> </ul>
5. Subjective outcome evaluation: secondary data analyses based on conclusions of the reports	N = 1,327 school-based program reports	<ul style="list-style-type: none"> <li>Students and implementers had positive perceptions of the program and its benefits (Shek &amp; Sun, 2010)</li> </ul>
6. Process evaluation	N = 97 classroom-based teaching units conducted in 62 schools	<ul style="list-style-type: none"> <li>Program adherence was high (around 85 %)</li> <li>Program implementation process was good (Shek &amp; Sun, 2009)</li> </ul>
7. Interim evaluation	N = 378 randomly selected schools	<ul style="list-style-type: none"> <li>Good comments and positive evaluation were found</li> <li>Suggestions for improvement were noted (Shek &amp; Sun, 2006)</li> </ul>
8. Focus groups based on students	N = 252 students in 29 focus groups	<ul style="list-style-type: none"> <li>Students reported positive views about the program and its benefits (Shek &amp; Lee, 2008)</li> </ul>
9. Focus groups based on implementers	N = 177 implementers in 36 focus groups	<ul style="list-style-type: none"> <li>Implementers had positive views about the program and its benefits (Shek, Sun &amp; Tang, 2009)</li> </ul>
10. Student diaries	N = 1,138 student diaries in the initial phase of the project	<ul style="list-style-type: none"> <li>Positive views about the program and its benefits were observed (Shek, 2010b)</li> </ul>
11. Case study	N = 10 schools and 1 social welfare agency	<ul style="list-style-type: none"> <li>Program, people, process, policy, and place factors influencing program success were identified (Shek &amp; Sun, 2008)</li> </ul>
12. Repertory grid method	N = 104 randomly selected cases	<ul style="list-style-type: none"> <li>Participants perceived they had more self-understanding and resilience after joining the program (Shek, in press)</li> </ul>

draw five conclusions based on the subjective outcome evaluation data collected from the program participants and implementers. The findings generally suggest that different stakeholders had positive views of the

program and they perceived the program to be beneficial to the program participants.

6. *Process Evaluation*: In process evaluation, systematic observations were carried out by trained research assistants in randomly

- selected schools to understand the program implementation details. The findings generally revealed that program adherence was high, with a mean adherence of over 80 %. Besides, the findings showed that the program implementation quality in these schools was generally high and the program was well received by both the program participants and implementers.
7. *Interim Evaluation*: To understand the process of implementation, interim evaluation was conducted by randomly selecting roughly half of the participating schools to participate in interim evaluation. The findings generally showed that the participants and implementers perceived the merits and benefits of the program, although difficulties in implementing the program and recommendations for improving the program and the implementation process were observed. Through interim evaluation, the programs were refined.
  8. *Qualitative Evaluation (Focus Groups Based on Students)*: Focus groups involving students based on schools randomly selected from the participating schools were carried out. Generally speaking, evaluation based on focus group involving the program participants was positive: informants commonly used positive descriptors to describe the program, and they also used positive metaphors to stand for the program. Besides, the program participants perceived many beneficial effects of the program in different psychosocial domains.
  9. *Qualitative Evaluation (Focus Groups Based on Program Implementers)*: Focus groups involving program implementers based on schools randomly selected from the participating schools were also carried out. Generally speaking, the program implementers identified strengths and positive features of the program, and they perceived the program to be beneficial to the development of the program participants. At the same time, they made suggestions on how the program could be improved. Taken as a whole, the program implementers had positive evaluation of the program.
  10. *Evaluation Based on Student Weekly Diaries*: After completion of the Tier 1 Program, students were randomly selected from the participating schools to write a reflective journal in the form of weekly diary to reveal their perceptions and feelings regarding the Tier 1 Program and the related benefits. Results of the qualitative data analyses showed that most of the respondents had positive views on the program and the program implementers and they felt that they had acquired competencies at the societal, familial, interpersonal, and personal levels after joining the program.
  11. *Case Study on Program Implementation*: To understand the implementation details and quality of Project P.A.T.H.S., data were collected from 10 schools and one social welfare agency. Systematic and integrative analyses revealed several conclusions. First, policy, people, program, process, and place (5 “P”s) factors influenced the implementation quality of the Tier 1 Program in the schools. Second, policy support and people (especially commitment and passion of the principals, senior school administrators, and program implementers) factors were two main groups of factors influencing the quality of program implementation. Third, although there were different arrangements for program implementation, incorporation of the Tier 1 Program in the formal curriculum was a sound and feasible strategy. It is argued that this should be the direction in the long run. Fourth, implementation of the Tier 1 Program in schools admitting students with either high or low academic achievement was viable. Fifth, the program was generally perceived positively by the program participants and implementers. Sixth, the program implementers perceived the program to be beneficial to the program participants. Finally, there were suggestions of improvement as far as program implementation is concerned. In short, the integrative case analyses showed that there were facilitators and blocks influencing the program implementation.

12. *Evaluation Using a Strategy Based on Personal Construct Psychology*: To understand the long-term impact of the project, 104 participants who had joined the program from Secondary 1 to Secondary 3 were invited to complete a repertory grid test based on personal construct psychology. Using both quantitative and qualitative methods, it was found that the informants generally felt that they had better self-understanding and a higher level of resilience after joining the program. They also perceived themselves as having a more positive self after joining the program for three years.

In short, the existing evaluation findings clearly suggest that the Project P.A.T.H.S. is effective in promoting the holistic development of junior secondary school students in Hong Kong, including promotion of positive development and quality of life as well as reduction of problem behavior in adolescents.

## Cross-References

- ▶ [Chinese Positive Youth Development Scale](#)
- ▶ [Hong Kong, Quality of Life](#)
- ▶ [Positive Youth Development](#)
- ▶ [Spirituality](#)
- ▶ [Well-Being, Student](#)

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## Prolonged "Drying," Climate Change "Event"

► [Manifestations of Drought](#)

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## Promiscuous Sexual Encounters

► [Casual Sex and the Quality of Life](#)

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## Promoting Favorable Environmental Change

► [Fostering Pro-environmental Behavior](#)

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## PROMs, Patient-Reported Outcome Measures

► [Health-Related Quality of Life Measures and Lung Transplant Patients](#)

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## Propensity Scores

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### Definition

In the causal inference and program evaluation literatures, the propensity score for unit  $i$  in the

study,  $e_i$ , is defined as the probability to receive the treatment conditional on his/her covariates' values,  $X_i$ . Formally,  $e_i \equiv e(X_i) \equiv Pr(T_i = 1|X_i)$  where  $T_i$  is a binary treatment indicator variable ( $T_i = 1$  if unit  $i$  receives the treatment and  $T_i = 0$  if unit  $i$  receives the control treatment).

### Description

In observational studies, where researchers have no control on the assignment of units to treatment groups, the possibility to draw causal conclusions about the effects of a treatment rests on the ability to control for sources of bias, like a different distribution of confounders, i.e., variables influencing both treatment assignment and outcome, in the treatment and control groups. Propensity scores were introduced by Rosenbaum and Rubin (1983a) as a one-dimensional summary of the multidimensional set of covariates, such that when the propensity scores are balanced across the treatment and control groups, the distribution of all covariates are balanced in expectation across the two groups. In observational studies, propensity score methods can only balance the distribution of observed covariates, while randomization also balances the distribution of unobserved covariates.

Since the seminal paper by Rosenbaum and Rubin (1983a), propensity score methods have attracted the attention of both methodological and substantive researchers in many fields. A comprehensive treatment of propensity score methods can be found in Guo and Fraser (2009). Other books include chapters dedicated to propensity score methods (Angrist & Pischke, 2009; Rosenbaum, 2010).

In typical practice, the propensity scores are not known, and they need to be estimated on sample data. Usually, a simple probit model or logistic regression of treatment indicator on the observed covariates is used (Dehejia & Wahba, 1999). After propensity scores have been estimated for each unit under study, they can be used in a variety of ways to obtain groups of treated and control units with similar distribution of covariates. In this way, under the assumption

that the treatment is unconfounded (i.e., independent of the potential outcomes given covariates), any observed difference in outcomes across the two groups can be attributed to the treatment. To avoid that some of the control units may be very dissimilar from all treated units, or vice versa, causal inference studies usually restrict the analysis to the so-called common support, i.e., the regions of the covariate space that have both treated and control units. Comparing the distribution of the propensity scores in the treated and control groups is a way to determine whether there is common support in the multidimensional space of covariates (Caliendo & Kopeinig, 2008).

A very popular way to use propensity scores to estimate causal effects is through matching. Propensity score matching consists in pairing of treatment and control units with similar values of the propensity scores and discarding all unmatched units (Rosenbaum & Rubin, 1983a). Several matching methods are available. The most common ones are kernel, nearest neighbor, and radius and caliper matching (for a discussion about the key characteristics of the different algorithms, see Caliendo & Kopeinig, 2008). Discriminant matching (Cochran & Rubin, 1973) can be seen as an ancestor of propensity score matching, as it shares with it the feature of using a scalar summary of the vector of covariates for matching. Large sample properties of matching estimators have been studied by Abadie and Imbens (2006, 2012).

Subclassification and weighting are alternative techniques to use the propensity scores to reduce bias due to a large set of observed covariates in an observational study. Subclassification on the propensity score refers to grouping treated and control units in subclasses or strata (typically five or six subclasses with similar number of units are used) with similar values of the propensity scores (Rosenbaum & Rubin, 1983b, 1984). Weighting methods, instead, attribute to each treated unit a weight equal to the inverse of their propensity scores, while each control unit is given a weight equal to the inverse of 1 minus their score, i.e., the inverse of their probability of being part of the control group (see, e.g. Czajka, Hirabayashi, Little, &

Rubin, 1992). Hirano, Imbens, and Ridder (2003) show that although weighting using the true propensity score does not lead to efficient estimators, a weighting estimator that uses a nonparametric estimate of the propensity score does achieve the semiparametric efficiency bound. Lechner (2011) compares weighting and matching estimators and derive the conditions under which they identify the same distribution.

Combinations of propensity score methods with regression adjustment have been found to be superior to using one method alone. For example, Bang and Robins (2005) consider a regression model for the outcome weighted by the propensity scores and show that the resulting estimator is “doubly robust” in the sense that if either the propensity score model or the regression model is correct, then the treatment effect estimator will be unbiased. Rubin and Thomas (2000) argue that regression adjustment after a matched sample has been obtained with propensity score matching performs better than a regression analysis on the unmatched sample. Similarly, Abadie and Imbens (2011) propose an estimator based on regression adjustment after matching to correct the bias of nearest neighbor matching estimators.

Propensity score methods, and in particular propensity score matching techniques, can be easily implemented by applied researchers by using routines available in common software packages. Examples include the STATA packages *pscore* (Becker & Ichino, 2002), *psmatch2* (Leuven & Sianesi, 2003), and *nnmatch* (Abadie, Drukker, Leber Herr, & Imbens, 2004) or the R packages *MatchIt* (Ho, Imai, King, & Stuart, 2011), *Matching* (Sekhon 2011) and *twang* (Ridgeway, McCaffrey, & Morral, 2010).

The typical application of propensity score methods, as discussed so far, involves a binary treatment in a cross-sectional setting. Extensions have been considered to multivalued (Imbens, 2000; Lechner, 2001) and continuous treatments (Hirano & Imbens, 2004) and in longitudinal settings (Marcus et al., 2008; Lechner & Miquel, 2010). Recently, Arpino and Mealli (2011) considered the implementation of propensity score matching with clustered data.

## Cross-References

- ▶ [Logistic Regression](#)
- ▶ [Program Evaluation](#)

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## Proportion of Variance Accounted For

- ▶ [Eta Squared](#)

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## Proportional Odds Model

- ▶ [Ordered Logit Model](#)

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## Proportionate Sample

- ▶ [Quota Sampling](#)

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## PROs, Patient-Reported Outcomes

- ▶ [Health-Related Quality of Life Measures and Lung Transplant Patients](#)

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## Prosocial Behavior

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### Synonyms

[Behavior, social](#); [Donation](#); [Generosity](#); [Giving](#); [Helpful behaviors](#); [Helping](#)

### Definition

Prosocial behaviors are those that are meant to protect or further the welfare of others (Schwartz & Bilsky, 1990). Examples include helpful acts

(Batson, 1987), formal volunteering (Foster, Mourato, Pearce, & Ozdemiroglu, 2001), and generous giving of resources, including money (Frey & Meier, 2004; Piliavin & Callero, 1991).

### Description

Sixty-three million people in the USA alone volunteered in 2009, split evenly for men and women and representing adults of all ages (U.S. Bureau of Labor Statistics, 2006-2007). Around the world volunteers number hundreds of millions. The number of individuals engaging in prosocial behaviors is much larger. Most of these are daily acts of helping and kindness. People may engage in prosocial behaviors for a number of reasons. They may help for altruistic motives or concern about the welfare of others and for egoistic or selfish ends (Batson, 1991; Cialdini et al., 1987). People may also behave prosocially because they are driven by controlled motivation, because they feel pressured, coerced, or choiceless to act, or for autonomous reasons, because they feel care or they value the prosocial behavior (Gagné, 2003).

Aristotle (350 B.C.; 1985) was first to suggest that prosocial behaviors further quality of life (QOL) when he argued that these actions promote eudaimonic well-being, the well-being that emerges from a life well lived (Ryan & Deci, 2001). Research supports this assertion. Engagement in prosocial behavior impacts QOL life across the lifespan (Honig & Wittmer, 1996). Prosociality results in better mental health (Crandall, 1975; Crandall & Lehman, 1977; Schwartz, Meisenhelder, Yusheng, & Reed, 2003) and less sense of hopelessness in life (Miller, Denton, & Tobacyk, 1986). Causal evidence shows individuals who are randomly assigned to generously donate money feel happier during their day than when they spent the money on themselves (Dunn, Aknin, & Norton, 2008). Furthermore, early findings suggest that spirituality that is aimed to prosocial actions has more positive impact on positive affect than does spirituality removed from prosociality (Kominos, 2011). Findings from neuroscience have also

shown that altruism driving prosociality is directly linked to reward systems (orbital frontal cortex and ventral striatum; Harbaugh, Mayr, & Burghart, 2007; Tankersley, Stowe, & Huettel, 2007). Such evidence dovetails with the observations of comparative biologists that prosocial behaviors, including those that include considerable self-sacrifice, are common in primate species, suggesting both that they are deeply evolved and afford significant selective advantages (e.g., see De Waal, 2009).

Prosocial behavior in humans often comes in the form of volunteer work, and there is much research to suggest that volunteers experience higher QOL. Volunteers are happier (Ellison, 1991), experience more life satisfaction (Wheeler, Gorey, & Greenblatt, 1998), and have a higher sense of self-esteem (Gecas & Burke, 1995; Newman, Vasudev, & Onawola, 1986) than do those who do not volunteer, and they report less depression (Brown, Gary, Greene, & Milburn, 1992; Rietschlin, 1998; Thoits & Hewitt, 2001; Wilson & Musick, 1999). Volunteering work activities during one's leisure time leads to less psychological detachment at the workplace, more sense of mastery experiences, and more satisfaction of needs (Mojza, Sonntagag, & Bornemann, 2011).

Compassion for others is one type of motivation to engage in prosocial behaviors (Batson, 1991; Weinstein & Ryan) and is shown to increase QOL by encouraging psychological well-being (Sheldon & Cooper, 2008) and positive mood (Hutcherson, Seppala, & Gross, 2008). Compassion also reduces perceived stress and physiological reactions to stress including high blood pressure, cortisol, and HRV reactivity (Cosley, McCoy, Saslow, & Epel, 2010) and having compassion results in lower mortality among older adults (Brown, Nesse, Vinokur, & Smith, 2003, 2005). Compassion fosters QOL by increasing intimacy and interpersonal closeness with others (Crocker & Canevello, 2008; Horowitz et al., 2001).

Prosocial behaviors also impact on QOL by furthering close relationships and promoting closeness and trust. Willingness to sacrifice in relationships promotes couples' well-being (Van

Lange et al., 1997). More directly, individuals who engage in more prosocial behaviors in their close relationships report relationship satisfaction (Rusbult & Agnew, 2010). Prosocial behaviors fosters relationship satisfaction in part by increasing the extent individuals view their partners as being prosocial as well (Rusbult & Agnew). Complementing research shows spending money on other people with whom one has strong social ties is particularly beneficial for QOL indicators (Aknin, Sandstrom, Dunn, & Norton, 2011).

The impact of prosocial behaviors on QOL appears to be universal across cultures. A study of participants from 136 countries, conducted as part of the Gallup World Poll, found that generously spending money on others relates to increases in subjective well-being, even in countries that have lower GDP per capita (Atkin et al., 2010). Additional work from the World Value Survey shows subjective well-being is linked with interpersonal trust, cooperation, and volunteerism across countries (Tov & Diener, 2009).

Reykowski and Smolenska (1980) have argued that many people engage in prosocial behaviors as one way to increase their self-esteem. Being motivated by this versus other types of regulation is an important factor in determining the impact of helping on QOL. Prosocial behaviors promote subjective well-being, life satisfaction, energy, and self-esteem if they are engaged with autonomy and choice, because people care for or value the behavior, but not when they are engaged to enhance one's self-esteem or for other controlled reasons. This effect has been shown using diary studies that follow real helping behaviors in day-to-day life, and prosocial behaviors that take place in the lab after motivation and behavior are manipulated (Weinstein & Ryan, 2010). A review of studies also concludes that only autonomous moral behaviors, including prosocial behaviors, encourage a feeling of well-being (Assor, 2011).

QOL can also be impacted when one is the recipient of prosocial behavior. In the workplace, managers' empathy and caring behaviors can increase employee well-being (Scott, Colquitt, Paddock, & Judge, 2010). At home, caregivers'

caring and prosocial behaviors impacts children's well-being (Griggs, Tan, Buchanan, Attar-Schwartz, & Flouri, 2010). The motivation of helpers (those who engage prosocial behavior) is also important for the extent QOL is impacted after receiving help. Individuals whose helpers are autonomous in their actions report more interpersonal closeness and well-being after receiving help (Weinstein & Ryan, 2010). Furthermore, those who attribute an autonomous motivation to their helpers are more likely to experience positive affect after receiving help, and they feel more closeness with helpers. Prosocial behaviors that are attributed to autonomous motives impact QOL by eliciting more gratitude from recipients (Weinstein, DeHaan, & Ryan, 2010).

Because engaging in prosocial behaviors is capable of encouraging QOL, interventions that encourage such behaviors may be useful for both children and adults, particularly if they promote autonomous and nonpressured, prosocial behaviors (Doescher & Sugawara, 1992; Eisenberger, 1982).

## Cross-References

- ▶ [Life Satisfaction and Sustainable Consumption](#)
- ▶ [Motivation](#)
- ▶ [Well-Being](#)

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## Prosociality

- ▶ [Altruism](#)

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## Prosperity

- ▶ [Affluence](#)

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## Protagoras

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### Birth, Education, Work History, and Main Contributions

Because of his prominence in Plato's dialogue of the same name, Protagoras of Abdera (c.490–c.420 BCE) is perhaps the best known of the so-called Older Sophists. Others included Prodicus (also featured in the *Protagoras*), Gorgias, and Hippias. Like Anaxagoras of Clazomenae (c.500–428 BCE), Protagoras was on friendly terms with Pericles (495–429 BCE). Although Protagoras had an aristocratic background, he made a living as an itinerant teacher of relatively advanced studies of rhetoric. Of the few fragments reliably attributed to him, the most famous is "A human being is the measure of all things – of things that are, that they are, and of things that are not, that they are not" (McKirahan, 1994, p. 379). While there are elements of skeptical relativism in fragments attributed to philosophers before Protagoras (e.g., in ▶ [Heraclitus](#)), this fragment is a particularly bold statement of the relativity of all assertions, including those concerning what is just or unjust, beautiful or ugly, and even true or false. Writing in the third

century CE, Diogenes Laertius added that "Protagoras was the first to declare that there are two mutually opposed arguments on any subject" (McKirahan, 1994, p. 374). As if all this was not troublesome enough, in another bold fragment, Protagoras professed a reasoned agnosticism:

Concerning the gods I am unable to know either that they are or that they are not, or what their appearance is like. For many are the things that hinder knowledge: the obscurity of the matter and the shortness of human life. (McKirahan, 1994, p. 364)

The clear implications of such principles, then, are that the best life and the best sort of person to be are entirely dependent on individual preferences, and Protagoras certainly had his own preferences. According to Plato (1924), Protagoras said that he could make people better in the sense of more excellent in managing their personal as well as public affairs. Perhaps more importantly for his commercial interests, Aristotle (1999) reported that Protagoras claimed the ability to make "the worse case the better" and to teach others how to accomplish the same feat. If he could deliver the product as advertised, his teaching would have been worth plenty to anyone with aspirations for a career in commerce, law, or politics. Apparently, enough people believed that he could deliver the product to make him famous, wealthy, and politically influential. It is unlikely that he would have preferred these features of the aristocratic ▶ [good life](#) without the universally attractive qualities of good ▶ [health](#), loving friends and family. There is no evidence that he had any concerns about his soul or that anything short of Real Paradise would have satisfied him. According to Poster (2006, p. 5)

Protagoras himself was a fairly traditional and upright moralist. He may have viewed his form of relativism as essentially democratic – allowing people to revise unjust or obsolete laws, defend themselves in court, free themselves from false certainties – but he may equally well have considered rhetoric a way in which the elite could counter the tendencies towards mass rule in the assemblies. Our evidence on this matter is unfortunately minimal.

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## Cross-References

- ▶ [Hedonism](#)
- ▶ [Multiple Discrepancies Theory](#)
- ▶ [Quality of Life, Two-Variable Theory](#)
- ▶ [Social Indicators](#)

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## Protected Area

- ▶ [Parks and Quality of Life](#)

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## Protective Health Factors

- ▶ [Developmental Assets](#)

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## Protest

- ▶ [Social Activism](#)

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## Protest Song

- ▶ [Folk Music](#)

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## Proxy Assessments

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## Synonyms

[Indirect informants](#)

## Definition

The use of proxies in the assessment of quality of life in people with an intellectual disability.

## Description

Quality of life assessment within the context of evidence-based practices has become an important guiding principle for monitoring and evaluation in the area of support of people with an intellectual disability (ID) but has also been applied in the wider field of health-related problems (Claes et al., 2009).

In the quality of life literature, there is fair agreement that key aspects are only captured through the subjective perceptions of persons themselves (Schalock et al., 2002; Stancliffe, 2000). Moreover, the subjective assessment of quality of life implies the involvement of the respondent, which is often complicated by the fact that many people with ID have limited verbal abilities (Hartley & MacLean, 2006). Therefore, in numerous cases, assessment processes have to rely on ▶ [indirect informants](#) like family or support workers. Several studies express their caution about the validity of those “proxy” responses in specific domains, such as preferences (Cannella, O’Reill, & Lancioni, 2005), quality of life indicators (Guscia, Harries, Kirby, & Nettelbeck, 2006), or living conditions (Umb-Carlsson & Sonnander, 2006). There are several concerns about the degree to which those responses really reflect the perceptions of the person concerned (McGillivray, Lau,

Cummins, & Davey, 2009). Besides, it is difficult to predict a priori the level of agreement between proxies and self-reports as different instruments or procedures have to be used frequently (Stancliffe, 2000).

In response to this challenge, *the Personal Outcomes Scale* (POS) (Claes et al., 2009) was developed and is currently used for persons with ID. The scale was designed to allow both self-respondent and direct observation ratings on the same indicators associated with the eight core QOL domains. In terms of the proceedings of the POS, when the person cannot respond for him or herself, somebody who knows the individual well independently provides the rating “as if he or she were the person.” The assumption is that proxy respondents are reliable and truly reflect the perception of the person being assessed.

To study inter-respondent reliability and the effects of proxies, participants and family members “who acted as if they were the person” were interviewed, by using the self-report version of the POS. SPSS statistical software (SPSS 17.0) was used for data analysis. Consumer/proxy reliability was assessed by calculating Pearson product-moment correlation coefficients for domain and total scores. The relationship between mean consumer and proxy scores was tested using t-tests (Claes et al., 2012).

Consumer/proxy agreement was fairly acceptable. There were no significant differences between mean scores, which confirm that proxy respondents can be used as indirect informants in QOL assessment.

However, in most cases, self-respondent ratings indicated a higher level of personal outcomes than proxy scores. Various explanations can be given by theories such as the “subjective well-being homeostasis” (Cummins, 2005) or adaptation theories that express the idea that people adapt to their life conditions and are less critical to circumstances which may be less comfortable than others (McVilly, Burton-Smith, & Davidson, 2000; Perry & Felce, 2005). People with ID might compare themselves with other people with ID, whereas staff and family assess the outcomes as referring to nondisabled individuals (Stancliffe, 1999). An alternative

explanation might just be the opposite: higher self-report ratings can be seen as a coping strategy of people with ID. In this approach, people with ID do not adapt to or reconcile with their situation by expressing a sense of powerlessness, but they appear as co-constructors of their life. de Swaan (1972) underlined a more structural explanation and argues that satisfaction with given situations should be connected with different social backgrounds and environments in which people live. His research with unskilled laborers revealed that these people systematically responded to questions on labor conditions as if questions were asked about themselves: positive ratings revealed a feeling that they succeeded in life, negative ratings revealed a feeling of personal failure and the fact they could not come up to their own expectations. This means that self-report ratings are milieu- or context-specific and that measuring and assessing quality of life of people with ID should be connected with alternative options to choose structural living conditions.

In relation to broader insights in social work and social welfare practices, an important stance is not the question “Which are right or wrong answers?” but the question “How to deal with possible discrepancies between various perspectives?” Perspectives of clients, or at least the representatives of their perspective, serve as a tool to present clients as subjects-who-know rather than as objects-that-are-known by others. Thus, they capture meanings and representations which are “their own” and complement specialized, often medical, knowledge.

## Cross-References

- ▶ [Intellectual Disability](#)
- ▶ [Personal Outcomes Scale](#)

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## Prudential Value

- ▶ [Morality and Well-Being](#)
- ▶ [Well-Being, Philosophical Theories of](#)

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## PSE

- ▶ [Postsecondary Education](#)

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## PSM

- ▶ [Problem Structuring Methods](#)

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## PSP Scale

- ▶ [Personal and Social Performance Scale](#)

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## Psychiatric Disorder

- ▶ [Mental Illness](#)

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## Psychiatric Disorders

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## Synonyms

[Mental disorders](#); [Mental illness](#); [Psychiatric illness](#); [Psychological disorders](#); [Psychopathology](#)

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## Definition

Psychiatric disorders are behavioral, emotional, or cognitive dysfunctions that are not readily controlled by the individual and are related to clinically significant distress or impairment in one or more areas including social, occupational, and interpersonal functioning. The behavioral and emotional response is beyond a culturally expected response to common life stressors

and losses. While many disordered states violate the social norms of a given society, social deviance in itself is not a sufficient criteria for a determination of mental disorder (American Psychiatric Association, 2000; Stein et al., 2010).

## Description

The disease model of mental illness has its roots in the Hippocratic tradition of ancient Greece, where illness was conceived as an imbalance of the humors (Baker, 1995); the contemporary disease model of mental illness is a relatively recent historical development and has become the predominant paradigm explaining mental illness in the Western world. Previously, “madness” or “insanity” has been seen as the result of divine punishment, possession by evil spirits, or witchcraft (Porter, 2002), ideas which persist in traditional societies today (Baker, 1995). In 1883, Emil Kraepelin introduced a comprehensive classification list of mental disorders. Kraepelin assumed that every diagnosis had clear pathophysiological cause and, as such, believed that each disorder had its own specific defining criteria that did not overlap with other disorders (Houts, 2002). Later efforts to further develop a comprehensive system of diagnosis were heavily influenced by the popularity of psychoanalytic theory, provoking labels of “neurosis” and “psychosis.”

While a psychiatric disorder must be atypical or outside of societal norms, an individual struggling with mental illness often experiences tangible difficulties in role functioning and significant levels of personal distress. Difficulties in role functioning indicate that an individual may struggle to adapt to life demands, including effective functioning at school or work, adequately caring for one’s own needs, and interacting optimally within one’s social and interpersonal world (Kearney & Trull, 2012). The struggle with psychiatric illness affects not only the individual but also the family and friends of the sufferer. Psychiatric disorders have a range of symptomatology and related consequences, with the most devastating effects

resulting in hospitalization, incarceration, and even suicide and homicide (Richardson, 2002).

Psychiatric disorders are broadly classified and most commonly include the categories of mood disorders, psychotic disorders, anxiety disorders, somatoform disorders, dissociative disorders, substance abuse and dependency disorders, eating and sleep disorders, developmental disorders, adjustment disorders, and personality disorders (American Psychiatric Association, 2000; World Health Organization [WHO], 2004). In a general sense, diagnosis of psychiatric disorders takes into account individual functioning across several different spheres including cognition, behavior, and emotion. Information is often collected using both structured and unstructured clinical interview data and results from various forms of objective, projective, and self-report psychological testing.

## Competing Conceptions of “Mental Disorder”

The debate over what constitutes a mental or psychiatric disorder, and how such concepts are optimally defined, is one of the ongoing challenges facing the mental health professions and philosophers of science (Wakefield, 1992). The “anti-psychiatry” movement, championed by Thomas Szasz, asserted that the medical concept of mental illness is a myth that allows psychiatrists to exercise social control by medicalizing what are in fact problems of living and instances of social deviance (Szasz, 1960). Such critiques led to redefining psychiatry and mental disorder in more strictly biomedical terms, in order to arrive at a value-free definition of mental disorder (Varga, 2011). The resulting biostatistical definitions of mental disorder, which emphasize biological disadvantage, have proved influential. However, increasing consensus has seen a value-free definition of mental disorder as unrealistic (Varga). Still other lines of argument have emerged that question whether it is possible to arrive at a general definition containing criteria which can clearly distinguish between disorder and non-disorder in all cases (American Psychiatric Association, 2010; Lilienfeld & Marino, 1995; Ross, 2005).

The biostatistical accounts of Scadding and Boorse broadly define disease, including mental

disorders, as abnormal phenomena that are both statistically deviant and which constitute a biological disadvantage to the organism (Boorse, 1976; Scadding, 1990). Boorse's theory, called the biostatistical theory (BST), has been particularly influential and defines health and normality in terms of the statistically typical states which contribute to the survival and reproductive fitness of the organism and equates disease with an interference in statistically typical functioning of the organism that negatively impacts its prospects for survival and reproduction (Boorse, 1976). Boorse holds that the statistically normal functioning of an organism can best be conceptualized by association to the reference class (e.g., age group) to which an individual organism corresponds, as statistically typical functioning varies among different reference classes and cannot easily be generalized to an entire species (Boorse). Both Scadding and Boorse attempted to define disorder in strictly objective scientific criteria, but critics have pointed to ways in which value judgments are implicit in such theories (Varga, 2011).

Jerome Wakefield proposed a popular alternative to the above natural function accounts of disorder, where two conditions must be met in order for a condition to qualify as a mental disorder: (1) there must be a dysfunction in the natural functioning of the individual's internal mechanisms, as selected by natural selection, and (2) this dysfunction must cause significant harm to the person as evaluated by the person's culture (Wakefield, 1992). This definition integrates a scientific criterion (dysfunction) with a value-based criterion (harm), in an attempt to create a definition which reconciles the objective/scientific and value-based conceptions of mental disorder (Wakefield). Wakefield's harmful dysfunction analysis has been criticized for failing to recognize that many harms are in fact culturally universal and for advancing an overly simplistic account of natural selection which fails to explain the evolutionary advantages of variability within populations (Ross, 2005). Moreover, according to Wakefield's analysis, any state which satisfies both conditions (is on some level a "dysfunction" and is culturally disapproved of) can be

considered a disorder in that culture, a conclusion which exposes the problematic applications of the culturally relative criterion of harm (Ross).

It may be that it is impossible to find a definition of mental disorder which fully delineates the boundaries between disorder and non-disorder. Patricia Ross argues that our inability to create a definition of mental disorder suggests that the concept itself lacks precise boundaries, not that the concept of mental disorder is necessarily unscientific (Ross, 2005). Lilienfeld and Marino go further, arguing that the concept of mental disorder is inherently unscientific, since the concept of dysfunction entails ambiguous boundaries that are not easily definable (Lilienfeld & Marino, 1995). Instead, they propose that mental disorders be understood as "Roschian Concepts," that is, as concepts that are socio-mental constructions organized around a prototypical ideal, consisting of traits that characterize a disorder, and which do not correspond to unambiguous categories in the natural world (Lilienfeld & Marino). Such critiques appear to have influenced the development of a revised definition of mental disorder for DSM-V, which acknowledges the impossibility of arriving at a perfect definition of mental disorder that clearly differentiates pathology from non-pathology in all instances (American Psychiatric Association, 2010).

### Diagnostic Models

The DSM-IV-TR (Diagnostics and Statistical Manual of Mental Disorders: Fourth Edition, Text Revision) and ICD-10 (International Classification of Diseases and Related Health Problems: Tenth Edition) systems of classification and diagnosis have created a framework that forms the basis of contemporary clinical practice and research in psychiatry and psychology. The ICD was developed by the World Health Organization (WHO) as a system for classifying human disease and first included mental disorders under the banner of "Diseases of Nervous System and Sense Organs" in 1948 (ICD-6) (American Psychiatric Association, 2000; Baker, 1995). The Mental Health Program

of the WHO became active in efforts to improve and refine this system in the 1960s, facilitating the cooperation of a diverse and international group of mental health professionals (WHO, 2004). DSM-I, the first edition of the Diagnostic and Statistical Manual of Mental Disorders, published in 1952, was developed by the American Psychiatric Association to codify the psychodynamic diagnoses commonly used by psychiatrists at the time (Baker, 1995). Both DSM-I and DSM-II failed to achieve widespread acceptance in the psychiatric community and were criticized for failing to provide reliable diagnoses (Wilson, 1993).

A variety of factors contributed to the ambitious drive to reinvent the DSM in what would become DSM-III, released in 1980. The critiques of Thomas Szasz and other prominent intellectuals of the “anti-psychiatry” movement attacked the very foundation of psychiatry, challenging both the conceptual validity of mental disorder and asserting that psychiatry was primarily an enterprise of social control, and not a true medical science (Szasz, 1960). The very public debate over the diagnostic status of homosexuality, which was considered a disorder in both DSM-II and ICD-9, further exposed psychiatry to the criticism that diagnoses were value-laden and thus unscientific (Baker, 1995; Wilson, 1993). The development of effective biomedical interventions for treating severe psychiatric disorders (typical antipsychotics, tricyclic antidepressants, and lithium) provided support for biochemical explanations of mental dysfunction and further motivated the development of an empirically-based nosology of psychiatric disorders that could effectively silence the critiques of anti-psychiatry (Baker, 1995; Paris, 2009; Porter, 2002; Wilson, 1993). Lastly, the slow progress of research in psychopathology and its treatment necessitated a system of diagnostic classification based on explicit criteria that would provide a common language for clinicians and researchers (Wilson).

DSM-III incorporated several methodological innovations designed to enhance diagnostic reliability, with far-reaching implications for research and clinical practice (Elliott, 2004).

Operational definitions for disorders were proposed that limited description to observable criteria, for which a given number of criteria would need to be satisfied in order to apply a diagnosis (Paris, 2009). In limiting diagnostic criteria to observable signs and symptoms of disorder, the authors of DSM-III sought to take a neutral stance on theories of etiology (American Psychiatric Association, 2000). A multiaxial system of diagnosis was introduced, where mental disorders were diagnosed on Axis I, personality disorders and mental retardation on Axis II, and general medical conditions on Axis III; psychosocial and environmental stressors were rated on Axis IV (scale 1–7); and a rating of the highest level of adaptive function in the previous year (scale 1–7) was to be completed on Axis V (Kutchins & Kirk, 1986). The multiaxial approach broadened the scope of diagnosis to include a variety of vulnerability factors, designed to enhance the clinical picture available to practitioners (Paris, 2009). By increasing the reliability of diagnostic criteria (reliable criteria result in different practitioners arriving at the same diagnostic conclusions), it was hoped that DSM-III would facilitate the development of more conceptually valid diagnoses and more effective communication between practitioners (American Psychiatric Association, 2000; Kutchins & Kirk, 1986; Paris, 2009).

Over the next 20 years, succeeding editions of the DSM would be published (DSM-III-R, DSM-IV, and DSM-IV-TR), which built on the innovations of DSM-III while increasing coordination with developers of the ICD-10 (American Psychiatric Association, 2000). DSM-IV changed Axis IV to a list of psychosocial and environmental stressors rather than a scaled rating, and Axis V was changed to what is now called the Global Assessment of Functioning (American Psychiatric Association). DSM-IV includes 16 categories of mental disorders in addition to “other conditions which may be the focus of clinical attention,” comprising a total of 365 mental disorders (American Psychiatric Association; Houts, 2002). The creators of DSM-IV were able to overcome many of the

empirical shortcomings of DSM-III and DSM-III-R by instituting a more rigorous and transparent revision process involving 150 literature reviews, reanalyses of 40 data sets, and 12 field trials (Trull, 2005).

DSM-V is slated for release in 2013. Despite early excitement about the possibility of a dimensional approach being extensively incorporated into the current diagnostic system, the DSM-V is not expected to make any radical departure from the diagnostic framework introduced with the DSM-III (Paris, 2009). One of the proposed DSM-V innovations focuses on personality disorders, where the dimensions of personality functioning and traits would be emphasized over behavioral signs to create a hybrid dimensional/categorical model of personality pathology (American Psychiatric Association, 2011).

### **Benefits and Challenges with Psychiatric Classification: The DSM**

Since 1980, the DSM has encouraged significant advances in the study of psychopathology. Both the DSM and ICD systems have supplied a “common language” for assessment, diagnosis, and research in psychiatry and psychology, facilitating much improved communication among clinicians and researchers where little consensus on issues of diagnosis existed previously (Banzato, 2009). The DSM-III’s use of explicit diagnostic criteria, a rule-based approach to diagnosis, and an emphasis on establishing the reliability and validity of diagnostic criteria resulted in a renewed program of empirical research in psychopathology (Banzato) that laid the foundations for research into evidence-based treatment of psychiatric disorders. Empirically supported treatments for a wide variety of different disorders now exist and typically provide sufferers with substantial symptom relief. Finally, many individuals experiencing previously undiagnosed mental disorder find that a diagnosis provides them with a new understanding of their symptoms and suffering and can direct them towards more effective and efficient pharmacological and psychological treatments.

The popularity of these systems has led to concerns over the reification of psychiatric diagnoses and the stigmatization associated with diagnostic labels. With reification, the hypothetical constructs of disorders are treated as if they correspond to a “real” or “clear-cut” entity that has been fully validated (Paris, 2009). Reification of disorders can result in the misleading treatment of a disorder as a cause of symptoms rather than as an abstract concept used to describe or cluster signs and symptoms, and may lead to problematic clinical practices (Banzato, 2009; Paris, 2009). People who are assigned a diagnostic label may experience the effects of stigma or negative attributions associated with their diagnosis. Stigmatization often results from common myths and misconceptions about mental illness, such as the false belief that people with mental disorders are all dangerous, and may result in discrimination and in the social rejection of those suffering from mental disorders (Boorse, 1976). Individuals who have experienced stigmatization report poorer health-related quality of life, increased social and job-related impairment, and poor life satisfaction relative to others with mental disorders (Alonso et al., 2009). The internalization of stigma may also lead individuals suffering from mental disorders to avoid seeking treatment (Alonso et al.).

The scientific status of claims about mental disorders included in these systems has been challenged from several angles. In a review of the DSM-III field trials, Kirk and Kutchins allege that the methodology of these trials was flawed, that a clear bias towards concluding that diagnoses were reliable was present at the levels of analysis and interpretation, and that the results indicate questionable reliability for all diagnostic categories (Kutchins & Kirk, 1986). They found no evidence to suggest that the results of field trials led to significant changes to the final draft of DSM-III (Kutchins & Kirk). Finally, diagnostic reliability does not guarantee diagnostic validity, as clinicians can all agree on a diagnosis for an individual without the diagnosis corresponding to a real diagnostic entity (Paris, 2009).

Critics of the DSM have pointed to the decision-making process by which diagnoses have been added and removed from the DSM (Porter, 2002). Debate over proposed disorders was settled by “expert consensus” for DSM-III and DSM-III-R, a form of social consensus that does not guarantee that decisions are based on sound scientific evidence and which is vulnerable to various sources of bias (Houts, 2002). The political influence of feminist and gay activists on the DSM revision process was made clear through debates over the diagnostic status of homosexuality and later over the proposed diagnoses of “paraphilic rapism,” “self-defeating personality disorder,” and others (Kutchins and Kirk 1995; Nathan & Langenbucher 1999). Both instances led to concessions to activists, either in the form of modifying the proposed diagnoses, changing their name, dropping them altogether, or adding them to Appendix A (“Proposed Diagnostic Categories Needing Further Study”) (Kutchins & Kirk, 1995). Under pressure from insurance companies to supply diagnoses for the wide variety of complaints seen in psychiatric practice, and which require diagnosis in order to be eligible for third-party reimbursement, the number of diagnoses has increased dramatically with each successive text revision of the DSM (Houts, 2002; Kutchins & Kirk, 1986; Kutchins & Kirk, 1995). The DSM-IV task force responded to these critiques by instituting a more empirically-based approach to decision-making and setting a higher threshold for the acceptance of new proposed diagnoses (Nathan & Langenbucher, 1999).

DSM diagnostic criteria have been criticized for being over-inclusive and for failing to adequately distinguish pathological abnormality from normality. Joel Paris points to epidemiological studies which, using DSM and ICD criteria, suggest that lifetime and 12-month prevalence of mental disorders are so elevated that the conventional notion of pathological abnormality (something experienced by a minority) is challenged (Paris, 2009). Indeed, results of the National Comorbidity Survey Replication (NCSR) indicate an observed lifetime prevalence rate of 46.4 % and a 12-month prevalence rate of 26.2 %

for any mental disorder (Kessler, Berglund, et al., 2005; Kessler, Chiu, Demler, & Walters, 2005). Of the latter figure, the majority of the cases were rated as mild (40.4 %) or moderate (37.3 %) (Kessler, Chiu, et al., 2005). It has been suggested that prevalence figures are inflated due to poor delineation of boundaries between disorder and non-disorder in the current diagnostic systems, especially where mild to moderate cases are concerned (Paris, 2009). This problem has been called the problem of “false positives” or overdiagnosis and may result in serious consequences for those who are falsely diagnosed, as well as for clinical and epidemiological research (Baker, 1995).

The categorical model of diagnosis adopted by the current DSM and ICD systems implies that disorders can be categorized into discrete, nonoverlapping entities. However, diagnostic co-occurrence, also called comorbidity, is not uncommon. While genuine co-occurrence of separate, unrelated disorders is regarded as rare, the current overlap between diagnostic criteria in the DSM results in high rates of comorbidity reported in clinical and epidemiological samples (Kessler, Chiu, et al., 2005). This artifactual comorbidity may lead to the inaccurate impression of the existence of separate, unrelated disease processes in the individual (Lilienfeld, Waldman, & Israel, 1994). Alternatively, symptom co-occurrence may more accurately reflect complex underlying etiological processes that remain poorly understood (Lilienfeld et al., 1994). The discourse on comorbidity has contributed to efforts to reevaluate the categorical model of diagnosis and to the development alternative proposals which emphasize a dimensional approach to diagnostic classification.

While the shortcomings of categorical models of classification have long been recognized, empirical investigation into dimensional approaches to classification has recently gained momentum and appears likely to significantly influence the development of future systems of diagnostic classification. A dimensional approach to classification could reduce the frequency of disorder co-occurrence and Not Otherwise Specified (NOS) diagnoses (Kearney & Trull, 2012).

Moreover, the categorical approach is unable to adequately communicate disorder severity or to capture subclinical or subthreshold symptomatology that still cause clinically significant impairment and distress (Kearney & Trull). Incorporating a dimensional approach into the DSM may range from adding dimensional ratings to the current categories to supraordinate dimensions that reflect broader biopsychological constructs such as temperament or personality traits (Brown & Barlow, 2005; Kearney & Trull, 2012).

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Anxiety Disorders](#)
- ▶ [Emotional Well-being](#)
- ▶ [Mental Illness](#)
- ▶ [Post-traumatic Stress Disorder \(PTSD\)](#)
- ▶ [Psychological Disorders](#)
- ▶ [Psychosocial Adjustment \(Includes Psychosocial Functioning and Well-Being\)](#)
- ▶ [Resilience](#)
- ▶ [Stress](#)

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## Psychiatric Illness

- ▶ [Mental Illness](#)
- ▶ [Psychiatric Disorders](#)

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## Psychoeducational Groups

- ▶ [Support Group\(s\)](#)

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## Psychological Abuse and Neglect of Children

- ▶ [Child Maltreatment: Psychological Maltreatment](#)

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## Psychological Abuse in Dating

- ▶ [Dating Violence](#)

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## Psychological Adjustment to Illness Scale (PAIS)

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### Definition

The Psychosocial Adjustment to Illness Scale (PAIS) (Derogatis & Derogatis, 1990) is a multidimensional, semi-structured clinical interview designed to assess psychosocial adjustment of medical patients.

### Description

Derogatis (1975) developed this measure to evaluate the most fundamental aspects of the broad construct of adjustment with a cost-efficient and time-efficient instrument. An important issue during the measure development was the identification of specific domains of psychosocial adjustment and the selection of those items that would reflect different aspects of it. More specifically, the PAIS interview consists of 46 items and seven domains:

- ▶ *Health Care Orientation*. The first domain includes seven sentences which assess patient’s attitude on health issues and the way this attitude relates to adjustment to illness. “Patient attitudes about health care in general, perceptions of ▶ [health care](#) professionals, quality of health information, and the nature of the patient’s expectancies about his/her disorder and its treatment are all assessed” (Derogatis 1986).

*Vocational Environment*. The six items of this domain examine the impact of the illness on patients’ vocational setting (work, school,

home, etc.). Respondents are asked to indicate their “perceived quality of vocational performance, vocational satisfaction, lost time, and vocational interest” (Derogatis 1986).

*Domestic Environment.* The third section of the PAIS examines respondents’ level of ► **adaptation** on family matters. The eight items of this domain “evaluate a number of aspects of family living, including financial impact of the illness, quality of relationships, family communications, and effects of physical disabilities” (Derogatis 1986).

*Sexual Relationships.* The six sentences of the fourth domain of PAIS examine the impact of the illness on patients’ ► **sexual functioning** and satisfaction. More specifically they assess “sexual interest, frequency, quality of performance and level of satisfaction” (Derogatis 1986).

*Extended Family Relationships.* The fifth section is designed to evaluate the difficulties patients may experience with the members of their extended family. The items of this domain assess “patients’ ► **adaptation** in examining communication, quality of relationships and interest in interacting with members of the extended family” (Derogatis 1986).

*Social Environment.* This section examines patients’ quality of adjustment in the domain of social activities. These six items evaluate the degree of respondents’ interest and participation in activities with family members and social groups (Derogatis 1986).

*Psychological ► Distress.* The final domain of the PAIS measures the psychological discomfort a patient may experience because of an illness. Seven items provide researchers with “principal affective indicators of psychological ► **distress** such as ► **anxiety**, depression and hostility, as well as reduced ► **self-esteem**, ► **body image** problems, and inappropriate guilt (Derogatis 1986).” It differs from the previous domains as it contains an equal number of questions for the interviewers who are asked to report respondents’ psychological condition.

*Administration and Scoring:* The PAIS (Derogatis & Derogatis, 1990) was designed to be used as a semi-structured interview conducted

by a trained interviewer. It takes about 20–25 min, and any interjection of external questions or information should be omitted.

Each item is rated on a 4-point scale. Higher scores indicate lower level of adjustment. The PAIS provides researchers with a total score of adjustment which is the sum of the seven domain scores.

The advantage of the semi-structured interview modality of the PAIS is that it can be applied to different clinical circumstances and provides researchers with valid and reliable data. However, the interview procedure is time, cost, and energy consuming and is inappropriate for large samples.

Four normative groups have been reported for PAIS, derived from representative samples. They cover different illness categories such as lung cancer, acute burn, hypertension, and renal dialysis (Derogatis 1986).

### Psychometric Properties

In terms of ► **reliability**, the PAIS interview displays adequate internal consistency with the Cronbach’s alpha coefficient ranging from .87 (domestic environment in 269 renal dialysis patients) to .63 (► **health care** orientation). In a smaller sample of 89 lung cancer patients, alpha coefficients ranged from .93 (social environment and sexual relationships domains) to .12 (extended family domain) (Derogatis 1986).

Regarding the consistency between different raters’ evaluations in a cancer patient sample and in a Hodgkin disease sample, the PAIS displayed good interrater reliability, ranging from .33 for extended family domain to .86 for sexual relationships domain (Derogatis 1986).

In terms of factorial structure of the PAIS, namely, ► **construct validity** of the measure, findings are quite satisfactory. Apart from some inconsistencies in particular items, factor analysis in various sets of data supported the existence of the seven fundamental dimensions in agreement with the theoretical structure of the measure. Furthermore, the domains were found to be independent from one each other, measuring distinct aspects of the adjustment construct. The mean intercorrelations among the sections were .33 and

.10 for a cancer patient sample and a Hodgkin disease sample, respectively (Derogatis 1986).

In terms of ► **convergent validity**, the PAIS interview total score was highly correlated with the Global Adjustment to Illness Scale total score and with SCL-90. More specifically the psychological ► **distress** domain displayed a higher correlation with SCL-90 which is a constant finding. PAIS also showed ► **predictive validity** as it was able to discriminate between people who suffered from a serious illness and the control groups (Derogatis 1986).

### Versions

The Psychosocial Adjustment to Illness Scale has also a self-report version (PAIS-SR) which has been widely used in health studies. It is a 46-item measure of adjustment. Items of PAIS-SR were matched to the original PAIS, and revisions were made in order to develop an accessible and valid self-measure. Similar to the PAIS interview, the PAIS-SR has a structure of seven different dimensions: health care orientation, vocational environment, domestic environment, sexual relationships, extended family relationships, social environment, and psychological distress (Derogatis 1986).

It is designed to be completed by the respondent, and the average time of completion is 20–25 min. Respondents are asked to choose the answer that best describes their experience concerning the effects an illness had on their life in the past 30 days. Each PAIS-SR item is rated on a 4-point Likert scale.

There are PAIS-SR-standardized scores for cardiac bypass, diabetes, multiple sclerosis, and heterogeneous cancer patients (Derogatis 1986).

► **Reliability**: The PAIS-SR demonstrates satisfactory ► **internal consistency reliability** with Cronbach's alphas (in a cardiac patients sample) ranging from .85 (psychological ► **distress** domain) to .47 (► **health care** orientation domain) (Derogatis 1986). Merluzzi and Martinez Sanchez (1997) also reported satisfactory internal consistency of the PAIS-SR with Cronbach's alpha coefficients ranging from .50 (► **health care** orientation domain) to .87 (psychological ► **distress** domain) and .93 for the total score.

A similar pattern of *Cronbach's* alpha coefficients was also suggested by Rodrigue et al. (2000). They reported acceptable ► **internal consistency reliability** for most of the domains, except for the health care orientation section (.50). This particular domain seems to have low internal consistency across different studies.

**Validity**: The low interrelations among the PAIS-SR domains supported the theoretical endeavors of the constructor to develop seven independent sections with items that would measure unique areas of the adjustment concept (average domain intercorrelation was .28) (Derogatis 1986). The seven-factor structure of adjustment, as it was suggested by Derogatis (1986), was partly confirmed by other investigators (Merluzzi and Martinez Sanchez 1997). They reported that ► **factor analysis** of their set of data resulted in the emergence of a structure of seven factors. However, a number of items did not load on the expected factors. A more recent study found a six-factor structure in a sample of 280 transplant patients. However, other researchers suggested a stable structure of the PAIS-SR (Rodrigue et al., 2000).

In terms of ► **convergent validity**, the PAIS-SR displayed high correlations in the expected direction with adjustment measures (such as Mental Health Index) coping and ► **social support** scales (Merluzzi and Martinez Sanchez 1997). Rodrigue et al. (2000) reported strong positive correlations between PAIS-SR domains and the ► **SF-36** subscales. The PAIS-SR also displayed ► **predictive validity**, and it was able to discriminate among "good and bad adjusters" according to an external criterion (Derogatis 1986). Moreover, Stubbing et al. (1998) examined the psychosocial adjustment to chronic lung disease patients and reported that PAIS-SR scores were in agreement with the clinical judgment about the patients' level of adjustment. Kaplan De-Nour (1982) reported similar findings in a sample of chronic hemodialysis patients.

### Discussion

The PAIS and the PAIS-SR have been widely used to examine the quality of adjustment

to illness and its sequelae in different types of illness, such as cancer (Merluzzi and Martinez Sanchez 1997), lung disease (Stubbing et al. 1998), and transplantation (Rodrigue et al. 1993). It has also been used to evaluate the level of adjustment in caregivers and patients' family members (Gilbar and Rafaeli 2000).

PAIS and PAIS-SR are available in many languages such as Hebrew (Kaplan De-Nour 1982) and Norwegian (Wilhelmsen et al. 1994).

A number of studies have reported that both versions of Psychosocial Adjustment to Illness Scale display ► [internal consistency reliability](#), as well as construct, convergent, and ► [predictive validity](#). Items, domains, and total scores provide researchers with information related to the quality of adjustment, and the standardized scores facilitate the interpretation of these findings. Objective measures like PAIS/PAIS-SR seem to be valuable in medical settings as they provide clinicians with quantitative information about the effects of an illness on different areas of patients' life (Stubbing et al. 1998).

## Cross-References

- [Adaptation](#)
- [Anxiety](#)
- [Body Image](#)
- [Construct Validity](#)
- [Convergent Validity](#)
- [Cronbach's Alpha](#)
- [Disability](#)
- [Distress](#)
- [Factor Analysis](#)
- [Health Care](#)
- [Internal Consistency Reliability](#)
- [Predictive Validity](#)
- [Psychosocial Adjustment \(Includes Psychosocial Functioning and Well-Being\)](#)
- [Reliability](#)
- [Self-Esteem](#)
- [Sexual Functioning](#)
- [SF-36](#)

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## Psychological Disorders

- [Kessler Psychological Distress Scale](#)
- [Mental Illness](#)
- [Psychiatric Disorders](#)
- [Psychological Distress and Chronic Obstructive Pulmonary Disease \(COPD\)](#)

## Psychological Distance

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### Definition

Psychological distance is a cognitive separation between the self and other instances such as persons, events, or times.

### Description

#### Dimensions

Psychological distance is defined within the Construal-Level Theory (CLT), which was developed by Trope and Liberman (2003). Their first approach referred only to the *temporal* distance and assumed that we judge a more distant event in time by few abstract characteristics (*high-level construal*). On the opposite, one judges an event which is closer in time by some concrete traits (*low-level construal*).

The theory was further developed to include other three dimensions of psychological distance: *spatial*, *social*, and *hypothetical*. The spatial distance is that from the individual to the target of his judgment. The social distance is between the person and the rest of the world. The hypothetical distance is between certain and hypothetical events. Fiedler (2007) adds, among other dimensions, the *informational* distance, defined as the amount of knowledge the judging person possesses on the subject. These dimensions have been found to be strongly and systematically correlated (Fiedler, Jung, Wänke, & Alexopoulos, 2012).

#### Implications for the Theory of Subjective Well-Being

The psychological distance has been researched in conjunction to ► [subjective well-being \(SWB\)](#) in three categories of studies.

With reference to the *temporal* distance, adolescents (Garcia, Rosenberg, & Siddiqui, 2011) and undergraduate students (Heller, Stephan, Kifer, & Sedikides, 2011) have been found to estimate their life satisfaction in a distant future as being higher than their life satisfaction in a closer future. According to CLT, the estimation of near future life satisfaction is based on a low-level construal and is influenced by concrete worries such as exams. This confirmation of CLT also stands when it was tested the “desirability of life satisfaction.” Life satisfaction was found to be more desirable in the distant future (10 years) than in the near future (a week, a year) (see Garcia, 2011). However, the same study could not confirm another implication of CLT, that on average, people are judging themselves as being significantly happier in 10 years from now on than in next week.

In what concerns proximity of domain satisfactions, Cummins, Eckersley, Pallant, Van Vugt, and Misajon (2003) imply that evaluation of own “life as a whole” is rather abstract and influenced by positivity biases (activated in the process of well-being ► [homeostasis](#)) while the evaluation of domain satisfactions is rather of concrete type. Thus, an index of domain satisfactions should be more “objective” in measuring SWB.

Finally, with reference to *spatial* distance, Baltatescu (2001) and Baltatescu et al. (2012) found that laymen judge psychologically distant people (from the city, from the country) as being unhappier than people who are closer to them (family, friends, or neighbors). This result is also consistent with the predictions of CLT: distant people are judged schematically, based on a few abstract traits, mostly deduced from media reports that often depict negative experiences (see also ► [climate of opinion](#)). On the contrary, the estimation of the happiness of people who are closer to us than others is based on a low-level construal (concrete traits).

#### Summary

In conclusion, psychological distance provides the explanatory link for the conceptualization of

spatial, social, temporal, and informational influences on the judgments of SWB.

## Cross-References

- ▶ [Climate of Opinion](#)
- ▶ [Domain Satisfaction](#)
- ▶ [Homeostasis](#)
- ▶ [Index Construction](#)
- ▶ [Positivity Bias](#)
- ▶ [Psychological Distance](#)
- ▶ [Subjective Well-Being](#)

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## Psychological Distress

- ▶ [Psychological Stress and Employee Engagement](#)

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## Psychological Distress and Chronic Obstructive Pulmonary Disease (COPD)

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### Synonyms

[Anxiety symptoms with Chronic Obstructive Pulmonary Disease \(COPD\)](#); [Depressive symptoms and Chronic Obstructive Pulmonary Disease \(COPD\)](#); [Internal conflicts and Chronic Obstructive Pulmonary Disease \(COPD\)](#); [Mental suffering](#); [Psychological disorders](#); [Psychological distress symptoms](#); [Psychological pain](#)

### Definition

Chronic obstructive pulmonary disease (COPD) is a respiratory disorder that is characterized by a slowly progressive and largely irreversible airflow limitation, with dyspnea being a clinical hallmark of the disorder (Celli, 2008; Raheison & Girodet, 2009). COPD is a major public health issue with an estimated prevalence across studies

around 7.6 % (Raheison & Girodet, 2009). COPD is very often related to tobacco smoking (Raheison & Girodet, 2009). COPD patients face an existential condition associated with severe limitations, such as impaired performance of ► [activities of daily living](#) and reliance of long-term oxygen therapy for survival (Niewoehner, 2010). COPD patients often face extreme difficulties in adapting to the severe limitations imposed by their disease, which often leads to significant psychological distress (Kaptein et al., 2009).

## Description

### Psychological Distress in COPD

COPD is associated with elevated rates of depressive and anxiety symptoms (Putman-Casdorph & McCrone, 2009). For instance, a recent systematic review and ► [meta-analysis](#) estimated a 24.6 % prevalence rate for clinically significant depressive symptoms in COPD samples (Zhang et al., 2011). The prevalence rate for anxiety disorders is also high but varies significantly across investigations (ranging from 10 to 96 %) (Putman-Casdorph & McCrone, 2009). A recent report also found that COPD patients might have a more neurotic and immature defensive style when compared to age and gender-matched controls (Albuquerque et al., 2011). Some reports suggest that COPD patients have elevations on the Minnesota Multiphasic Personality Inventory somatic triad (hypochondriasis, depression, and hysteria) when compared to controls (for a review, see Hynninen, Breitve, Wiborg, Pallesen, & Nordhus, 2005). Furthermore, a substantial subset of COPD patients may have maladaptive coping and illness cognitions that may generate and/or perpetuate psychological distress (Kaptein et al., 2009). Psychological distress may confer a greater risk for symptom-based exacerbations, although more studies are needed to allow firm conclusions (Laurin, Moullec, Bacon, & Lavoie, 2011). Finally, evidence indicates that depression is associated with all-cause mortality in COPD (Ng et al., 2007; de Voogd et al., 2009).

### Quality of Life (QoL) Research Focus

Several lines of evidence indicate that depression is an independent predictor of worse ► [quality of life](#) in COPD patients (Ng et al., 2007; Putman-Casdorph & McCrone, 2009; Komachi et al., 2009). Recent research also points to a deleterious influence of anxiety on COPD patient's QoL (von Leupoldt, Taube, Lehmann, Fritzsche, & Magnusson, 2011; Giardino et al., 2010). Finally, specific defense mechanisms, namely, denial, somatization, and undoing, were independent correlates of worse QoL in a recent cross-sectional investigation involving COPD patients (Albuquerque et al., 2011).

## Cross-References

- [Anxiety](#)

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mechanism by which people, organizations, and communities gain mastery over their affairs (Rappaport, 1981, 1984). Other definitions stressed similar concepts, sometimes limited to the individual level, like Mechanic's (1991) proposal (a process in which people develop a closer correspondence between their goals, efforts, and life outcomes), sometimes incorporating person-environment interaction and adding other features like in Perkins and Zimmerman (1995) definition of empowerment, as a process by which people gain greater control over their lives, democratic participation in the life of their community, and a critical understanding of their environment.

This general framework of empowerment can be applied to an *individual level* when it refers to intrapersonal and behavioral variables, to an *organizational level* when it is concerned with resources mobilization and participatory opportunities, and to a *community level* when addressing sociopolitical structures and social change (Zimmerman, 2000).

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## Psychological Distress Symptoms

► [Psychological Distress and Chronic Obstructive Pulmonary Disease \(COPD\)](#)

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## Psychological Empowerment

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### Synonyms

[Powerlessness](#)

### Definition

Empowerment has been defined in many different ways. The very first definition underlined empowerment as a “multilevel” concept, a

### Description

“Psychological” empowerment (PE) refers to empowerment at the individual level of analysis. It is a complex construct, deriving from the integration of different dimensions, related to three different domains: (a) *personality* (e.g., self-attribution of the outcomes of one’s own actions, internal locus of control), (b) *cognitive* (e.g., the perception of self-efficacy), and (c) *motivational* (e.g., desire to participate to the action and management of the relevant factors). This means that the individuals think that events are controllable and manageable (passing from a situation of learned helplessness to a situation of learned *hopefulness*) and that it is possible to intervene to influence the events (ideology of the *possible change*).

The two principal concepts on which empowerment is based are power, its etymological basis, and participation, its practical side (Rappaport, 1987, 1995). The concept of *power* (located at the heart of *empowerment*) has a positive accent; it

**Psychological Empowerment, Table 1** Psychological empowerment: processes, outcomes, and components (Source: adapted from Zimmerman, 2000)

	Empowering (processes)	Empowered (outcomes)	
Individual level of analysis	Learning decision-making skills	Perceived control over situations	
	More equitable resources management	Critical awareness	
	Involvement in group work and in community activities	Proactive and participatory behaviors	
	Mentoring or self-help experiences		
The three components of the <i>empowerment</i>			
	<i>Control</i>	<i>Critical awareness</i>	<i>Participation</i>
Individual level of analysis	Possibility to choose	Capacity to analyze and understand	Collective action
	Ability to influence the decisions about one's own life	One's own sociopolitical environment	Engagement in organizations Collective exercise of control

does not mean manipulation or prevarication; it is not considered as “power over” but “power to,” that is, the capacity to act, and “power with,” power to work and collaborate with others (Kreisberg, 1992). Swift and Levine (1987) have clearly argued that empowerment is not a condition which can be given to another person, because “no one can empower another.” Disempowered persons have to be helped in the process of acquiring the skills to satisfy their needs and defend their rights. It is up to their decision whether and how to take care of their own situation.

*Participation* refers to the tendency to act; it is the practical aspect of *empowerment* and underlines the willingness to activate in order to realize the necessary changes in one's community and pursue the desirable outcomes.

According to Zimmerman's theory (2000), empowerment includes both processes and outcomes. *Empowering processes* allow to increase the capacity of the individuals to actively control their own life; *empowered outcomes* refer to the operationalization of empowerment, such as the consequences of individual's attempt to control his own life. Moreover, the theory posits three cornerstones: (a) *control*, the perceived or actual capacity to influence the decisions; (b) *critical awareness*, defined as the capability to understand one's social and political situation and the ability

to identify factors that influence the decision making; and (c) *participation*, that is, the ability to engage in activities and organizations in order to obtain the desired outcomes and develop strategies for social change. These different dimensions of PE can be identified as intrapersonal, interactional, and behavioral components. Empowered individuals have some combinations of these components (Zimmerman, 1995).

In the first part of the following table, the meaning of psychological empowerment as process and outcome is detailed, whereas in the second part, the three basic components are described (Table 1).

**Areas of Application**

The discourse on empowerment processes has been influential for many practical areas in community mental health and social work, psychiatry, community development, and organizational science. In social policy, the concept of empowerment has been adopted in various legislations in Europe and developed as a synonym for innovative approaches to social challenges and the growth of a consumer-oriented civil society (Stark, 1996).

One interesting area of application is the health domain, where empowerment is recognized both as an outcome by itself and as an intermediate step to long-term health status and

disparity outcomes. Much research has been focused on empowerment of socially excluded persons (e.g., women, youth, people at risk for HIV/AIDS, and the poor), though application of empowerment crosses to other populations and issues in public health. Youth empowerment interventions have produced multiple empowerment and health outcomes: strengthened self- and collective efficacy, stronger group bonding, formation of sustainable youth groups, increased participation in structured activities including youth social action, and policy changes, leading to improved mental health and school performance. Patient and family empowerment strategies have increased patients' abilities to manage their disease (Anderson & Funnell, 2005), adopt healthier behaviors, and use health services more effectively, as well as increasing caregiver coping skills and efficacy (Wallerstein, 2006).

### Discussion

Greater attention should be paid to the different levels of empowerment. The concept of "psychological empowerment" means more than the individual psychological constructs with which it is sometimes compared or confused (e.g., self-esteem, self-efficacy, competency, internal locus of control, psychological hardiness). It is at core a collective construct. Psychologists, in particular, must look beyond individualistic conceptions, most of which are adequately captured by the existing terms and knowledge base, to collective conceptions of empowerment that are commensurate with solving group, organizational, and community problems (Perkins, 1995).

Critical remarks have been addressed to the concept. Serrano-Garcia (1984) pointed that within a colonial context, speaking about empowerment is only an illusion, given the specific sociopolitical conditions and distribution of power typical of the developing countries. Riger (1993) has underlined two shortcomings of the empowerment literature, based on preference for individualistic explanation: (a) an overemphasis on feelings of efficacy coupled with a neglect of the achievement of real power and (b) an emphasis on autonomy which increases competition within and among groups,

at the expense of more cooperative or communitarian approaches that women's or other groups might take. Also Prilleltensky and Nelson's (2000) critique points to the psycho-centric bias of the empowerment literature, which concentrates on the cognitive and emotional aspects of personal empowerment, neglecting the social, material, and political aspects (see also Orford, 2008).

Moreover, in practice, the distinction between individual empowerment and collective empowerment is not so clear. Research data indicated that stronger individuals with greater belief in their own efficacy often initiated actions to improve the collective situation, but they were encouraged by, and sometimes depended on, less confident friends for help and moral support. As discussed by Saegert and Winkel (1996), this interdependence is an essential aspect of empowerment, viewed as intrinsically involving individual and group learning and action, the growth of collective organizations, the development of linkages to settings and groups beyond the initial locus of action, and material and political change in the lives of participants.

If empowerment is the "constructive" exercise of power, then empowering individual and collective actions have to be linked to promote and realize changes in order to gain capacities of mastering problems, develop competences in those who are lacking of such skills, and realize more symmetrical relations and more participative and shared decisions and evaluations. Synergy occurs when the "psychological" empowerment, related to the sense of mastery and control of the individuals over their relationship with the external world, is linked to the "objective-environmental" empowerment, that is, the resources and the possibilities provided/allowed by the environment.

### Cross-References

- ▶ [Active Citizenship](#)
- ▶ [Active Coping](#)
- ▶ [Capabilities](#)
- ▶ [Collective Efficacy](#)

- ▶ [Empowerment](#)
- ▶ [Locus of Control](#)
- ▶ [Political Empowerment](#)
- ▶ [Political Participation](#)
- ▶ [Power Analysis](#)
- ▶ [Self-efficacy](#)
- ▶ [Social Participation](#)
- ▶ [Women's Empowerment](#)

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## Psychological Engagement

- ▶ [Psychological Stress and Employee Engagement](#)

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## Psychological General Well-Being (22 Items) Index

- ▶ [Psychological General Well-Being Index \(PGWB\)](#)

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## Psychological General Well-Being (6 Items) Index

- ▶ [Psychological General Well-Being Index \(PGWB\)](#)

## Psychological General Well-Being Index (PGWB)

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### Synonyms

PGWB; PGWB-6 items; PGWBI; Psychological General Well-Being (22 items) Index; Psychological General Well-Being (6 items) Index; Short Form PGWBI

### Definition

The Psychological General Well-Being Index (PGWBI) is a measure of the level of subjective psychological well-being. In detail, it assesses self-representations of intrapersonal affective or emotional states reflecting a sense of subjective well-being or distress and thus captures what we could call a subjective perception of well-being. Consisting of 22 standardized items (6 items for the short form), the tool produces a single measure of psychological well-being. The full measure also provides subscales to assess the following domains: anxiety, depression, positive well-being, self-control, general health, and vitality.

### Description

The original PGWBI consists of 22 self-administered items, rated on a 6-point scale, which assess the psychological and general well-being of respondents in six HRQoL domains: ► [anxiety](#), depression, positive well-being, self-control, general health, and vitality. Each item has six possible scores (from 0 to 5), referring to the last 4 weeks of the subject's

lifetime. Each domain is defined by a minimum of 3 to a maximum of 5 items. The scores for all domains can be summarized into a global summary score, which reaches a theoretical maximum of 110 points, representing the best achievable level of well-being (Dupuy, 1990), a sort of “state of bliss.” The short form of the PGWBI (Grossi et al., 2006), subsequently developed, consists of a subset of six items that generally explain more than 92 % of the global variance of the full questionnaire.

### Brief History of PGWBI

In the 1960s, Harold Dupuy, psychologist at the National Center for Health Statistics, developed his Psychological General Well-Being (PGWB) Schedule, a questionnaire of 68 items to measure the psychological distress of the American population. In those years, the National Institutes of Health (NIH), which were planning the first large-scale survey of the physical health of the American population known as the National Health and Nutrition Examination Survey (NHANES), felt the need for a meter that was simple but valid and reliable for the assessment of the physical and mental health and welfare of the population. It should, however, be noted that the PGWB was originally developed to measure emotional distress “physiologically,” unlike many tools designed to investigate the psychological effects of specific mental disorders. As a result, there was a drastic reduction in the number of items to ensure applicability and acceptability of the questionnaire on a large scale, and only 18 items were chosen to be effectively used in the NHANES in 1971. Subsequently, the collaboration between Harold Dupuy and the RAND Corporation led to a revision, adaptation, and validation of the final PGWB Schedule and its transformation to its final form, the PGWB Index. The original version of 18 items of the schedule was increased to 22 items, and response categories for all items were simplified and standardized according to a ► [Likert scale](#) with 6 points, with values ranging between “0” and “5.” About 10 years later, the instrument was also introduced in Europe. The PGWBI was adapted in many languages and cross-culturally validated for the use

**Psychological General Well-Being Index (PGWB), Table 1** The six domains of the PGWBI

Domains	No. Items
Anxiety	5
Depression	3
Positive well-being	4
Self-control	3
General health	3
Vitality	4

in several countries under the coordination of the MAPI Research Institute. As a result, different language versions of the PGWBI are available on the MAPI website ([www.mapi-research-inst.com](http://www.mapi-research-inst.com)).

### Structural Characteristics of the Questionnaire PGWBI

The questionnaire PGWB consists of 22 items, investigating six different domains: anxiety, depression, positive and well-being, self-control, general health, and vitality (Table 1).

With regard to structural and functional aspects of a questionnaire, the PGWBI has several interesting characteristics:

- It examines psychological well-being across six domains.
- Different types of presentation of items, such as statements or questions, are used (16 questions, 6 statements).
- Response options differ with regard to their scoring direction (from positive to negative sequence, from first to last response, or vice versa).
- Several types of frequency–intensity matrices are used in the responses (response options were constructed to describe the frequency and/or intensity of the phenomenon under investigation).

The items belonging to the same domain have a balanced alternation of the orientation of the responses of both the frequency-intensity pattern within each domain so as to render a repetition by the subject in the response to the 6-point scale virtually impossible. In this way, the respondent is forced to read the contents of both item and

response, using a simple form that is easy to understand.

The PGWBI also allows the calculation of an overall index, which can reach a maximum of 110 points, i.e., the sum of unweighted responses to individual items of all domains.

The main strengths of the PGWB questionnaire can be summarized as follows:

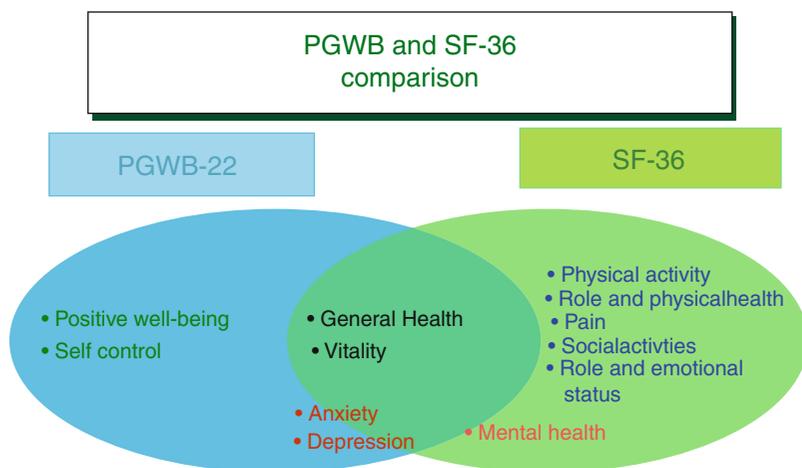
- The instrument is capable of measuring the balance between negative and positive affective states.
- It avoids references to physical symptoms of emotional distress.
- It is suitable as a generic tool to measure the psychological distress caused by different diseases.
- It is not only oriented to discriminate psychiatric cases.
- It correlates well with other instruments for the mental sphere.
- Although not particularly short, these are 22 questions with a rather complex pattern of responses, which can be used in combination with modern short and generic tools, such as the SF-12.

The comparison between the PGWBI and the ► [SF-36](#) allows us to appreciate the degree of complementarity between the two scales, which partially overlap in the aspects of general health and vitality (Fig. 1).

### Psychometric Features of Long Version PGWBI

A number of studies have conducted cross-sectional and longitudinal psychometric validation research in different contexts (communities, institutions, hospitals) and correlated the PGWBI with a large number of other indices of physical and mental health (e.g., Boman, Bryman, Halling, & Moller, 2001; Havelund et al., 1999; Omvik et al., 1993; Wiklund, & Karlberg, 1991). The RAND Health Insurance Survey offers the US standard of reference: 71 % of adults are placed in the category of scores of “being positive” (73–110), 15.5 % show moderate psychological distress (scores between 61 and 72), while 13.5 % are classified as experiencing severe psychological distress (scores between 0 and 60).

**Psychological General Well-Being Index (PGWB),**  
**Fig. 1** Comparison of the PGWB and the SF-36



The mean PGWB total score reported in studies with US population samples ranged between 80 and 81 points.

**Internal Consistency**

In all studies, the internal consistency of the American PGWB was high, with ► [Cronbach's alpha](#) values ranging between 0.90 and 0.94. The intrasubjective reproducibility expressed by test-retest coefficients ranged around a median value of 0.80.

**Validity**

The validity of the PGWB was evaluated in a large number of studies. In the 1971 NHANES, the PGWB Schedule was significantly correlated with the items that assessed the needs and utilization of mental health services, with the sociodemographic variables and the items of medical history. Correlations of the PGWB index with some mental disorders as assessed with standardized instruments are shown in [Table 2](#).

**Short Version of PGWB**

The six-item short version of the PGWB was developed in 2000 as part of the MiOS project, a multidisciplinary initiative to study in depth different kinds of subjective outcome measures for health assessment, on a representative sample of 1,129 Italian citizens above 15 years of age.

**Psychological General Well-Being Index (PGWB), Table 2** Intercorrelations of the PGWB with measures assessing mental disorders

Scales	Correlation with PGWB
Beck depression inventory	-0.68
Zung depression inventory	-0.75
Minnesota multiphasic personality inventory	-0.55
Personal feelings depression inventory	-0.78
Hopkins symptom checklist	-0.77

The main objective of this study was to reduce the number of items of the original 22-item PGWB while keeping adequate validity of the instrument. The purpose of the item reduction was to increase the compliance of the questionnaire so that it could be administered in a relatively short time and by phone. Based on these data, the 22 items of the questionnaire were analyzed in a linear multiple regression model with the objective to find the combination of items most relevant for the description of the summary measure. The items were identified by a stepwise selection starting with the item that would explain alone the highest degree of variance of the original PGWB and in combination at least 90 % of the variance. In the model, the items were matched to find out which of their combination would best reproduce the average score for the

**Psychological General Well-Being Index (PGWB), Table 3** Items of the PGWB-S

Items PGWB-S	Dimension	Position in the 22 items questionnaire	Content
Item 1	Anxiety	5	Have you been bothered by nervousness or your “nerves” during the past month?
Item 2	Vitality	6	How much energy, pep, or vitality did you have or feel during the past month?
Item 3	Depressed mood	7	I felt downhearted and blue during the past month
Item 4	Self-control	18	I was emotionally stable and sure of myself during the past month
Item 5	Positive well-being	20	I felt cheerful, lighthearted during the past month
Item 6	Vitality	21	I felt tired, worn out, used up, or exhausted during the past month

summary measure. The most predictive items were selected to be part of the new structure of the questionnaire PGWB-S (Table 3).

**Psychometric Features**

Once the structure of the PGWB-S had been identified, it was administered in three different settings in Italy for the purpose of its validation. All studies took place during the year 2004, and their characteristics are summarized in Table 4. The acceptability was evaluated using patients’ response rates and indicators of questionnaire completeness at item and summary level. Completeness was defined in terms of the proportion of items for which patients failed to provide an answer (i.e., completeness = proportion of missing values).

**Validity and Reliability**

Through a stepwise selection process, six items were identified to predict 90 % variance of the summary measure when the original questionnaire was applied to an Italian population. Item 20 alone reached 60 %, whereas items 7, 21, 5, 6, 18, and 2 added an additional 15 %, 8 %, 3 %, 3 %, and 2 %, respectively. These items were confirmed to become part of the new six-item structure of the questionnaire. The internal

**Psychological General Well-Being Index (PGWB), Table 4** Summary of studies on the PGWBI and PGWB-S

Study	Development study			
	Study 1	Study 2	Study 3	
Organization	DOXA	DOXA	Catholic University	University Hospital SACCO
Location	Milan	Milan	Milan	Milan
Year	2000	2004	2004	2004
# cases	1129	1015	400	28
Questionnaire administered	PGWBI	PGWB-S	PGWBI, PGWB-S	PGWBI, PGWB-S
Sampling method	Random	Random	Random	Random
Population	General population	General population	University students, in second year of Psychology and others	In-patients with diagnosis of chronic inflammatory bowel disease
Mode of administration	Person-to-person*	Person-to-person*	Self-administered**	Self-administered**
Male %	48.1	49.5	11.4	39.3
Age, mean yrs	47.4	51.3	21.5	50.1

\*Self-administration in a structured interview

\*\*Self-administration of both questionnaires one hour apart (cross-over design)

consistency measuring the extent to which the items are interrelated, expressed by the coefficient Cronbach's alpha, was calculated for each study. The smallest value was 0.80 and the highest 0.92, indicating that the summary measure showed good internal reliability. The coefficients Cronbach's alpha were all above 0.80 showing acceptable reliability, also when compared to the one (0.94) of the original instrument in full length (22 items).

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Cronbach's Alpha](#)
- ▶ [Distress](#)
- ▶ [Internal Consistency](#)
- ▶ [Likert Scale](#)
- ▶ [Quality of Life](#)
- ▶ [SF-36](#)
- ▶ [Test-Retest Reliability](#)

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## Psychological Pain

- ▶ [Psychological Distress and Chronic Obstructive Pulmonary Disease \(COPD\)](#)

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## Psychological Quality of Life Among Breast Cancer Patients

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## Synonyms

[Biomedical model of qol and breast cancer](#);  
[Biopsychosocial model of quality of life](#)

## Definition

▶ [Breast cancer](#) is a malignant tumor that consists of an abnormal growth of the breast cells. Currently, it is the most frequent type of cancer in women worldwide. Although the incidence and prevalence rates are high, the number of survivors has been rapidly increasing in recent decades due to improvements in diagnosis and treatment strategies.

The diagnosis and treatment of breast cancer is an adverse and challenging experience that may influence several areas of a woman's life, such as her ▶ [physical well-being](#), social functioning, marital relationship, ▶ [body image](#), or sexuality. For instance, this disease and its treatment are often associated with several changes in physical appearance (e.g., chemotherapy-induced alopecia, loss of a breast), negative side effects of treatments (e.g., ▶ [Fatigue](#), nausea), or intimacy and sexual difficulties, all of which can have a negative effect on a woman's ▶ [quality of life \(QoL\)](#).

In recent years, the QoL of breast cancer patients has been receiving greater attention by researchers and clinicians, and QoL is currently

one of the most investigated topics among this population. Although there is no single definition of QoL, almost all definitions emphasize its subjectivity and multidimensionality and consider that QoL is the perspective of the individual across several domains of well-being. The psychological domain of QoL is particularly important and can be defined as the individuals' subjective evaluation of their psychological state, that is, of their cognitive and affective state (The Whoqol Group, 1995). Therefore, it is a broad category that describes aspects such as the individual's ► [self-esteem](#), negative or positive feelings, or satisfaction with physical appearance (The Whoqol Group, 1998).

## Description

The majority of QoL definitions recognize the subjective and multidimensional nature of this concept, encompassing at least the physical, social, and psychological domains. According to the World Health Organization (The Whoqol Group, 1995), QoL is the individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept, incorporating in a complex way individuals' physical health, psychological state, level of independence, social relationships, personal beliefs and their relationships to salient features of the environment" (p. 1,405). This definition highlights two central aspects: (1) the individuals' evaluation is subjective and contextualized and (2) QoL encompasses the physical, psychological, independence, social, and environmental domains.

The concept of QoL is relatively recent in the field of ► [oncology](#), only emerging as a central clinical and research subject at the beginning of the 1980s. Since then, a large number of studies have been developed on this topic. This increase in research on the QoL of cancer patients resulted from a combination of factors. One important factor was the emergence of the biopsychosocial model (Engel, 1977), which emphasized the

disease's psychological and social dimensions, in contrast with the dominant biomedical model, which only focused on the biological aspects. In addition, the number of breast cancer patients has increased in recent decades, which enhanced the need for taking into account their well-being throughout the course of the disease. Moreover, great advances in diagnosis techniques and medical treatments have led to a rapid increase of the number of breast cancer survivors. These medical advances have gradually led to a shift in the conceptualization of this disease, which has come to be considered a chronic disease rather than an inevitably fatal one. With the increasing number of survivors, the need for promoting quality of life, not just extending their lives, has become evident. Cancer treatment has progressively ceased to be directed only at the control of symptoms or physical complications and to the decreasing of the ► [mortality rates](#) and has now also been directed at the promotion of the overall well-being of the patient.

Indeed, the majority of healthcare professionals now acknowledge that the success and efficacy of any cancer treatment cannot be evaluated only by the traditional biomedical indicators but should also include the patients' perception of their disease and treatment and the way it influences several domains of their lives. Therefore, aspects such as the side effects of treatments, ► [pain](#), ► [anxiety](#), and depression or the presence of limitations in their daily lives are all relevant issues that should be considered in a comprehensive evaluation of this disease's impact.

In addition, this impact should be evaluated at each phase of the disease. Many researchers and clinicians currently consider breast cancer to be a chronic disease that consists of different phases that are characterized by different medical, emotional, and psychosocial challenges (Veach, Nicholas, & Barton, 2002). The process of adjusting to this disease is challenging and depends upon the particular experiences, demands, and threats that define each phase of the cancer's trajectory. It is important to note that these phases or periods are not always easily distinguishable and may overlap (e.g., a patient

in the survivorship phase can be diagnosed with a recurrence). For didactic purposes, in this entry, four phases will be discussed (diagnosis, treatment, reentry or recovery, and survivorship) and treated as discrete periods.

### The Diagnosis Phase

Many patients consider the period between the cancer diagnosis and the beginning of treatment the most difficult and demanding phase. This is a period often characterized by intense fears, concerns, and ► [negative emotions](#). Some studies have shown that, in comparison with other phases of this disease, the levels of emotional distress are higher and the psychological QoL is poorer during this phase. The adverse emotional reactions, which often include sadness, despair, anxiety, guilt, or anger, are expected and represent a normal adjustment process in response to this life event. Although most patients display normative emotional responses, several studies have shown that approximately 20–30 % of patients will develop clinically significant symptoms of an anxiety and/or depressive disorder (Trask & Pearman, 2007).

### The Treatment Phase

The beginning of a new treatment is usually accompanied by contradictory emotions, such as hope and anxiety. On the one hand, the patient expects the treatment to actively treat the disease, but on the other hand, these treatments are regarded with apprehension, fear, and even despair, largely due to the anticipation of adverse side effects (Barraclough, 1999).

The treatment for breast cancer often includes surgery (mastectomy or breast-conserving surgery) and some type of adjuvant (or neoadjuvant) treatment (chemotherapy, radiotherapy, hormonal therapy, or a combination of treatments). A woman's QoL during this phase depends, to a great extent, on the type of treatment. Regarding the surgery, various researchers have explored its impact on women's

QoL, reporting few or no differences between breast-conserving surgery and mastectomy on the majority of QoL domains. The only difference appears to be on body image, where patients treated with a mastectomy consistently report more difficulties and less satisfaction than those treated with a conservative surgery (Moyer, 1997). With regard to the adjuvant treatment, patients who receive chemotherapy tend to present with more adjustment difficulties than those who receive radiotherapy (So et al., 2010). Chemotherapy is usually associated with several painful symptoms (e.g., nausea and vomiting, fatigue) and body image changes (e.g., alopecia, weight changes) that are often difficult to cope with, frequently leading to a poorer psychological QoL and higher levels of negative emotions. The side effects of radiation therapy (e.g., skin reactions, fatigue) are usually less severe and demanding from psychological and physical points of view.

Although some longitudinal studies were developed to assess the evolution of QoL throughout the course of the disease, only a few have focused specifically on this cancer phase (e.g., Browall et al., 2008). The majority of researchers focus on specific temporal points (e.g., 3 or 6 months after the diagnosis), which may or may not include the treatments, precluding the correct evaluation of the patients' adjustment during this phase. Moreover, the few studies that have been developed on this specific period have found different prevalence rates of anxiety and depression. For instance, (Nosarti, Roberts, Caryford, McKenzie, & David, 2002) found that 8.1 % and 31.1 % of breast cancer patients reported significant levels of depression and anxiety, respectively, on the ► [Hospital Anxiety and Depression Scale](#). However, in a cross-sectional study that used the same instrument and cutoff point, more than half of patients scored above the "normal" level of depression and anxiety (So et al., 2010). Notwithstanding these inconsistencies, which may be due to several factors (e.g., cultural differences, sample differences), these findings emphasize the importance of assessing the emotional adjustment of breast cancer patients during this phase.

Although there is still a gap in the literature on the adjustment results of this specific cancer phase, some studies have shown that women tend to exhibit low levels of psychological QoL during adjuvant treatments (e.g., Browall et al., 2008; Nosarti, Roberts, Caryford, McKenzie, & David, 2002).

## The Recovery Phase

Some authors named the transition period between the completion of treatment and the survivorship phase as the “reentry” (Mullan, 1984, 1985; Stanton et al., 2005) or “recovery” phase (Veach, Nicholas, & Barton, 2002). According to (Stanton et al., 2005), this phase includes the first year after the conclusion of primary treatments.

In the recovery phase, the patient is often confronted with several new and frequently unexpected challenges. For example, many women continue to be faced with some side effects of treatment, mainly resulting from chemotherapy, which can persist over a long time (e.g., fatigue, alopecia, symptoms of early menopause, lymphedema, decreased libido). Although common and clinically expected, a large number of patients do not anticipate the maintenance of these symptoms beyond the period of treatment and report difficulties in coping with them in this phase. In addition, they frequently associate the persistence of side effects with a poor prognosis, which, in turn, may contribute to an increased fear of recurrence (Constanzo et al., 2007; Ganz et al., 2004).

Another challenge is the decrease in contact with the medical team, which can lead patients to feel as though they have lost their “safety net” and to feel more vulnerable and without control over the disease. Indeed, the treatments and the regular medical appointments characteristic of the precedent phase function as an active coping strategy, insofar as they provide an active way of treating the disease, as well as a means of perceived control and tranquilization. It is therefore reasonable that the decrease in this contact may be particularly distressing to the patient (Constanzo et al., 2007; Deshields et al., 2005;

Stanton et al., 2005). Simultaneously, there is often a decrease in ► **social support** from family and friends, who often expect that after the end of treatment the patient will recover quickly, both physically and emotionally, and resume the usual level of functioning (Stanton et al., 2005). They can be unaware that the patient may continue to deal with several cancer-related physical and psychological issues and ultimately do not offer the support that the patient still needs (Deshields et al., 2005; Ganz et al., 2004).

Therefore, this phase seems to be marked by great ambivalence for both the patient and their family. On the one hand, it is a landmark in the path of recovery, a period of celebration and relief; on the other hand, it is a phase during which some difficulties are likely to arise and some concerns can be prevalent. Notwithstanding these difficulties, the few existing studies on psychosocial adaptation to this phase of the disease show that, in general, this is not a period characterized by high psychological disturbance (Constanzo et al., 2007; Deshields et al., 2005; Ganz et al., 2004).

## The Survivorship Phase

The definition of “cancer survivor” is not consistent. This term was coined by Mullan (1985), to whom a survivor was someone “living with and beyond cancer.” Although the majority of definitions are broad and include all patients, provided that they were diagnosed with cancer, in this entry we will define a survivor as someone who is “currently free of disease and off treatment for a minimum of 1 year” (Kornblith, 1998, p. 223).

The survivorship phase may also present some important challenges for breast cancer patients. The literature has shown that the difficulties experienced by survivors some months or years after treatment completion may be considerably different than those that arise early in the disease, although some initial problems can persist over time. For instance, concerns about pain and fatigue may continue to be relevant, as well as concerns about changes in ► **sexual functioning**

or about body image. Other issues may only emerge at this particular phase, such as the fear of recurrence or difficulties in coping with continued side effects of treatment (Veach, Nicholas, & Barton, 2002).

Nonetheless, a growing body of literature has consistently shown that a survivor's QoL is generally good, frequently comparable to or even higher than the general population's. In spite of this overall positive QoL, some specific aspects of each QoL domain may be compromised. For instance, their physical QoL may be compromised because of the persistence or appearance of symptoms or complications (e.g., ► pain, numbness, swelling, or weakness in the arm, fatigue, infertility, and symptoms of treatment-induced menopause). In the social domain, some studies point out poorer sexual functioning (e.g., lack of interest in sexual activity, inability to relax during sexual activity) and a decline in the performance of the different social roles, such as in home, work, or leisure activities.

Regarding psychological QoL, several studies have reported that survivors and healthy controls show similar results; however, to some authors, being a breast cancer survivor is itself a risk factor for decreased QoL in this domain. For instance, (Dow, Ferrell, Leigh, Ly, & Gulasekaram, 1996) reported that negative changes in body image, fear of recurrence, and uncertainty about the future are common psychological problems that may affect the QoL of the survivor. The fear of a recurrence is highly prevalent among cancer survivors, ranging from 40 to 90 % (Kornblith, 1998), and is associated with increased feelings of vulnerability and ► anxiety (Veach, Nicholas, & Barton, 2002).

## Conclusion

Although the adjustment process may vary according to the characteristics of the patient, the disease and treatment, and throughout its different phases, the vast majority of studies demonstrate that most women are resilient (Knobf, 2007; Massie & Shakin, 1993), managing to adapt well to the diagnosis and to

adequately cope with the psychological, physical, and social demands that diagnosis and treatments impose. Several studies have shown that only a third of patients have a diagnosis of depression, anxiety, or another psychiatric disorder throughout the course of cancer. Although this percentage should not be overlooked, it is evident that the vast majority of women experience positive adaptation (Constanzo et al., 2007; Knobf, 2007). In conclusion, even though the diagnosis of breast cancer represents a risk factor for developing maladaptive pathways, research has shown that different developmental trajectories are possible. Most women adjust well and gradually return to their premorbid level of functioning; some women experience difficulties for a long period of time, while others maintain an adaptive level of functioning from the beginning and still others report improvements or growth in various areas of their life (Knobf, 2007).

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## Psychological Stress

- [Affluence, Stress, and Well-Being](#)

## Psychological Stress and Employee Engagement

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### Synonyms

[Employee engagement](#); [Occupational stress, health, and well-being](#); [Psychological distress](#); [Psychological engagement](#); [Work engagement](#)

### Definition

Work engagement was initially defined by Kahn (1990, p. 694) as “the harnessing of organization members’ selves to their work roles by which they employ and express themselves physically, cognitively, and emotionally during role performances.” More recently, the most adopted definition of work engagement refers to “a positive, fulfilling, work-related state of mind that can be categorised into vigour, dedication and absorption” (Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). Vigor can be described in terms of energy and ► [resilience](#): workers who find their jobs energizing are willing to persevere in the face of difficulties and challenges. Dedication is a sense of pride in one’s job and a feeling that it is meaningful, significant, and inspiring. Last, absorption is characterized by employees who are fully occupied and unreservedly engrossed in their work to the extent that time will pass without them noticing it.

### Description

“The challenge today is not just retaining talented people, but fully engaging them, capturing their minds and hearts at each stage of their work lives” (Kaye & Jordan-Evans, 2003, p. 11). Engaged employees produce positive work outcomes such as increased ► [productivity](#)

satisfaction and reduced turnover (Kahn, 1990, 1992; Saks, 2006). Engaged employees also impact on customers and coworkers' positive experiences such as increased ► [customer satisfaction](#) (Wagner & Harter, 2006). Further, engaged employees demonstrate higher levels of trust in management and share more positive experiences with coworkers than disengage employees (Payne, Cangemi, Fuqua, & Muhleakamp, 1998). Past studies show that having a high proportion of engaged employees increases organizational performance, such as profitability and reputation (Fleming & Asplund, 2007; Ketter, 2008; Wagner & Harter, 2006). Having experienced the benefits of having engaged employees, organizations have become more aware of this issue and have been focusing on facilitating engagement climate within workplaces. Recently, an interest in positive psychology, instead of negative aspects of human behaviors, has become a focus for both scholars and practitioners. The trend toward positive psychology has led to the emergence of the concept of work engagement (Chughtai & Buckley, 2008). This entry reviews literatures in the area of ► [positive psychology](#) and psychological stress and discusses how organizations can increase work engagement among their organizational members. The remainder of this entry is organized in four sections. First, we define work engagement as used in this entry and psychological outcomes of work engagement. Second, we identify ways to increase work engagement among employees. Following this, we further discuss how gender roles influence individuals' engagement at work. The final sections conclude this entry with a discussion of the practical implications.

### **Engaged Employees and Psychological Outcomes**

There are clear links between level of work engagement and psychological outcomes. For instance, Job Characteristics theory (Hackman & Oldham, 1980) identifies that meaningfulness of work, responsibility, and knowledge of outcomes can lead to positive outcomes such as work performance, ► [job satisfaction](#), and lower

turnover. In particular, Hackman and Oldham (1980) indicated that employees experience work meaningfulness when they invest themselves in a job that they have a control over and believe the job is significant. Similar to the concept of work engagement, individuals experience meaningfulness when they fully invest themselves physically, cognitively, and emotionally in their role (Kahn, 1990; Schaufeli & Bakker, 2004). Therefore, engaged employees will demonstrate a positive attitude toward their job (i.e., job satisfaction) at individual levels (Koyuncu, Burke, & Fiksenbaum, 2006; Saks, 2006) and group levels (Harter, Schmidt, & Hayes, 2002). Indeed, previous research has also found relationships between work engagement and psychological outcomes such as higher job satisfaction and employee well-being and lower turnover intentions (Sawang, Brough, & Barbour, 2009; Schaufeli & Bakker, 2004). In literature, turnover intention has been identified as the immediate precursor for turnover behavior (Tett & Meyer, 1993). Given that engaged employees have invested a great deal of personal resources, they are less likely to detach themselves from their job.

### **How Can Organizations Increase Engagement Among Employees?**

A commonly identified antecedent of work engagement is the working conditions of employees. Generally, two sets of variables that can be distinguished in any kind of job are job demands and job resources (Schaufeli & Bakker, 2004). According to the job demands-resources (JD-R) model, high job demands (including working fast and hard and experiencing conflicting demands) present as a workplace stressor and can deplete employee's mental energy. Employees who are exposed to a high job demands for a long period of time can develop a chronic ► [stress](#) (Ganster & Schaubroeck, 1991). Ultimately, then, these sustained demands can lead to employees disengaging themselves from work due to physical and psychological ► [fatigue](#) (Katerndahl, 1993).

Under stressful conditions such as high demands, job resources can buffer the influence

of job demands on strain and engagement. While the demand-control (DC) model proposed that individuals' decision latitude can be seen as a job resource to reduce a worker's stress (Karasek, 1979), the JD-R model expands this view by proposing that many different types of job resources (e.g., autonomy, ► [social support](#), supervisory coaching, and performance feedback) can buffer the undesirable influence of job demands (Bakker, Demerouti, & Euwema, 2005). Indeed, job resources extend to psychological, organizational, and social aspects that reduce job demands and facilitate work achievement and career growth (Dementiti, Bakker, De Jonge, & Janssen, 2001). Clearly, then, the JD-R model suggests that the job resources predict individual work engagement. Overall, previous studies have confirmed the positive relationship between job resources and work engagement in various occupations such as academic staff (Rothmann & Jordaan, 2007), telecommunication managers and executives (Schaufeli, Bakker, & Van Rhenen, 2009), teachers (Schaufeli & Salanova, 2007), and hospitality managers and supervisors (Karatepe & Olugbade, 2009).

Another type of resource that can increase work engagement is personal resources: "individuals' sense of their ability to control and impact upon their environment successfully" (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007, p. 124). Other personal resources include ► [self-efficacy](#) [individuals' belief of their ability to meet work demands (Bandura, 1989)], organizational-based ► [self-esteem](#) [individuals' belief that they can satisfy their needs by participating in roles within the context of an organization (Pierce, Gardner, Cummings, & Dunham, 1989)], and ► [optimism](#) – individuals' belief that they will generally experience good outcomes in life (Scheier & Carver, 1985). Such resources have been described as fundamental components of individual adaptability (Hobfoll, 2002). Overall, personal resources both increase stress resilience and improve individuals' ► [health](#) and ► [well-being](#) (Chen, Gully, & Eden, 2001; Pierce et al., 1989; Scheier & Carver, 1985). As such, when job demands are

high, organizations can boost employee engagement through various job resources as discussed above.

### Gender Role and Work Engagement

Gender differences may exist between males and females in their perceptions of stress sources and outcomes which can differentially impact employee engagement. For example, research has found that females have a tendency to appraise stressors as being more distressing than men (Eaton & Bradley, 2008). Further, Heppner, Cook, Strozier, and Heppner (1991) identified that males and females differed in their coping styles when addressing career-related issues. The findings indicated that the men made greater progress toward handling their stressful situation, were more confident in their problem-solving appraisal, and were less confused about their vocational identity than women. Similarly, Day and Livingstone (2003) identified gender differences with regard to perceived levels of stress and the use of social support as a coping mechanism. They found that women perceived school, friends, and work scenarios to be more stressful than did men and also that women utilized friends and family for support in coping with stress more than men. Taylor (2007) further revealed that female employees sought more support from their coworkers than male employees.

In collectivist countries, men and women have different and quite rigidly maintained role identifications. Indeed, in collectivistic society, men have hierarchical precedence over women, and there are fewer women in occupations such as lawyer, physician, judge, and professor (Kislenko, 2004). According to Triandis and Gelfand (1998), collectivist societies are characterized by norm biases that are even more intransigent than those found in Western societies. Therefore, it is posited that this can translate into career experiences for women that have even thicker and more opaque "glass ceilings" to those encountered in the West. It can also be noted that Asian women's gendered social role may lead to lower job involvement than men. For instance, Asian women are expected to take care

of their households while men are expected to be in the work force (Wang, Lawler, Walumbwa, & Shi, 2004). Consequently, within Asian countries it is a common experience that women's salaries are lower than those of men, and women are less likely to receive bonuses because they are not available to work overtime (Cooke, 2003; Granrose, 2007; Yang, Chen, Choi, & Zou, 2000). Further, religion can also influence the society and women's engagement in the workplace. For example, Buddhism has also played an important role in shaping gender relations (Falk, 2008). Generally, gender inequality can influence women's lower satisfaction comparing to men (Chiu, 1998). However, some studies found that women reported higher job satisfaction scores than did men. For example, Kim (2005) surveyed 5,128 public Korean employees in Seoul Metropolitan Government, and results suggested that women were more satisfied with their jobs than were men. The question remains why women's job satisfaction is not lower than men's, given that women's jobs are often inferior in terms of pay, autonomy, and promotional opportunity (Chiu, 1998). The common explanation is that women have lower expectations and compare themselves to other woman (instead of comparing with men) (Chiu, 1998). In collectivistic societies, maintaining social harmony is very important, and people will avoid any conflict (Sriussadaporn-Charoenngam & Jablin, 1999). Thus, women cope with the gender inequality by expecting less from work, and so they are satisfied with less but also less perform than do men (Ingram & Simons, 1995).

According to social exchange theory, individuals feel obliged to respond in kind and repay an organization which provides economical and socioemotional resources (Cropanzano & Mitchell, 2005). One way for individuals to repay their organization is through their level of engagement (Saks, 2006). Due to gender inequality, women perceive fewer resources (e.g., personal development) which are provided by an organization. Therefore, female employees will choose to engage themselves to lesser degrees than do male employees in responding to the resources they receive from their organization (Saks, 2006).

## Implications and Conclusion

Overall, there is clear evidence that psychological stress can adversely interfere with and even reverse processes and interventions that are aimed at facilitating employee engagement. Managers need to be aware of the negative effects of high demands, conflicting demands on employees, and inadequate job resources on employee engagement and design the workplace in such a way as to limit the prevalence of these stress-related factors. Managers also need to ensure their employees are supported in the development of personal resources so employees feel they can achieve and develop the resilience necessary to promote engagement. Last, managers need to ensure that they are aware of the needs and the cultural and working contexts of both male and female employees to ensure that interventions designed to foster engagement are maximally effective.

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## Psychological Suffering

- ▶ [Kessler Psychological Distress Scale](#)

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## Psychological Well-Being

- ▶ [Eudaimonic and Hedonic Happiness](#)

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## Psychological Well-Being Among Older Bereaved Spouses

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### Synonyms

[Grief of older spouses](#); [Spousal loss](#); [Widowerhood](#)

## Definition

Psychological well-being among older bereaved spouses refers to the mental health symptoms and trajectories experienced by older men and women immediately following the death of their spouse. Psychological well-being comprises both negative symptoms, such as ▶ [anxiety](#), complicated grief, depressive symptoms, despair, grief, intrusive thoughts, loneliness, sadness, and yearning, and positive psychological outcomes including personal growth and enhanced ▶ [self-esteem](#). The extent to which spousal loss affects psychological well-being varies based on the nature of the death, the late marital relationship, and personal characteristics and resources of the survivor.

## Description

The death of one's spouse, especially following a long-term marriage, requires important psychological and behavioral adaptations. The survivor must cope with the loss of an enduring intimate relationship, establish a new identity as an “unmarried” person, and learn to manage the daily routines and activities that were once shared by both partners (Stroebe & Schutt, 1999). In general, spousal bereavement in later life is less psychologically distressing than losses that occur earlier in the life course. Older adults are believed to cope better with spousal death than younger persons because they have more experience with loss and because they may find support from their peers who also are experiencing their partner's illness and death. Older persons also are better than younger adults at regulating their emotions and thus may experience less intense emotions such as grief (Carstensen, Fung, & Charles, 2003).

Still, widowhood can have profound effects on the psychological well-being of older adults, including symptoms of anxiety, depression, grief, loneliness, sadness, and yearning (see Carr, Nesse, & Wortman, 2006 for review). At the same time, some bereaved older adults experience increases in their psychological

well-being, as they develop new friendships and master new skills following spousal loss (Carr, 2004). In this entry, I describe the ways that spousal loss affects the psychological well-being of older men and women and contrast the distinctive pathways linking the loss to psychological well-being for widows versus widowers. I then describe the specific aspects of the late marriage and the death context that shape the psychological well-being of older widow(er)s and discuss the distinctive challenges facing bereaved members of same-sex couples. I conclude by suggesting directions for future studies of psychological well-being among older bereaved spouses.

### The Psychological Consequences of Widowhood

Widowhood often is accompanied by emotional distress, as well as a range of other consequences that may impair psychological well-being, including physical health symptoms, compromised health behaviors, potentially disruptive residential relocations, and economic strains triggered by both the direct costs of medical care and funeral arrangements at the end of a spouse's life and the loss of the (working age) spouse's income.

The age at which one experiences a major life transition, such as spousal loss, shapes both the nature and context of the event. ► [Life events](#) that occur unexpectedly or are "off-time" (i.e., earlier or later than one's peers) are particularly distressing. Youthful deaths typically are unexpected, leaving the young bereaved spouse little time to prepare psychologically or financially. Many younger widows and widowers face the challenge of raising children on their own, often while working full time. Many may be robbed of a long future with their spouse, and few have peers to turn to for empathy and support, as spousal loss is rare among young people.

By contrast, most older persons experience the loss of their spouse after decades of marriage. They have raised their children, celebrated the births of their grandchildren, and have enjoyed at least a few years of relaxation together

after retiring from the workforce. For most older spouses, widowhood comes "on time," rather than prematurely. Older persons are often prepared for the transition, and they have friends and peers they can turn to for emotional strength, practical support, and camaraderie. Older adults also differ from their younger counterparts in how they respond emotionally to ► [stress](#). Psychologists document that older adults have lower levels of "emotional reactivity." This means that they have a heightened capacity to regulate their emotions, and they report less extreme emotional responses than do younger persons (Carstensen et al., 2003). As a result, their psychological reactions to loss tend to be less intense and shorter-lived than those experienced by young adult or midlife widows and widowers.

### Who Adjusts Better to Spousal Loss, Men or Women?

Although widowhood is much more likely to befall women than men, both genders face distinctive challenges as they cope with a partner's death. An estimated 40–70 % of older widowed persons experience a period of 2 weeks or more marked by feelings of sadness immediately after the loss (e.g., Zisook & Shuchter, 1991). Gender differences in emotional distress following late-life widowhood have been researched extensively, yet results remain inconclusive.

Researchers agree that gender differences in psychological health *in general* need to be taken into consideration before one can conclude that widows or widowers fare systematically worse. Women have higher rates of depression than men; most studies estimate that women's rates of depressive disorders are between 50 % and 100 % higher than men's. By contrast, men have significantly higher rates of alcohol and drug dependence and antisocial behavior disorders than women (Rieker & Birdd, 2000). Studies which compare only widowed women and men may find that widows are more depressed, but cannot necessarily attribute this gender difference to the event of widowhood. Gender differences in psychological reactions to the loss of

one's partner may be understated (or overstated) in studies that do not statistically control for the pathway variables that may account for the observed gender gap. The key pathways that link spousal loss to psychological well-being reflect gendered patterns of social interaction over the life course, characteristics of the late marriage or long-term relationship, and the context of the partner's death.

### Understanding Gender Differences in Bereavement Experience

#### "His" and "Her" Marriage

Psychological adjustment to spousal loss is inextricably linked to the social roles one held both within and outside of marriage. Feminist writings, exemplified by the work of sociologist Jesse Bernard, have argued that traditional marriages – where men specialize in the “breadwinner” role and women are responsible for childbearing and child-rearing – benefit women much less than men. Although marriage brings men ► [health](#), power, and ► [life satisfaction](#), the institution subjects women to stress, dissatisfaction, and the loss of self. According to this perspective, women are purported to suffer less when marriage ends because they have less to lose. Recent empirical studies counter, however, that marriage benefits *both* men and women, yet in different ways. Women typically benefit economically, whereas men receive richer social and psychological rewards. These gendered patterns of advantage and disadvantage within marriage provide a framework for understanding gender differences in psychological well-being postloss.

#### Economic Issues

One of the most widely documented sources of psychological distress among widows is economic strain. Widows are more likely than widowers to experience economic hardship (Umberson, Wortman, & Kessler, 1992). Although age-based income assistance programs such as Social Security provide economic support for older widowed persons in the United States, the bereaved remain significantly worse off than their married peers. Widowed persons are more likely to live below the poverty line than are their

married counterparts, and they tend to cyclically reenter poverty after losing their partner. Costs associated with the funeral, long-term medical care, or estate-related legal proceedings can devastate the fixed income of older adults. For younger women, remarriage may be a pathway out of poverty, yet demographic constraints make this option difficult for most older women (Harrington Meyer & Herd, 2007).

Widows' economic disadvantage reflects lifelong patterns of gendered inequality. In traditional marriages, wives tended to child-rearing and family responsibilities while husbands were responsible for supporting the family financially. As a result, older women have had fewer years of paid work experience than their male peers. Women's accumulated pension and Social Security benefits based on their own earnings are typically much lower than those based on their husband's lifetime earnings. Moreover, the pension benefits and Social Security income of their husband may not be available or may be reduced after his death. Older widows who try to reenter the labor force also may lack the experience to secure a good job or may face age discrimination (Harrington Meyer & Herd, 2007).

These financial stressors, in turn, are an important source of psychological strain. ► [Stressful life events](#), such as widowhood, may cast off a chain of secondary stressors that have either direct or combined effects on the survivor's psychological well-being. Financial strain is a risk factor for depression. Bereaved women who lack expertise or experience in paying bills and making major financial or legal decisions may face considerable anxiety when forced to assume sole responsibility for the financial management of the household.

#### Social and Instrumental Support

In traditional marriages, women typically provide emotional, social, instrumental and health-promoting support to their husbands. As a result, men often have difficulty in managing household tasks, maintaining their own health, and seeking out alternative sources of emotional support after their wives have died. For these reasons, men are more likely than women to

experience physical health declines, increased ► **disability**, and heightened risk of mortality after their wives die. While popular lore claims that these men may “die of a broken heart,” research shows that it is the loss of a helpmate and caretaker that is really the culprit. Wives typically monitor their husbands’ diets, encourage them to exercise, remind them to take their daily medications, and urge them to give up their vices like smoking and drinking. When their wives die, these healthy reminders slip away (Umberson et al., 1992). Widowers are more likely than married men to die of accidents, alcohol-related deaths, lung cancer, and chronic ischemic heart disease during the first 6 months after their loss, but not from other causes that are less closely linked to health behaviors.

Even worse for men is that their wives often are their primary (or only) source of ► **social support** and integration. Current cohorts of older men, often raised to be strong and silent, have few close friends with whom they can share their private concerns. Wives often are the family “kinkeeper” – the one who arranges dinner parties with friends and organizes outings with the grandchildren; when a man loses his wife, he also loses his connection to his ► **social networks**. Social support is essential for maintaining physical and emotional health, especially in later life (Lee & DeMariss, 2007).

By contrast, women’s richer sources of social support over the life course are an important resource as they adjust to the loss of their husbands. Widows typically receive more instrumental and emotional support from their children than do widowers, given mothers’ closer relationships with their children throughout the life course. Women also are more likely to have larger and more varied friendship networks than men, and these friendships provide an important source of support to women as they cope with their loss. These patterns reflect lifelong processes of gender-role socialization (particularly in current cohorts of older adults), where women are raised to develop close and intimate interpersonal relationships, and men are socialized to be self-reliant and independent, with few close confidantes other than their spouse.

## Other Influences on Widows’ and Widowers’ Experiences

### ► Marital Quality

The extent to which widows and widowers mourn the loss of their late spouse also is linked to the emotional climate of the late marriage. Early research, guided by the psychoanalytic tradition, suggested that persons with the most troubled marriages suffered heightened and delayed grief following their spouse’s death (Parkes, 1972). This perspective held that persons who had conflicted or ambivalent marital relationships find it hard to let go of their spouses, yet feel angry at the deceased for abandoning them; as a result, they experienced elevated grief. Recent research shows, conversely, that persons in conflicted marriages mourn less for their spouses, while persons with the most loving marriages grieve most upon their loss (Carr et al., 2000).

However, recent research shows that those who were most dependent upon their spouse during marriage also experience the greatest increases in self-esteem and feelings of personal growth following loss, as they learn and master new skills, and become increasingly independent and self-reliant (Carr, 2004).

### The Nature of the Late Partner’s Death

Late-life loss is distinct from earlier losses in that it typically occurs at the end of a long chronic illness, and intensive caregiving often is required during the ailing person’s final weeks. The timing of and conditions surrounding a partner’s death have implications for the psychological adjustment of the bereaved spouse. On one hand, the knowledge that one’s partner is going to die in the imminent future provides the couple with the time to address unresolved emotional, financial, and practical issues before the actual death. This preparation for death is believed to enable a smoother transition to widowhood (Carr, House, Wortman, Nesse, & Kessler, 2001). However, long-anticipated deaths due to chronic illness may be accompanied by potentially stressful experiences such as difficult caregiving duties, financial strains imposed by long-term care, emotional isolation from other family members and friends, and neglect of one’s own

health symptoms (Carr, 2003). Further, deaths where the bereaved survivor holds a health-care provider as partially responsible are associated with heightened anger among the bereaved; anger is a particularly troublesome symptom because it compromises one's ability to accept support and assistance from significant others (Carr, 2009).

The conditions of a spouse's death can affect women and men in different ways. For widows, sudden spousal deaths are associated with greater psychological distress, whereas widowers mourn most for their wives when they died after a prolonged illness. These relationships reflect gendered patterns of socialization and social interaction. Men typically have fewer sources of social support than do women and may become even more emotionally bonded to their wives during their final weeks. Men also may have few same-sex peers who are caring for a dying spouse and thus have few sources of peer support and advice. Women, by contrast, may rely on their female friends' direct experience with spousal illness to prepare them for the difficult dying process and thereafter (Carr et al., 2001).

#### Partner Death Among Gays and Lesbians

Researchers know very little about how older gays and lesbians adjust psychologically to the loss of their long-term life partners. This lack of research reflects the fact that no official statistics are available for ► [same-sex unions](#), given the lack of social and legal approval for these relationships. Older homosexuals may face both unique challenges and advantages as they cope with loss.

Bereaved gays and lesbians may encounter conflict with their deceased partner's family, particularly with respect to the dispersion of personal possessions following death. Legal rights extended to heterosexual married couples are not typically available for same-sex couples, including the opportunity to make health-care and end-of-life decisions for ill partners. Bereaved same-sex partners may not receive sufficient emotional support upon loss, because the end of homosexual relationships may not be recognized or acknowledged in the wider

community. Each of these secondary stressors could compromise the psychological well-being of older bereaved gays and lesbians.

However, gays and lesbians have some resources that may enable better psychological adjustment upon partner loss. They may create their own support networks of friends and selected family members. They also may be more likely than their heterosexual peers to enact flexible gender roles throughout the life course. Because they are not bound to traditional gender-types family roles, they may be better prepared to manage the daily challenges and responsibilities faced by the newly bereaved (Friend, 1990).

#### Future Trends and Research Directions

The research presented thus far provides a detailed portrait of older widows and widowers in the United States in the late twentieth and early twenty-first century. However, this research describes late-life spousal loss as it is currently experienced and not how it may be for future cohorts of widows and widowers. Current cohorts of older adults were born in the early twentieth century, and many conformed to rigid gender-typed marital roles as they formed families in the mid-twentieth century.

Future generations of older adults, by contrast, will have educational, family, and career histories that are very different from those of past generations. Current generations of young adult women have higher levels of ► [education](#), more years of work experience, and higher personal earnings than do earlier cohorts of older women. As a result, they may be less dependent on their husbands for income and for support with traditionally "male"-typed household tasks, such as home repair or financial management tasks. Likewise, each cohort of men is more likely than their father's generation to participate in homemaking and child-rearing tasks. As the boundaries demarcating traditional "his" and "hers" roles in marriage blur, then widows and widowers will likely face fewer challenges (and less anxiety) as they

manage homemaking, home maintenance, and financial management tasks after their spouse dies.

At the same time, psychological adjustment to spousal loss may become more difficult for future cohorts of widow(er)s. Two important demographic trends – increasing divorce rates and declining fertility rates – may have important consequences for how the bereaved adjust to loss. While past generations of older adults often stayed in difficult marriages because of cultural or religious prohibitions against divorce, more recent cohorts of spouses can freely divorce if their marriages are unsatisfying. If men and women dissolve their troubled marriages, then those who remain married until late life may have particularly warm and close relationships and may be the most grief-stricken upon their loss. Declining fertility rates mean that older adults will have fewer children upon whom they can rely for social support following spousal death.

As life expectancy continues to increase, the nature, cause, and trajectories of death will change; the context of death has important implications for older adults and their soon-to-be bereaved spouses. For example, medical advancements that extend the length of life may create the need for more intensive spousal caregiving, a task that typically falls to women. If the duration and intensity of late-life caregiving increases and if wives continue to bear the burden for personal care, then cohorts of women entering old age in the future may face a more difficult adjustment to spousal loss. Further exploration of the way that social, cultural, and technological forces shape the bereavement experience will provide knowledge of practical and political importance for future generations of bereaved spouses.

## Cross-References

- ▶ [Aging Population](#)
- ▶ [Attachment](#)
- ▶ [Bereavement](#)
- ▶ [Care, End of Life](#)
- ▶ [Caregiver, Burden](#)

- ▶ [Emotional Well-Being](#)
- ▶ [Gender and Poverty](#)
- ▶ [Identity Change](#)
- ▶ [Marital Quality and Well-Being in Mid and Late Life](#)
- ▶ [Marital Status Influence on Satisfaction/Happiness](#)
- ▶ [Older Couples](#)
- ▶ [Personal Growth](#)
- ▶ [Sex Differences](#)
- ▶ [Widowhood](#)
- ▶ [Women's Well-Being](#)

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## Psychological Well-Being in Schools

### ► School-Based Interventions

## Psychological Well-Being Inventory

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### Synonyms

PWB; RPWB

### Definition

This is a multi-item scale assessing six domains of positive psychological functioning: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance.

### Description

Developed by Carol Ryff (1989b), the PWB scales are designed to assess positive psychological functioning in six theoretically distinct domains (Ryff, 1989a): self-determination and independence (autonomy), selection or creation

of contexts that suit personal needs and values (environmental mastery), openness to new experiences and opportunities for self-improvement (► [personal growth](#)), having warm, satisfying, trusting relationships (positive relations with others), finding meaning in one's current and past activities (purpose in life), and having positive attitudes toward the self and one's past (self-acceptance).

The original scales consisting of 20 items per domain are shown below. Items in *italics* are reverse-scored so that higher values consistently indicate higher levels of well-being. Shorter versions of the PWB scales, including 18-item and 42-items versions, have been created typically for use in large-scale surveys. Items that are included in the widely used 42-item version of the PWB scales are indicated below by asterisks (\*).

Response options for each item are:

1	2	3	4	5	6
Agree strongly	Agree somewhat	Agree a little	Disagree a little	Disagree somewhat	Disagree strongly

Some versions of the scales add a neutral middle response option (“neither agree nor disagree”).

### Autonomy

Sometimes I change the way I act or think to be more like those around me

If my friends disapprove of my actions, I am likely to change what I'm doing

\* *I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people*

\* *My decisions are not usually influenced by what everyone else is doing*

\* I tend to worry about what other people think of me  
*Being happy with myself is more important to me than having others approve of me*

When making important decisions, I nearly always rely on the advice of others

\* I tend to be influenced by people with strong opinions  
*I care about what other people think of me, but I feel that my own attitude toward myself is most important*  
*People rarely talk me into doing things I don't want to do*

It is more important to me to “fit in” with others than to stand alone on my principles

(continued)

\* *I have confidence in my own opinions, even if they are contrary to the general consensus*

I am unsure of myself when I have to face complicated situations alone

I occasionally notice myself acting in ways that other people expect

In a game of “follow the leader,” I would rather be a follower.

\* It’s difficult for me to voice my own opinions on controversial matters

I often change my mind about decisions if my friends or family disagree

*I am not the kind of person who gives in to social pressures to think or act in certain ways*

I am concerned about how other people evaluate the choices I have made in my life

\* *I judge myself by what I think is important, not by the values of what others think is important*

**Environmental Mastery**

\* *In general, I feel I am in charge of the situation in which I live*

Although there is a lot I could do each day, I never seem to accomplish much of anything

\* The demands of everyday life often get me down

\* I do not fit very well with the people and the community around me

*Most days, I feel capable of accomplishing what I set out to do*

\* *I am quite good at managing the many responsibilities of my daily life*

\* I often feel overwhelmed by my responsibilities

*If I were unhappy with my living situation, I would take effective steps to change it*

*I generally do a good job of taking care of my personal finances and affairs*

I find it stressful that I can’t keep up with all of the things I have to do each day

I’m unhappy where I am living because there is little to do that interests me

*I am good at juggling my time so that I can fit everything in that needs to get done*

*My daily life is busy, but I derive a sense of satisfaction from keeping up with everything*

I get frustrated when trying to plan my daily activities because I never accomplish the things I set out to do

*My efforts to find the kinds of activities and relationships that I need have been quite successful*

I can’t seem to budget my time to cover all the things I need to do

\* I have difficulty arranging my life in a way that is satisfying to me

(continued)

*I don’t often consider myself the victim of circumstances because I generally feel in control of what happens to me*

I sometimes feel hopeless and frustrated when it comes to managing my personal and financial affairs

\* I have been able to build a home and a lifestyle for myself that is much to my liking

**Personal Growth**

*I see myself as having matured over the years*

\* I am not interested in activities that will expand my horizons

*In general, I feel that I continue to learn more about myself as time goes by*

*I am the kind of person who likes to give new things a try*

I don’t want to try new ways of doing things-my life is fine the way it is

\* *I think it is important to have new experiences that challenge how you think about yourself and the world*

\* When I think about it, I haven’t really improved much as a person over the years

*In my view, there is always room for self-improvement*

*I am an adaptable and flexible person who is not afraid of change*

*In my view, people of every age are able to continue growing and developing*

I wish I still had the sense of growth and expansion that I used to feel

*With time, I have gained a lot of insight about life that has made me a stronger, more capable person*

\* I have the sense that I have developed a lot as a person over time

\* I do not enjoy being in new situations that require me to change my old familiar ways of doing things

\* *For me, life has been a continuous process of learning, changing, and growth*

*I enjoy seeing how my views have changed and matured over the years*

Some people are good at learning new things, but I am not one of them

*I often seek out new experiences that will challenge my old ways of thinking*

\* I gave up trying to make big improvements or changes in my life a long time ago

There is truth to the saying you can’t teach an old dog new tricks

**Positive Relations with Others**

Friendships don’t come easy to me

\* *Most people see me as loving and affectionate*

(continued)

\* Maintaining close relationships has been difficult and frustrating for me

\* I often feel lonely because I have few close friends with whom to share my concerns

\* *I enjoy personal and mutual conversations with family members or friends*

*It is important to me to be a good listener when close friends talk to me about their problems*

I rarely get past small talk in my conversations with other people

I don't have many people who want to listen when I need to talk

I am not especially interested in letting other people really get to know me

*I feel like I get a lot out of my friendships*

It seems to me that most other people have more friends than I do

People don't usually come to me with their problems

*My friends know that they can come to me if they have a problem*

\* *People would describe me as a giving person, willing to share my time with others*

\* I have not experienced many warm and trusting relationships with others

I often feel like I'm on the outside looking in when it comes to friendships

*I consider myself to be a warm and understanding person*

\* *I know that I can trust my friends, and they know they can trust me*

I find it difficult to really open up when I talk with others

*My friends and I sympathize with each others' problems*

## Purpose in Life

*I feel good when I think of what I've done in the past and what I hope to do in the future*

\* I live life one day at a time and don't really think about the future

I tend to focus on the present, because the future nearly always brings me problems

\* *I have a sense of direction and purpose in life*

\* My daily activities often seem trivial and unimportant to me

*I know what I want to accomplish in my life*

\* I don't have a good sense of what it is I'm trying to accomplish in life

I used to set goals for myself, but that now seems like a waste of time

\* *I enjoy making plans for the future and working to make them a reality*

I don't think much about what I want from the future

(continued)

*I am an active person in carrying out the plans I set for myself*

\* Some people wander aimlessly through life, but I am not one of them

\* I sometimes feel as if I've done all there is to do in life

*I like to think about my objectives in life and how I might reach them*

*With time, I better understand how difficult experiences from my past have been valuable for me*

*My aims in life have been more a source of satisfaction than frustration to me*

I had goals I wanted to reach when I was younger, but I'm beyond that kind of idealism now

*I find it satisfying to think about what I have accomplished in life*

In the final analysis, I'm not so sure that my life adds up to much

*Most days I get up with an enthusiasm for life and a clear sense of what I want to accomplish*

## Self-Acceptance

*Looking back on my life, I feel content with most of my decisions*

*Even if I had the choice, there is not a lot about myself that I would like to change*

If I could live my life over again, I would make major changes

\* *When I look at the story of my life, I am pleased with how things have turned out*

\* *In general, I feel confident and positive about myself*

\* I feel like many of the people I know have gotten more out of life than I have

Given the opportunity, there are many things about myself that I would change

*I enjoy being me*

When I think about how my life has gone, I often feel sad and frustrated

\* *I like most aspects of my personality*

*I made some mistakes in the past, but I feel that all in all everything has worked out for the best*

\* In many ways, I feel disappointed about my achievements in life

When I look around me, I often feel that others have it better than I do

*For the most part, I am proud of who I am and the life I lead*

I envy many people for the lives they lead

\* My attitude about myself is probably not as positive as most people feel about themselves

Many days I wake up feeling discouraged about how I have lived my life

(continued)

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*The past had its ups and downs, but in general,  
I wouldn't want to change it*

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\* *When I compare myself to friends and acquaintances, it makes me feel good about how I am*

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Everyone has their weaknesses, but I seem to have more than my share

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## Reliability

### Internal

Internal consistency (alpha coefficients) for the 20-item PWB scales, estimated from a sample of young, middle-aged, and older adults (N = 321; Ryff, 1989b), was autonomy, .86; environmental mastery, .90; personal growth, .87; positive relations with others, .91; purpose in life, .90; and self-acceptance, .93.

### Test Retest

Over a 6-week follow-up period, test-retest reliability estimates in a subset of the original sample (n = 117; Ryff, 1989b) were autonomy, .88; environmental mastery, .81; personal growth, .81; positive relations with others, .83; purpose in life, .82; and self-acceptance, .85.

## Validity

### Construct

Development of the PWB scales followed guidelines for a construct-oriented approach (Wiggins, 1973), including generating theory-grounded definitions of high and low scorers for each domain of well-being, writing items to conform to those definitions, culling items that were ambiguous or redundant with other items, and insuring that each item correlated most highly with its respective scale (Ryff, 1989b). While the PWB scales tend to correlate with one another, examinations of the latent constructs measured by the PWB scales have generally preferred a six-factor solution consistent with the six theory-based domains (Ryff & Keyes, 1995; Ryff & Singer, 2006). While other studies have found evidence for a smaller number of distinct factors (e.g., Abbott, Ploubidis, Huppert, Kuh, & Croudace, 2006; Springer & Hauser, 2006), recent evidence suggests that discrepancies in conclusions about the latent structure of well-being are more likely to be related to

measurement issues (e.g., use of short forms of the PWB scales) rather than to problems with the theoretical constructs themselves (Gallagher, Lopez, & Preacher, 2009).

### Convergent and Discriminant

Tests of the PWB scales have included comparisons with other widely used indices of positive and negative psychological functioning, including the ► [Affect Balance Scale](#) [ABS; Bradburn, 1969]; the Life Satisfaction Index [LSI; Neugarten et al., 1961]; the Self-Esteem Scale [SE; Rosenberg, 1965]; the Philadelphia Geriatric Center Morale Scale [MS; Lawton, 1965]; three subscales related to the ► [Locus of Control](#) construct (Levenson, 1974) – internal control [LI], influence of powerful others [LP], and chance [LC] – and the Zung Depression Scale (Zung, 1965). Results are shown in [Table 1](#) (adapted from Ryff, 1989b).

Convergent validity for the PWB scales is provided by results showing that overall the PWB scales correlate positively with measures of positive functioning and negatively with measures of negative functioning. However, they also underscore the multidimensional character of the PWB scales. The personal growth scale, for example, was created to assess a specific aspect of well-being that was not featured in existing metrics (Ryff, 1989b), and it would therefore not be expected to correlate strongly with such scales. The results showing that personal growth was only weakly to moderately correlate with any of them provide discriminant validity for this scale. Similar results are observed for positive relations with others for similar reasons.

## Discussion

Many assessments of well-being focus on the experience of positive emotions and satisfaction with life circumstances, also known as “hedonic” aspects of well-being (Waterman, 1993). The PWB scales were designed to extend the range of well-being assessments to include the pursuit of personally meaningful goals, the realization of one’s potential, and investments in personal relationships (referred to as “eudaimonic” aspects of well-being (Waterman, 1993)). The PWB scales

**Psychological Well-Being Inventory, Table 1** Intercorrelations between the PWB scales and other measures of psychological functioning

PWB Domain	ABS	LSI	SE	MS	LI	LP	LC	Zung
Autonomy	.36	.26	.36	.32	.38	-.45	-.38	-.38
Environmental Mastery	.62	.61	.55	.62	.52	-.47	-.46	-.60
Personal Growth	.25	.38	.29	.44	.38	-.30	-.39	-.48
Positive Relations with Others	.43	.43	.36	.30	.37	-.36	-.33	-.33
Purpose in Life	.42	.59	.49	.55	.53	-.37	-.46	-.60
Self-Acceptance	.55	.73	.62	.59	.49	-.45	-.43	-.59

Note: All correlations are significant at  $p < .001$ . ABS = Affect Balance Scale; LSI = Life Satisfaction Index; SE = Self-Esteem Index; MS = Morale Scale; LI = Internal Locus of Control; LP = Powerful Others; LC = Chance Dimensions; Zung = Zung Depression Scale

have been used in research both as predictors of a range of psychological, biological, and health outcomes and as dependent variables in studies of antecedents to well-being. Evidence suggests that associations between these scales and other variables of interest are typically independent of both positive and negative aspects of hedonic well-being, underscoring the value in multifaceted assessments of positive psychological functioning.

## Cross-References

- ▶ [Affect Balance Scale](#)
- ▶ [Construct Validity](#)
- ▶ [Convergent Validity](#)
- ▶ [Discriminant Validity](#)
- ▶ [Eudaimonic Well-being](#)
- ▶ [Internal Consistency](#)
- ▶ [Locus of Control](#)
- ▶ [Personal Growth](#)
- ▶ [Reliability](#)
- ▶ [Test-retest Reliability](#)

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## Psychological Well-Being, Marital Risk, and Advice Seeking

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### Definition

*Psychological well-being*, conceptualized in this study as low ► **negative affect** and high ► **positive affect**, is important to study because it predicts productive activities, allows for fulfilling relationships with others, and promotes the ability to change and to cope with adversity (U.S. Department of Health and Human Services, 1999).

Marital quality is also important to study in that those who are married experience health benefits, so long as their marital quality is more positive rather than negative (Umberson, Williams, Powers, Liu, & Needham, 2006). It is not marriage per se that brings benefits. Instead, it is the quality of marriage that is important to consider. Thus, those with high *marital risk*, or feelings that the marriage may be in trouble or that partners will separate, would not be afforded the same benefits as those with low marital risk.

The term *resource loss* is taken from the conservation of resources model, or CoR, by Hobfoll (1988, 1989, 1998, 2001). Hobfoll posited that under conditions of ► **stress**, individuals strive to minimize the net loss of their resources. Further, people strive to “retain, protect, and build resources, and what is threatening to them is the potential for or actual loss of these valued resources” (Hobfoll, 1989, p. 513).

The term *resource gain* is also taken from the CoR model. Here, when individuals are not currently facing stressors, they strive to develop a surplus of resources (i.e., resource gain) to offset the potential of future demands and resource losses.

*Advice seeking* is defined as the preference for getting advice from others before making

a decision or when upset, and feeling better after talking it over with others.

*Lack of financial stability* refers to the lack of adequate income (adequate financial credit, savings or emergency money, medical insurance).

Whereas ► **social support** typically refers to the positive, emotionally sustaining qualities of relationships, *strain from relationships* refers to the negative or demanding aspects of relationships (House, Umberson, & Landis, 1988).

### Description

Using the model of conservation of resources, or CoR by Hobfoll (1988, 1989, 1998, 2001), Curran, Totenhagen, and Serido (2010) propose that psychological well-being and marital risk can be understood through both resource gains (e.g., social support) and resource losses (e.g., lack of financial stability, strain).

*Resource Losses*: Here we consider the relation of advice seeking and lack of financial stability with psychological well-being.

Past research has found that *greater advice seeking* is associated with decreased psychological well-being. In a study by Pearlin and Schooler (1978), greater help seeking was associated with more psychological distress. In another study, after controlling for earlier psychological symptoms and perceived stress, greater advice seeking was related to increased psychological symptoms at the follow-up assessment (Aldwin & Revenson, 1987). In another study, greater advice seeking was related to an increase in subsequent depression (Lakey, 1988).

As for *lack of financial stability*, the expense of energy to minimize the loss of resources may be a constant source of stress that impacts the well-being of individuals (Adler et al., 1994; Vinokur, Price, & Caplan, 1996) and couples (Conger et al., 1990; Vinokur et al., 1996; Robertson, Elder, Skinner, & Conger, 1991). Lack of financial stability can influence psychological well-being and health of those at all financial levels, not just those in extreme ► **poverty** (Adler et al., 1994).

Strain is a resource loss as well. For example, in a review of 28 studies of support and strain (called positive and negative ► [social interactions](#), respectively), Lincoln (2000) found that in 68 % of the studies, strain had a stronger impact on psychological well-being, while only one study reported stronger effects for support.

*Resource Gains:* Here we discuss we also consider the relation of advice seeking and social support with marital risk.

Advice seeking specific to marital risk may be seen as a resource gain. The actual research on advice seeking and marital risk is limited, but in one study, it was found that couples who were willing to enter couple's therapy (i.e., seek advice from others) had greater increases in satisfaction than those who did not seek treatment (Christensen & Heavey, 1999).

Social support helps individuals to conserve resources from which to draw upon when they are faced with a stressor and/or loss of other resources (Hobfoll, 1989). For example, when marital quality is more positive than negative, married couples experience physical health benefits (Umberson et al., 2006). Additionally, social support may have beneficial effects on the health of married individuals (Heffner, Kiecolt-Glaser, Loving, Glaser, & Malarkey, 2004) and also on their marital satisfaction and outcomes (Kurdek, 2005).

*Methods:* Participants were 1,798 married or cohabiting individuals drawn from the National Survey of Midlife Development in the United States (MIDUS). Median age range of participants was 45–54; median years of education completed was 1–2 years of college. There were 977 men (54.3 %) and 821 women (45.7 %). For the measures sources of support and strain, three individuals were specified: the spouse or partner, family, and friends.

*Results:* The authors used hierarchical regression analyses in Stata. Results showed that overall, advice seeking was associated with psychological well-being and marital risk, but that the relationships depended on the availability of resources and the source of support or strain. For example, for individuals lacking financial

stability, marital risk decreased with advice seeking for those reporting high support from friends, whereas for individuals with financial stability, marital risk increased with advice seeking for those reporting high support from friends.

*Discussion:* The authors discuss how they find overall support for hypothesized resource gains (e.g., support) versus resource losses (e.g., strain, lack of financial stability). Beyond this conclusion, the authors note the complexity of these relationships (e.g., source of support [spouse or partner, family, or friends], role of financial stability versus lack of financial stability).

Considering support as one example, the authors found that for individuals lacking financial stability, marital risk decreased with advice seeking for both high and low support from friends, although the decrease was steeper for those reporting high support from friends. Further, the authors found that for individuals with financial stability, negative affect decreased with advice seeking for both high and low support from family, although the decrease was steeper for those reporting high support from family.

In contrast, the authors also found that unexpectedly, with greater advice seeking, marital risk actually was the highest for those who receive support (not strain) from friends and for those who are financially stable. Also unexpected was the finding that for individuals who lack financial stability, negative affect increased with advice seeking for both high and low support from family, although there was a slightly steeper increase for those who reported high support from family.

The authors return to the CoR model to explain these findings, and consider both the role of resource gains and resource loss in understanding pathways to psychological well-being and marital risk. For example, both of the unexpected findings described above are likely explained when viewing financial stability as a strong resource, which is probably why in many Western societies, finances were commonly voiced as resources (Hobfoll, 1998, 2001). In contrast, lack of financial stability was reinforced in the study as a lack of resource and one that had important implications for individuals' psychological well-being.

Taken together, the authors conclude that understanding advice seeking and its outcomes must be considered within the context of available resources (or lack thereof).

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## Psychometric Analysis

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## Synonyms

[Psychometric assessment](#)

## Definition

Psychometric analysis is the analysis of psychological tests and measurements. By analyzing the quantitative properties of a psychological test, one can ensure that scores are as reliable and valid as possible.

## Description

Before talking about “psychometric analysis,” we must mention “psychological testing.” Psychological testing is a standard, objective, and numerical way to measure an aspect of mental

performance, which includes knowledge, abilities, attitudes, and personality traits. Psychometric analysis is the method to assess how reliable and valid those tests are.

It is hard to trace back the history of psychometric analysis, because its development covers statistical methods, social science, and psychology. But much of the earliest applied work can be traced back to measuring intelligence. Francis Galton (1879), often referred to as the father of psychometrics, used statistics to analyze his anthropometric measures. Some argue that psychometrics truly started with one article of Spearman (1904). No matter when the true beginning is, nowadays psychological testing and psychometric analysis have been widely used in extensive fields relevant to mental and medical measurement. It has been applied to constructs such as the quality of life, motivation, stress, leadership ability, and communication skill.

Psychometric analysis comprises the analysis of both the quantitative and qualitative properties of a test. Through standard analytical procedures, researchers can assess how reliable and valid a test is. The essential categories are ► **reliability** and **validity**. For ► **reliability**, we test whether scores are stable and retestable within a given timeline or individual. For **validity**, we examine whether the measured scores accurately represent and correspond to the concepts we attempt to measure (there is no single agreed definition here). The table below shows some psychometric properties in common use.

► <b>Reliability</b> type	Methods	Validity type	Methods
Equivalent forms	Pearson's correlation	Content	Pearson's correlation coefficient,
Test retest	coefficient, ICC,	Construct	► <b>IRT</b> ,
Interrater	Cronbach's $\alpha$	Criterion	regression,
► <b>Internal consistency</b>		Predictive	► <b>CFA</b> , EFA, MTMM

For example, in a study of World Health Organization (2004), the WHOQOL group performed an international assessment of the psychometric properties of the WHOQOL-BRIEF in 26 countries. The analysis included

► **internal consistency** (Cronbach's  $\alpha$ ), item-total correlations (Pearson's), discriminant validity (MTMM), and ► **construct validity** through ► **confirmatory factor analysis (CFA)**. As a result, these psychometric indices indicated that the WHOQOL-BREF is a cross-culturally valid assessment of quality of life and reflects well four domains: physical, psychological, social, and environment.

## Cross-References

- [Confirmatory Factor Analysis \(CFA\)](#)
- [Construct Validity](#)
- [Content Validity](#)
- [Criterion Validity](#)
- [Cronbach's Alpha](#)
- [Discriminant Validity](#)
- [Exploratory Factor Analysis](#)
- [Internal Consistency Reliability](#)
- [Intraclass Correlation Coefficient \(ICC\)](#)
- [Item Response Theory \[IRT\]](#)
- [Multitrait-Multimethod Analysis](#)
- [Predictive Validity](#)
- [Reliability](#)
- [Reliability Generalization](#)
- [Test-Retest Reliability](#)
- [Validity, Statistical](#)

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## Psychometric Assessment

- [Psychometric Analysis](#)

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## Psychometric Methods

- ▶ [Response Format](#)

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## Psychopathology

- ▶ [Mental Illness](#)
- ▶ [Psychiatric Disorders](#)
- ▶ [Religious Beliefs and Psychiatric Symptoms](#)

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## Psychophysiological Measures

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### Definition

Psychophysiology is the physiological correlates of psychological processes and behavior and the impact of psychological or behavioral manipulations on physiology. Psychophysiological measures include techniques designed to assess activity in a variety of bodily systems. When more broadly construed, these measures may include techniques such as fMRI and hormone analysis, though the term psychophysiology generally refers to measures that rely on the body's electrophysical activity (e.g., facial EMG, ECG). Such measures serve as the means by which scientists conduct ▶ [applied psychophysiology](#).

### Description

Psychophysiological measures assess the interaction between psychological and physical states using a variety of instruments in both laboratory and naturalistic settings. Coupled with newer tools to assess the brain and central nervous system (e.g., EEG, fMRI), psychophysiological measures have advanced our understanding of the

interplay between these systems and their connection with behavioral processes and emotion. Consequently, this research has generated a more holistic knowledge of the various contributions to human health. Chronic physiological arousal can result in many deleterious health effects including heart disease and depression. Therefore, it is important to measure the connections between physiology and psychology to better understand the associations with various health outcomes. Some of the most common psychophysiological measures capture peripheral activity including heart rate, electrodermal activity, and respiration. Many of these measures are used to determine sympathetic nervous system (SNS) or parasympathetic nervous system (PNS) activity resulting from ▶ [physiological arousal](#).

Psychophysiological measures have several benefits including that continuous data collection may connect physiological activity with the effects of simultaneous stimulus presentation. Furthermore, psychophysiology can reveal phenomena that are difficult to capture via traditional self-report methods, resulting in a more exact analysis of a person's physiological state compared to self-report or overt behavior. Many psychophysiological techniques are used to determine SNS (e.g., heart rate) or PNS (e.g., electrogastrography and respiration) activity. Notably, the methods detailed in this entry are restricted to peripheral (i.e., non-brain) approaches. An overview of the most common psychophysiological measures follows, and more extensive information regarding these techniques is described elsewhere (Cacioppo, Tassinary, & Berntson, 2007).

Electrodermal Activity (EDA). Also called galvanic skin response, skin resistance, and skin conductance, EDA refers to the electrical activity of the skin. Importantly, EDA is the best noninvasive measure of moment-to-moment changes in SNS activation. Thus, EDA spikes during emotional arousal and historically was a component of lie detection tests. EDA relies upon eccrine gland activation. Eccrine glands are the major sweat glands found throughout the human body in the skin. These glands are especially densely distributed in hands and feet (Mendes, 2009).

Increased SNS activity activates the eccrine glands to produce sweat (Mendes, 2009). Importantly, EDA measures eccrine activity regardless of whether sweat is actually produced. Specific EDA methods include skin conductance and skin potential. During skin conductance, a current is passed through the skin using bipolar sensor placement, and resistance to the current is measured. Skin potential requires unipolar sensor placement and does not use a current.

**Electrogastrography (EGG).** EGG is a method to record smooth muscle activity using electrical signals indicative of abdominal muscular activity (Alvarez, 1922). Contractions in the intestines or stomach are assessed by comparing output from the surface of an electrode attached to the forearm with electrodes attached to the abdomen. These recordings are generally made while a person is fasting. Research has connected gastrointestinal activity with a variety of psychological phenomena including fear, shock, and other emotion experiences, validating EGG as a reliable and noninvasive method for assessing these relationships (Vianna & Tranel, 2006).

**Facial Electromyography (EMG).** Facial EMG is a way to measure muscle activity by detecting and amplifying the tiny electrical impulses that are generated by muscle fibers when they contract. Facial muscle EMG has been used as a technique to distinguish and track positive and negative emotional reactions to a stimulus as they occur (Wolf et al., 2005). The technique can be used to track emotion in two major facial muscle groups in particular: the corrugator supercillii and zygomaticus. The corrugator group is influential in lowering the eyebrow and producing frowns, while the zygomaticus draws the corners of the mouth back into a smile and is associated with positive emotional stimuli and positive mood. Importantly, facial EMG is limited by the fact that only a few muscles can be tested at one time and that the procedure is somewhat obtrusive, necessitating the application of sensors to the face with some attached close to the eye. Also, due to the close proximity of many facial muscles, EMG signals should be viewed as reflecting activity from sites or regions rather than

individual muscles. In addition to measuring emotional reaction, facial EMG is particularly important as the only peripheral psychophysiological technique capable of capturing mood valence (i.e., negative versus positive emotions) in addition to arousal (i.e., high and low excitement levels). Studies have found that corrugator muscle activity varies inversely with the emotional valence of presented stimuli and reports of ► mood state (Bradley & Lang, 2000). A range of stimuli, including pictures and movies, has been used to examine EMG associations with mood effects (Cacioppo et al., 2007). For example, one study found that while the zygomaticus and orbicularis oculi (muscles near the eye) are activated during a true smile expressed while participants watched a pleasant film, only the zygomaticus is activated during a fake smile. Therefore, the orbicularis is an important indicator of true ► positive affect or ► enjoyment (Johnson, Waugh, & Fredrickson, 2010).

**Blood Pressure (BP).** BP is the pressure exerted by circulating blood upon the walls of blood vessels or the arterial pressure of the systemic circulation. BP is most commonly assessed using auscultatory or oscillometric methods (Mendes, 2009). For auscultatory measurement, a cuff is positioned on the upper arm, with a stethoscope placed over the brachial artery. The oscillometric method utilizes oscillations in pressure in a BP cuff to determine systolic, diastolic, and mean arterial pressure (MAP). Systolic blood pressure captures peak pressure in the arteries, while diastolic pressure assesses the lowest pressure. Pulse pressure, MAP, and peripheral resistance are all useful physiological indices calculated from systolic and diastolic blood pressure. Additionally, the volume-clamp method is another type of BP measurement, using a cuff on the finger to clamp the vascular volume at a specific level maintained from beat to beat. BP is often connected with various psychosocial factors including stress and emotion regulation. BP can rise as a result of stress, SNS arousal, negative emotions, and other psychological circumstances. In one example, loneliness in adults was associated with increased systolic

blood pressure and increases in blood pressure over time (Hawkley & Cacioppo, 2010).

**Electrocardiography (ECG or EKG).** ECG records changes in electrical potential associated with heartbeat (Goldberger, 1998). The leads for collecting ECG may use one of several different configurations, placed either on the torso or on arms and legs. For one, electrodes are placed at various locations on the body, and recordings yield P, Q, R, S, and T waves. The P wave occurs at the beginning of a heart cycle, representing the atrial depolarization. The P wave is followed by QRS waves reflecting the depolarization of the ventricles. The Q wave is notably used to calculate pre-ejection period (PEP), which serves as an excellent index of sympathetic activation (Mendes, 2009). Finally, the T wave represents the ventricles' repolarization. Together the five points represent an interbeat interval or heart period. PEP is an important tool for examining the stress response. People characterized by higher PEP reactivity to acute ► [psychosocial stress](#) often show greater sympathetic reactivity, which may result in a higher risk for stress-related health problems (Cacioppo et al., 2007).

**Heart Rate/Heart Period.** Heart period represents the time between consecutive heartbeats. This is typically measured as the distance between successive R spikes in the ECG. Heart period and heart rate are reciprocal though heart period is measured in milliseconds, while heart rate is measured in beats per minute (Cacioppo et al., 2007). Numerous anecdotal perspectives connecting the heart with emotional experiences have been confirmed by the psychophysiological literature. Therefore, emotionally provocative experiences ranging from excitement to affiliation and to fear are connected with heart rate. The brain region known as the amygdala seems to be particularly important in translating an individual's emotional perceptions of stimuli, responding to emotion by activating the SNS to affect heart rate responses (Williams et al., 2001).

**Heart Rate Variability (HRV).** HRV captures changes in vagal sinoatrial activity, or the variation in the duration of time between heartbeats. This construct is measured by assessing variation in the beat-to-beat interval and is often used to

represent PNS cardiac control. BP, ECG, and a pulse wave signal are all used to determine HRV (Mendes, 2009). However, ECG is considered the best method as it provides a clear waveform. HRV and ICG (see below) are important ways to capture PNS and vagal activity. HRV has played a particularly important role in coping and emotion regulation research. For example, higher HRV seems to reflect a greater capacity for successful emotion regulation (Appelhans et al., 2006). Stephen Porges' polyvagal theory states that efficient regulation of the heart by the vagal nerve provides the capacity to quickly engage or disengage with an environment, resulting in more effective emotion regulation abilities (Porges, 2011). Finally, HRV can also serve as an important index of ► [anxiety](#), as lower HRV has been observed in patients with anxiety disorders compared to controls (Appelhans et al., 2006).

**Impedance Cardiography (ICG).** ICG estimates the heart's changes in blood flow resulting in projections estimating the amount of blood ejected during each heart cycle (also called stroke volume) and various changes in the cardiac cycle including the timing of the aortic valve's opening and closing (Mendes, 2009). The technique requires either bands or spot electrodes placed on the neck and torso to detect changes in the thorax, which are used to measure and calculate blood flow throughout the body. A constant current is passed through the chest, seeking the path of least resistance. Voltage varies depending on the current's path, which changes as a result of alterations in the cardiac cycle. Impedance cardiography is also used to estimate cardiac output, the amount of blood that is pumped through the heart in a minute (Cacioppo, 2007). Of the measures available to assess interactions between psychological phenomenon and the heart, impedance cardiography is particularly important as it measures blood flow through the heart. Heightened SNS activity is linked to increased heart rate, myocardial contractility, and arterial blood pressure, while greater PNS activity is associated with a decreased heart rate and heightened heart rate variability. This method has proved valuable when assessing racial attitudes as well as disgust (Rohrman & Hopp, 2008).

**Respiration.** Respiration can be measured by the frequency and amplitude of breathing using strain gauges encircling an individual. Using two gauges provides measures of both upper and lower respiration for comparison. One gauge can also capture respiration data if placed appropriately on the torso. The belt expands and contracts in response to an individual's inhalations and exhalations, and the changes are then recorded. Impedance cardiography (ICG) can also be used to derive respiration (Mendes, 2009). Participants may be asked to hold their breath to ensure an appropriate orienting response. As emotional responses and their resulting SNS activity causes increases in breathing rate, respiration is inevitably connected to the entire range of emotional and psychological experiences (Homma & Masaoka, 2008).

## Cross-References

- ▶ [Anxiety](#)
- ▶ [Anxiety Disorders](#)
- ▶ [Applied Psychophysiology](#)
- ▶ [Enjoyment](#)
- ▶ [Fears](#)
- ▶ [Mood](#)
- ▶ [Physiological Arousal](#)
- ▶ [Positive Affect](#)
- ▶ [Psychosocial Stress](#)
- ▶ [Stress Reactivity](#)

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## Psychosexual Therapy

- ▶ [Sex Therapy](#)

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## Psychosocial Adjustment (Includes Psychosocial Functioning and Well-Being)

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## Synonyms

[Accommodation](#), [adaptation](#), [modification](#); [Cognitive](#), [mental](#), [intellectual](#), [psychical](#), [subjective adjustment](#); [Communal](#), [collective](#), [societal](#), [common](#), [companionable adjustment](#); [Health](#), [happiness](#), [soundness](#), [satisfaction](#), [Success](#); [Performance of roles](#), [Fulfillment of](#)

## Definition

Psychosocial denotes the mental and the social factors in a person's life, for instance, relationships, education, age, and employment that pertain to a person's life history (Pugh, 2002).

Psychosocial adjustment is the psychosocial accommodation of a person to a life-altering event or transition (Anderson, Keith, & Novak, 2002).

In psychology, this adjustment is defined as "...the relative degree of harmony between an individual's needs and the requirements of the environment" (Anderson, Novak, & Keith, 2002, p. 32).

## Description

### History

The term "psychosocial" is a standard term that historically has been associated with the profession of social work (Turner, 2009). This term refers to the core focus of the profession of social work on the individual and the environment, giving social work its own identity apart from other professions (Turner). Psychosocial not only carried this former meaning but also developed into a theory in its own right and then branched into a form of therapy known as psychosocial therapy (Turner).

### Aspects of the Psychosocial Model

In time, other professions adopted the generic use of psychosocial which led to its application in multidisciplinary capacities (Turner, 2009). Engel (1977) proposed the addition of the prefix "bio" to psychosocial, offering this model as a viable alternative to the restrictive dominant medical model. Now, biopsychosocial is the predominant model utilized by many professionals as the foundation for service provision (Turner, 2009). Wellness is often conceptualized as a multidimensional sense of well-being, involving a balance between emotional, spiritual, physical, mental, and social components (Greenberg, 1985). The current addition of spiritual to the

biopsychosocial model acknowledges yet another of these multidimensional components (Cairns, 2012). Correlational research between religion/spirituality and health shows positive linkages regarding length of life, family support, ability to cope, and mental and physical health (Marks, 2005).

Hancock, Maher, Laslett, Hay, and Koes (2011) state that when examining a chronic condition, where you predict the influence of biological factors, the professional must assess the biological as well as the psychosocial factors and how they interact with each other in the individual's life. Other research shows that psychoeducational interventions assist certain persons, who have a debilitating illness, to experience positive psychosocial adjustment (Swanson, Dibble, & Chapman, 1999).

### Psychosocial Functioning

Ro and Clark (2009) state the recent focus on psychosocial functioning is due to an increased awareness of the importance of understanding what psychosocial functioning is and how it may be measured. There is no concrete definition of psychosocial functioning because there are many facets of psychosocial functioning as there are persons (Ro & Clark, 2009). Currently, there are two main areas that comprise psychosocial functioning: (1) micro functions of everyday life, such as education and marital relationships and (2) macro functions that encompass life, such as the quest for truth and fulfillment (Ro & Clark, 2009).

### Instrumentation for Psychosocial Adjustment

The MacArthur Health and Behavior Questionnaire (HBQ) "provides an index of psychosocial functioning and risk" (Page et al., 2011, p. 365).

### Well-Being and Social Determinants of Health

The study of well-being originated in the field of psychology with two relatively separate, yet overlying perspectives with differing theoretical foundations. One viewpoint, known as the *hedonic perspective*, highlights well-being as

consisting of desire or joy with a focus on the experience of satisfying feelings (Lent, 2004). In contrast, the *eudaimonic viewpoint* claims that true happiness is established by leading an honorable life (Lent, 2004). Ryan and Deci (2001) report that these two traditional perspectives have opposing views of what constitutes well-being; furthermore, “implicitly or explicitly they prescribe different approaches to the enterprise of living” (p. 143). In addition, these traditions fostered conflicting functional meanings of well-being which led to subjective well-being (SWB) and psychological well-being (PWB) (Lent, 2004).

As reported in the literature, a number of factors contribute to SWB and PWB. Heredity and an individual’s character are believed to play a role in SWB (Helliwell & Putman, 2004; Ryff, 1995). Not negating the contribution of heredity, the focus of SWB has often been focused on the social correlates of well-being. Many scholars report a robust connection between social determinants of health and well-being. A plethora of research identifies the fundamental role that social factors play in the underlying trail to ill health and disease which impacts well-being (Winkelmann, 2009).

One concept known as social capital has been gaining popularity in relation to social determinants of health and well-being (Portes, 1998). Various definitions of social capital are projected throughout the literature; however, in essence, it refers to social support connections in various social contexts which are known to enhance health and well-being (Kroll, 2011; Helliwell & Putnam, 2004; Wu et al., 2011). In turn, a low degree of social connectiveness has been linked to increased mortality (Regehr & Glancy, 2010). In addition, one’s financial situation and social rank does indeed forecast well-being. There is substantiation of an obvious relationship between social and economic status; people who earn an average or higher salary report an increased level of well-being versus a lower income bracket (Helliwell & Putnam, 2004; Public Health Agency, Canada, 2008). Education also improves health and directly or indirectly enhances

well-being (Helliwell & Putnam, 2004). A significant review conducted by the World Health Organization (2004) confirmed that a lack of employment and economic instability among citizens should be considered a significant contributor to major mental health problems and physical health/ill health of unemployed individuals, families, and communities. Additional social determinants of health are highlighted in a report entitled *Toward a Healthy Future: Second Report on the Health of Canadians*. This report reiterated the above social determinants and included other factors that are strongly linked to health and well-being. These include personal health practices and coping skills, healthy child development, access to health services, gender, and culture (Public Health Agency Canada, 2008).

## Cross-References

► [Determinants of Health](#)

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## Psychosocial Dynamics Model of Progress

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### Definition

The psychosocial dynamics model of ► [progress](#) and ► [development](#) reflects the complexity of human societies and relationships, and the importance of subjective, cultural factors (including moral and spiritual values) to ► [quality of life](#). It addresses the limitations of both orthodox models and indicators (which emphasize objective, material, and structural factors) and recent efforts to develop subjective measures of progress (notably ► [happiness](#) and ► [life satisfaction](#)). The proposed model challenges the widely held view that Western nations represent the leading edge of progress.

### Description

The psychosocial dynamics model was first outlined in a paper (Eckersley, 2009a) on the usefulness of population measures of ► [subjective well-being](#). The term has subsequently been used in other publications relating to progress (Eckersley, 2009b) and population health and well-being (Eckersley, 2011a). The model draws on psychosocial theories of ► [health inequalities](#) (Eckersley, 2006).

Psychosocial processes involve interactions between social conditions and individual psychology and behavior and affect ► [social support](#) and personal control over one's life, contributing, for example, to ► [stress](#), depression, ► [anxiety](#), isolation, insecurity, and hostility. Psychosocial factors can affect health through direct effects on the neuroendocrine and immune systems and via health-related behaviors.

The model was proposed within the context of growing interest in measuring the progress of

societies (Eckersley, 2005; Stiglitz, Sen, & Fitoussi, 2009). The debate about progress has focused on adequacy of economic indicators, notably per capita income or GDP (gross domestic product), as measures of a nation's performance, relative to both the past and to other countries. Measures of well-being, including happiness and life satisfaction, are attracting particular attention. Other widely used indicators in making international comparisons include health (measured as ► [life expectancy](#)), ► [education](#), ► [human rights](#), governance (including political freedom and ► [corruption](#)), and ► [inequality](#).

Generally speaking, these indicators, whether used singly or aggregated, place Western liberal democracies at the leading edge of progress and present them as models of development for less developed nations. To take the example of the best known, the ► [Human Development Index](#), which is based on life expectancy, ► [literacy](#) and educational enrolment, and per capita income, Western nations occupied the top ten positions in 2010 and 18 of the top 20 (Japan and South Korea are eleventh and twelfth) (UNDP, 2010). The story is much the same with most other indices. Only when ► [environmental indicators](#), such as the ► [ecological footprint](#), are included does this order change significantly (Nef, 2009).

The orthodox measures of progress and development, and the statistical analyses and models derived from them, seem persuasive (e.g., Inglehart, Foa, Peterson, & Welzel, 2008; Veenhoven, 2009). However, they do not fully reflect or represent the complex dynamics of human societies. Alternatively, Briefly stated, the flaws of these indicators are:

- *GDP* includes costs to quality of life as well as benefits while also excluding other beneficial social activities (Eckersley, 2005; Stiglitz et al., 2009; van den Bergh, 2009). Evidence suggests a threshold where the costs of economic growth exceed the benefits; this threshold may be “contracting” over time – that is, occurring at lower income levels – because developed nations have gained more from growth than developing countries (Lawn & Clarke, 2010).

- *Life expectancy*, the main summary measure of population health, being based on mortality, does not reflect the growing importance of nonfatal, chronic illness such as ► [mental disorders](#) (Eckersley, 2011a, b). Nor does it take account of medical advances that offset social costs to health and well-being and include treatments that defer death without preventing or curing disease and ► [disability](#).
- *Well-being* indicators, especially happiness and life satisfaction, have become increasingly popular over the past decade (Eckersley, 2009a, 2011a). While some researchers argue they are valid summary measures of quality of life and progress, they do not capture all aspects of well-being or all desirable psychological or social qualities; they may not, in any case, be comparable across cultures.
- Other indicators such as *education, inequality, ► human rights, and governance*, being mainly structural and institutional, also have their limitations, notably that they do not assess the more subjective, cultural qualities that are also important to well-being (Eckersley, 2009a).

Recent international comparisons have begun to address these deficiencies, including the development of fuller sets of subjective measures of well-being (Huppert et al., 2009) and distinguishing between material and psychosocial prosperity (Diener, Ng, Harter, & Arora, 2010). However, this work still falls short of explaining and resolving the contradictions, inconsistencies, and ambiguities that emerge from the research, especially when findings from other scientific disciplines and fields are included in the analysis. Focusing on the full complexity of the psychosocial dynamics of Western societies reveals a very different picture of their “development.” From this perspective they have serious troubles; they may even be societies in decline.

For all the positive qualities of Western societies, most of their people do not believe life is getting better (Eckersley, 2005, 2009a, 2011a). In contrast to their high levels of personal happiness and life satisfaction, many studies over

the past few decades have revealed people's ► [anger](#) and anxiety about the changes in Western societies. The concerns include excessive greed and selfishness, consumerism, too much competition and too little compassion, the loss of ► [community](#), growing pressures on families, and drugs, ► [crime](#), and ► [violence](#). There is a common perception that with individual freedom and material abundance, people do not seem to know where to stop or now have too much of a good thing.

Many of these issues are embodied in the lives of young people, who best reflect the characteristics of the times because they are growing up in them (Eckersley, 2011b). Their health is also an important predictor of future population health; many of the attitudes and behaviors, and even the illnesses, that determine adult health have their origins in early life. Young people also have the most to gain – and lose – from how well progress is defined and measured; if their health and well-being are not improving, it is hard to claim that life overall is getting better.

Contrary to the usual story that young people's health is continuing to improve in line with historic trends, with declining mortality and high levels of self-reported health and happiness, it is arguable that their health and well-being have declined in the developed world (with implications for developing regions) (Eckersley, 2011a, b). This situation partly reflects chronic, physical conditions, especially those associated with increasing obesity, which have led to predictions of a decline in life expectancy. However, it rests more on the importance of the growing burden of mental illness in youth, which appears to have increased markedly in prevalence in many Western nations in the second half of the twentieth century.

Socioeconomic factors, such as social class and ► [family structure](#), are not the main drivers of the patterns and trends in youth mental health (Eckersley, 2011a, b). Some studies show no socioeconomic differences in the prevalence of mental health problems, and some even higher rates among the rich; other research has found that increasing rates have occurred in all socioeconomic groups and family types. The causes appear to be more existential and

relational than material and structural, linked to factors associated with rising materialism and individualism.

► [Materialism](#) and individualism, defining qualities of Western culture, reduce social support and personal control (both of which are crucial to health and well-being) through effects such as a heightened sense of risk, uncertainty, and insecurity; a lack of clear frames of reference; a shift from intrinsic to extrinsic values and goals; increased, even unrealistic, expectations; an excess of freedom and choice; and the construal of the self as independent and separate from others (Eckersley, 2006, 2011a, b).

These cultural shifts lead to an unrelenting need to make the most of one's life, to fashion identity and meaning increasingly from personal achievements, possessions, and lifestyles and less from shared cultural traditions and beliefs. This focus distracts people from what is most important to well-being: the quality of their relationships with each other and the world, which, ideally, contribute to a deep and enduring sense of intrinsic worth and existential certainty.

There are other, more specific, pathways to mental and physical ill-health that are associated with individualism and materialism, blended with other aspects of modernization (evidence implicating them varies in strength, and trends are not always constant) (Eckersley, 2006, 2011a, b). These pathways include the following:

- *Developmental*: a growing biological and social mismatch in individual development through the “adulthoodification” and sexualization of childhood, and an extended adolescence.
- *Psychological*: changing personality and other psychological traits, including increased neuroticism and narcissism, and less self-control.
- *Behavioral*: trends in risk factors such as diet, sleep, activity and play (especially outdoor), drugs and alcohol, violence and ► [bullying](#), ► [sexual activity](#), and media use.
- *Social*: broad societal changes, including ► [poverty](#) and inequality, family and work, education, the mass and social media, religion and spirituality, residential mobility, social relationships and isolation, and exposure to environmental contaminants.

Thus, a central feature of the changed patterns and trends in the health of Western youth over several generations is a shift in emphasis from socioeconomic deprivation to psychosocial deprivation, from a problem of material scarcity to one of excess. Another way to express this difference is in terms of social structure as “systems of social relations,” on which the orthodox approaches focus, and culture as “systems of meaning,” which they neglect and the new model emphasizes (Eckersley, 2001).

The model does not equate psychosocial factors with cultural influences. Material and structural factors can have psychosocial effects; culture can have material impacts. However, acknowledging the complex psychosocial dynamics of human societies encourages paying more attention to cultural factors (Eckersley, 2006).

The dominant models of progress and development emphasize what can easily be measured and the correlations between them: simple measures of well-being (happiness or life expectancy) and mainly material, structural, and institutional factors. The psychosocial dynamics model includes multiple measures of health and well-being and broader, cultural, moral, and spiritual causes and correlates. The orthodox models, while useful in evaluating early development, seem less relevant to so-called highly developed societies. They need to be supplemented by the psychosocial dynamics model.

To a significant extent, conventional indicators and models are measuring Westernization or modernization, not optimal social progress or development. While the concepts may overlap, they are not the same thing; Westernization, for all its benefits, includes costs to well-being that the indicators are missing. At best, the qualities being measured may be desirable, even necessary, but are not sufficient. At worst, the benefits of Western culture are being counted, but not its costs, which are formidable and growing (and include social, economic, and environmental impacts).

The tension or contradiction is seen clearly with both materialism and individualism. International comparisons suggest that rising material wealth is a national positive (even if its

benefits diminish); yet other research shows materialistic values (which wealth creation requires) are harmful to well-being (Eckersley, 2005, 2006, 2011a, b). Similarly, individual freedom is seen as a major component of progress and development, yet studies of its role in health, both empirical and theoretical, tell a different story. Freedom can be disturbing as well as exciting; while it creates new opportunities for personal experience and growth, it also carries risks of social dislocation and isolation, and a cultural attenuation that eventually makes self-identity problematic.

The psychosocial dynamics model is relevant and applicable to other important scientific and political questions, including the role of health and well-being as an important dynamic in societal functioning – a cause as well as a consequence of social changes – through their effect on population ► [resilience](#), morale, and vitality (Eckersley, 2010). This dynamic may well influence how well humanity responds to global threats such as climate change.

The model also contributes to a parallel, but now converging, debate over ► [sustainable development](#) (Eckersley, 2005, 2011a). It challenges the legitimacy of the dominant narrative of material progress (which gives priority to economic growth and a rising standard of living) and supports the alternative narrative of sustainability (which seeks to balance social, environmental, and economic priorities and goals to achieve a high, equitable, and lasting quality of life). The contest between the two narratives has been framed largely in economic and environmental terms, and the social aspects have been underestimated. The psychosocial perspective can help to rectify this oversight, so highlighting the extent to which Western, high-consumption lifestyles are detrimental to sustainable development.

The psychosocial dynamics model shows that the central social challenge confronting the developed world is not primarily a poverty of the means to the end of “the good life” as it is currently defined and pursued; it is a poverty of the end itself. In other words, giving the disadvantaged and marginalized the

opportunities and privileges of the majority, however much it will help them, will not solve the problems of population health and well-being, nationally or globally.

Put another way, material progress does not simply and straightforwardly make people richer, so freeing them to live as they wish (as the traditional views of progress and development assume). Rather, it comes with an array of cultural and moral prerequisites and consequences that affect profoundly how people think of the world and themselves and so the choices they make. These choices are not, collectively, optimizing human health, well-being, and potential. Models and measures of progress need to reflect this reality.

## Cross-References

- ▶ [Economic Growth](#)
- ▶ [Education](#)
- ▶ [Happiness](#)
- ▶ [Health](#)
- ▶ [Human Development](#)
- ▶ [Human Rights](#)
- ▶ [Life Expectancy](#)
- ▶ [Life Satisfaction](#)
- ▶ [Materialism](#)
- ▶ [Progress](#)
- ▶ [Quality of Life](#)
- ▶ [Subjective Well-Being](#)
- ▶ [Sustainable Development](#)

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## Psychosocial Stress

- ▶ [Burnout](#)

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## Psychosocial Workload

- ▶ [Work Stress](#)

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## Psychosomatics

- ▶ [Applied Psychophysiology](#)

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## Psychotherapy

- ▶ [Counseling](#)

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## Public Administration

- ▶ [Democracy and Bureaucracy](#)

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## Public Attitudes Toward Partner Violence Against Women

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### Synonyms

[Partner violence against women, acceptability of; Tolerance toward partner violence; Victim-blaming attitudes](#)

### Definition

Public attitudes toward partner violence against women (PVAW) reflect the social and cultural norms about what is or is not acceptable regarding the use of violence in intimate relationships and shape the social climate in which partner violence against women takes place. Attitudes

of tolerance and acceptability can foster, condone, and perpetuate PVAW, facilitating violent behavior by perpetrators and creating barriers for women's victimization disclosure. Public attitudes characterized by low tolerance and acceptability of PVAW can contribute to its deterrence and informal social control.

### Description

Violence against women is deep-rooted in the sociocultural context. Public attitudes toward PVAW contribute to shape the general social and cultural climate in which takes place and play an important role in perpetuating or deterring its occurrence in society. Research has associated public attitudes toward PVAW to issues such as incidence and reporting rates, public and professional responses, or victims' responses (e.g., Browning, 2002; Flood & Pease, 2009; Frye, 2007; Gracia & Herrero, 2006a; Gracia, García, & Lila, 2011; West & Wandrei, 2002). For example, the World Health Organization in its "World report on violence and health" (2002) considers that among the larger societal factors that influence rates of violence are those that create an acceptable climate for violence and reduce inhibitions against violence. Public attitudes that legitimize PVAW not only contribute to its incidence in society but also reduce the potential for the informal social control of PVAW (Gelles, 1983; Williams, 1992). As Flood and Pease (2009) noted, attitudes are not only a key element in the perpetration of violence but also have a significant influence in victims' responses to their victimization (e.g., attributions of blame, reporting to authorities, psychological consequences), as well as in community and institutional responses. For many scholars, PVAW is a social problem and a public health issue that will not be solved without fundamental changes in the social attitudes that foster and perpetuate its presence in our societies (Biden, 1993; Goodman, Koss, Fitzgerald, Russo & Keita, 1993; WHO, 2002). In this respect, the study of public attitudes toward partner violence against women has slowly draw greater attention

by scholars, as its importance to better understand this social problem and to better target prevention, and public education efforts is increasingly recognized (e.g., Flood & Pease, 2009; Gracia & Herrero, 2006b; Uthman, Moradi, & Lawoko, 2009; West & Wandrei, 2002; Worden & Carlson, 2005).

A main reason for the study of public attitudes toward PVAW is that despite being a largely unreported crime, PVAW is, at the same time, widely known by the social environment surrounding the victims (Gracia, 2004; Taylor & Sorenson, 2005). Research on public attitudes typically addresses issues such as tolerance, acceptability, attributions of responsibility (e.g., victim-blaming), or beliefs about whether or how to intervene (Gracia & Herrero, 2006a; Worden & Carlson, 2005), with a particular emphasis on how these attitudes contribute to foster or deter PVAW. Attitudes condoning PVAW (e.g., tolerance, acceptability, victim-blaming, partner violence as a private matter) in the social environment (e.g., family, neighbors, friends, coworkers, or acquaintances), but also among professionals (e.g., law enforcement or health services personnel), can foster PVAW by reinforcing the behavior of perpetrators and inhibiting victims from disclosing the violence or leaving the relationship (Fagan, 1989; Klein, Campbell, Soler, & Ghez, 1997; Lackey & Williams, 1995). Understanding these attitudes remain a major challenge for public policy and education, as research show that public attitudes condoning PVAW are still widespread (e.g., Gracia & Herrero, 2006b; Klein et al., 1997; Uthman et al., 2009; Worden & Carlson, 2005). For example, in a survey on public perceptions of domestic violence against women in the 27 European Union Member States (European Commission, 2010), 52 % of respondents reported that the provocative behavior of women was a cause of domestic violence, with percentages between countries ranging from 33 % to 74 % and with countries with one of the highest gender equality in the world like Sweden (59 %) or Finland (74 %) showing one of the highest percentages. These percentages show that victim-blaming attitudes are still widespread, contributing to create

a social climate that condones PVAW, as a substantial number of citizens place the responsibility for the violence on the victims rather than on the perpetrators (Gracia & Herrero, 2006b; West & Wandrei, 2002; Worden & Carlson, 2005). From this viewpoint, a better understanding of public attitudes toward PVAW and its correlates may add relevant knowledge to the social conditions that contribute to partner violence against women, as well as the social sources of deterrence and control of domestic violence.

Knowledge about correlates and determinants of public attitudes toward PVAW is key to better target public policy, education, and prevention. Research has identified a number of correlates of public attitudes toward PVAW working at different level of analysis, including cultural/societal, community, organizational, group, situational, and individual levels (Flood & Pease, 2009; Heise, 1998; Uthman et al., 2009). For example, at the societal and cultural level, differences across nations and cultural and ethnic groups in public attitudes toward PVAW have been observed (Flood & Pease, 2009; Nayak, Byrne, Martin, & Abraham, 2003; Vandello & Cohen, 2003), which suggests that, despite a wide variability within nations and cultural groups, cultural norms and values (e.g., gender role beliefs, patriarchal culture, cultures of honor, gender equality) at the larger sociocultural context are important in determining public attitudes toward PVAW. Disadvantaged communities can also provide a context that can foster and legitimize PVAW, and research has linked economically disadvantaged communities to risk of PVAW (e.g., Benson, Fox, DeMaris, & Van Wyk, 2003; Browning, 2002; Cunradi, Caetano, Clark, & Schafer, 2000). In disorganized and disadvantaged communities, a subcultural value system providing a basis of tolerance for PVAW can emerge, establishing nonintervention norms and creating barriers for women who try to escape from PVAW (Block & Skogan, 2001; Browning, 2002). Informal peer groups and social networks can also provide support for men's violence against their partners, and associations between peer cultures (e.g., culture of hypermasculinity, gender inequality, patriarchal ideologies) in

organizations and groups, such as the military, male sports teams, college fraternities, and religious institutions, and violence-condoning attitudes have also been found (see Flood & Pease, 2009, for a review). Finally, variables at the individual level that have been associated with attitudes toward PVAW are personal exposure (Warden & Carlson, 2005), gender stereotypes and prejudices (e.g., sexism), perceived severity and personal responsibility or perceptions of the pervasiveness of PVAW in society, and the belief that the problem constitutes a threat for the community (Gracia & Herrero, 2006a; Klein et al., 1997). Finally, regarding socioeconomic variables at the individual level, research has linked gender, age, education, occupation, social status, marital status, and place of residence to a range of attitudes toward PVAW (e.g., Uthman et al., 2009; West & Wandrei, 2002; Worden & Carlson, 2005).

Despite their importance in changing social norms regarding PVAW, society's response to this social problem needs to go beyond legislative initiatives (Klein et al., 1997; Salazar, Baker, Price, & Carlin, 2003). PVAW thrives on secrecy, indifference, and tolerance. Challenging and changing public attitudes condoning PVAW are also a key element for its deterrence and informal social control. A social environment with non-tolerant attitudes toward PVAW can play an important role in challenging perpetrators, creating a supportive climate for victims to disclose and escape the violence and preventing further PVAW (Fagan, 1989; Gelles, 1983; Klein et al., 1997; Lackey & Williams, 1995). Research suggests that peers and community members can increase social costs for perpetrators and contribute to change public perceptions, attitudes, and social norms regarding PVAW (Koss, 2000; Williams, 1992). Research-based community interventions and public education initiatives are among the main tools to challenge and change public attitudes condoning PVAW, and some findings point to the potential of these strategies to promote desirable changes in public attitudes (Campbell & Manganello, 2006; Klein et al., 1997; Whitaker et al., 2006). Research monitoring societal changes in public attitudes toward

PVAW and assessing outcomes of different intervention and public education strategies is still scarce. Improvements in evaluation designs, definition of outcome variables, selection of specific target risk groups, and significant theoretical developments are among the future challenges for well-designed and better-targeted intervention strategies aiming to change public attitudes, thus contributing to the prevention of this serious and pervasive social problem.

## Cross-References

- ▶ [Attitudes Toward Women](#)
- ▶ [Cultural Values](#)
- ▶ [Partner Violence](#)
- ▶ [Peer Influence\(s\)](#)
- ▶ [Social Change](#)
- ▶ [Social Trends](#)
- ▶ [Violence](#)

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## Public Attitudes Toward the State in Asia-Pacific Region

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### Synonyms

[Demands on the government index](#); [Digital connectivity index](#); [Personal contact index](#); [Satisfaction with government index](#); [Support for globalization forces index](#)

## Definition

A comparison of the attitudes of the public in six Asia-Pacific countries – ► [Australia](#), China, ► [India](#), ► [Japan](#), Russia, and the United States – toward their state is made by focusing on the extent to which the public are satisfied with their government's performance and what they demand of their government. The data were drawn from the 2008 AsiaBarometer Survey.

## Description

The six countries differ to varying degrees in their ethnic, historical, cultural, socioeconomic, and political situations and are linked to the global community in different capacities. China, India, and Russia are the heavyweights of the developing world. Yet, they all place relatively low on the ► [Human Development Index](#), the Democracy Index, the Economic Freedom Index, the World Press Freedom Index, and the KOF Index of Globalization. Japan and the United States rank at the top of the world's wealthiest countries, while Australia's ► [GDP](#) per capita and its ranking on the above five indexes are among the highest in the world ([Table 1](#)).

## Satisfaction with Government Performance

Empirical studies have demonstrated that ► [political trust](#) is critical to the legitimacy and effectiveness of both democratic and authoritarian governments and that institutional factors, particularly the economic and political performance of the government in the eyes of the people, are powerful determinants of political trust (Wong, Wan, & Hsiao, 2011).

Public administration covers different domains, and the respondents were asked to evaluate the government's performance in dealing with (1) the economy, (2) ► [unemployment](#), (3) political ► [corruption](#), (4) ► [crime](#), (5) ► [human rights](#), (6) public services, (7) the increase in immigration, (8) ethnic conflicts, (9) religious conflicts, and (10) environmental problems. A positive response received one point. The "satisfaction with government index," with scores ranging from 0 to 10, is a simple ► [composite index](#) of the above ten items (► [Cronbach's alpha](#) = 0.83). The higher the score is, the higher is the level of satisfaction with the government's performance.

The six countries differ notably in several ways. First, their order of ranking with regard to their score in the index is China (5.90),

**Public Attitudes Toward the State in Asia-Pacific Region, Table 1** Social circumstances, 2008

	Australia	Japan	USA	Russia	China	India
Population (million) <sup>a</sup>	21.3	127.7	304.4	142.0	1,327.7	1,190.5
GDP (billion US\$) <sup>a</sup>	1,010.7	4,923.8	14,264.6	1,676.6	4,401.6	1,209.7
GDP per capita (US\$) <sup>a</sup>	47,400.4	38,559.1	46,859.1	11,806.9	3,315.3	1,016.2
Religious culture <sup>b</sup>	Protestant	Japanese	Protestant	Orthodox	Confucian	Hindu
Ranking of Human Development Index <sup>1, c</sup>	2	10	13	71	92	134
Ranking of Democracy Index <sup>d</sup>	10	17	18	107	136	35
Ranking of Economic Freedom Index <sup>e</sup>	8	24	6	84	82	87
Ranking of World Press Freedom Index <sup>f</sup>	28	29	36	141	167	118
Ranking of KOF Index of Globalization <sup>g</sup>	21	51	22	33	43	81

1 = 2007 data

Sources: <sup>a</sup>International Monetary Fund (2009)

<sup>b</sup>Norris and Inglehart (2004: 140–141)

<sup>c</sup>United Nations (2009: 171–175)

<sup>d</sup>The Economist (2008)

<sup>e</sup>Gwartney, Hall, and Lawson (2010: 7)

<sup>f</sup>Reporters Without Borders (2008)

<sup>g</sup>KOF Swiss Economic Institute (2012)

**Public Attitudes Toward the State in Asia-Pacific Region, Table 2** Satisfaction with government performance (% giving a positive response)

	Highly globalized		Moderately globalized			
	Australia	USA	Japan	Russia	China	India
The economy	62.4 (3)	15.9 (10)	23.0 (5)	48.2 (1)	73.9 (1)	61.6 (1)
Unemployment	64.6 (2)	29.2 (7)	14.6 (9)	33.7 (3)	40.1 (9)	33.0 (9)
Political corruption	49.3 (6)	22.4 (9)	9.3 (10)	18.1 (9)	34.7 (10)	35.2 (8)
Crime	48.6 (7)	48.9 (3)	39.8 (2)	24.9 (6)	53.4 (8)	30.6 (10)
Human rights	65.4 (1)	47.3 (4)	36.3 (3)	32.8 (4)	68.6 (2)	53.1 (2)
Public services	53.2 (4)	53.3 (1)	29.9 (4)	17.0 (10)	68.0 (5)	51.8 (3)
Increase in immigration	47.5 (8)	22.8 (8)	20.3 (6)	22.7 (8)	54.3 (7)	39.9 (7)
Ethnic conflicts	46.8 (9)	36.8 (5)	18.0 (7)	31.4 (5)	68.5 (3)	41.5 (6)
Religious conflicts	50.7 (5)	50.2 (2)	17.5 (8)	35.5 (2)	68.3 (4)	48.2 (4)
Environmental problems	45.4 (10)	30.6 (6)	45.5 (1)	24.1 (7)	60.5 (6)	48.2 (4)
Satisfaction with government index (mean)	5.34	3.57	2.54	2.88	5.90	4.43
Ranking of the index	2	4	6	5	1	3

The figures inside the parentheses denote intra-country rankings in descending order (Source: 2008 AsiaBarometer Survey)

Australia (5.34), India (4.43), the United States (3.57), Russia (2.88), and Japan (2.54) (Table 2).

Second, variations among the four moderately globalized countries are wider than the variations between highly and moderately globalized countries. At one extreme, over half of the respondents in China (ranging from 53.4 % to 73.9 %) gave positive evaluations of the government's performance in nearly all of the examined domains, with the exception of unemployment (40.1 %) and political corruption (34.7 %). At the other extreme, in none of these domains did the government's performance receive a positive evaluation from over half of the respondents in Japan, with positive evaluations ranging from 9.3 % (political corruption) to 45.5 % (environmental problems).

Third, there are huge disparities in the intra-country rankings of the ten domains. China and India have relatively similar rankings, with the exception of the ethnic conflicts rating, which is ranked third in China and sixth in India. Among the six countries, there is greater diversity in the public's ratings of their government's performance in dealing with the economy, the problems of unemployment, crime, public services, and the environment. For example, the government's performance in dealing with the economy leads

the ratings in Russia, China, and India, but ranks at the bottom in the United States.

Fourth, although China and India are generally regarded as the winners in economic globalization, a prevailing sense of economic insecurity has accompanied economic progress in these countries. The evidence for this is the gap between the rating of the government's performance in dealing with the economy and that with the problem of unemployment. This gap is narrower in Australia, the United States, Japan, and Russia.

Apart from the above intercountry differences, it is noteworthy that the public's rating of their government's performance in dealing with political corruption ranks at the bottom in Japan and China and almost at the bottom in the United States, Russia, and India. This is the only domain in which none of the governments of the six countries received a positive evaluation from over half of the respondents, with positive evaluations ranging from 9.3 % (Japan) to 49.3 % (Australia). Perceived corruption in politics is found to be one of the most important factors contributing to the decline in levels of trust in the governments of both developed and developing countries (Blind, 2006).

**Public Attitudes Toward the State in Asia-Pacific Region, Table 3** Demands for more government spending (% giving a positive response)

	Highly globalized		Moderately globalized			
	Australia	USA	Japan	Russia	China	India
Policing and law enforcement	68.1 (6)	44.6 (5)	23.6 (7)	49.5 (10)	71.0 (6)	53.7 (5)
The military and defense	35.1 (9)	31.5 (8)	8.7 (10)	69.2 (6)	67.7 (7)	62.5 (3)
Unemployment benefits	36.3 (8)	38.1 (7)	39.2 (5)	70.7 (5)	73.6 (5)	46.3 (8)
Old-age pensions	80.8 (3)	55.4 (3)	57.6 (3)	92.4 (1)	78.5 (2)	46.7 (7)
Health	91.2 (1)	75.1 (1)	75.7 (1)	90.7 (2)	80.2 (1)	67.1 (2)
Education	82.8 (2)	65.7 (2)	55.6 (4)	82.9 (3)	74.9 (4)	69.7 (1)
Public transport and telecommunications infrastructure	74.7 (4)	40.2 (6)	18.7 (8)	54.3 (9)	57.9 (8)	42.6 (9)
Culture and the arts	26.6 (10)	22.8 (10)	17.5 (9)	60.7 (8)	45.0 (10)	42.5 (10)
Improvement of the social status of women	44.5 (7)	28.6 (9)	31.9 (6)	62.0 (7)	56.1 (9)	53.2 (6)
The environment	70.4 (5)	53.5 (4)	62.1 (2)	76.2 (4)	77.7 (3)	62.0 (4)
Demands on the government index (mean)	6.11	4.56	3.91	7.09	6.83	5.46
Ranking of the index	3	5	6	1	2	4

The figures inside the parentheses denote intra-country rankings in descending order (Source: 2008 AsiaBarometer Survey)

## Demands on the Government

In the present era of globalization, people are drawn into intensifying interdependent-competitive-conflictual relations across geo-national boundaries. Prosperity, equality, and full employment can no longer be counted upon to occur in a socially harmonious manner. Thus, the demands that citizens make of their government are changing and growing. Apart from providing services and protection, the state has to be a strategic planner and to behave as a “competent state.” It has to be able to create wealth by offering an open and attractive environment for domestic and global capital, achieve proficiency in governance, ensure that market mechanisms and globalization result in win-win outcomes for all, and so forth.

Public demands on government were gauged by asking the respondents whether they would like to see more or less government spending in each of the following ten areas: (1) policing and law enforcement, (2) the military and defense, (3) unemployment benefits, (4) old-age pensions, (5) ► [health](#), (6) ► [education](#), (7) public transport and telecommunications infrastructure, (8) culture and the arts, (9) improvement of the social status of women, and (10) the environment. They

were reminded that more spending may require a tax increase. A positive response received one point. The “demands on the government index,” with scores ranging from 0 to 10, is a simple composite index of the above ten items (Cronbach’s alpha = 0.77). The higher the score is, the higher is the level of demand for more government spending.

It is clear that the people of all six countries, especially those of Russia, China, and Australia, are quite positive about expanding government spending. Out of a total of 60 question units, 38 (63.3 %) received a positive response from over half of the respondents and another 9 (15.0 %) received a positive response from over 40 % of the respondents. Russia tops the rankings in the demands on the government index (7.09), followed by China (6.83). Trailing behind are Australia (6.11), India (5.46), the United States (4.56), and Japan (3.91) (Table 3). The following results are noteworthy.

First, the Japanese are very consistent in their attitudes toward the state. They are the least likely to be satisfied with their government’s performance as well as the least likely to demand government intervention.

Second, Australia is rather exceptional within the group of highly globalized and developed

countries in terms of its public's demand for government provisions and intervention. As a result, the variations among the four moderately globalized countries are again wider than those between the highly and moderately globalized countries.

Third, intercountry variations in the intra-country ranking of the ten domains are smaller than those of satisfaction with the government's performance. The demand for more government spending in the area of health, coming from 67.1 % to 91.2 % of the respondents, ranks at the top in four countries (Australia, the United States, Japan, and China) and second in Russia and India. The demand for government intervention in the areas of education and old-age pensions is also quite consistent, the exception being for old-age pensions in India. In contrast, the people of all six countries tend to accord the lowest priority to the area of culture and art – with this category ranking at the bottom in Australia, the United States, China, and India; eighth in Russia; and ninth in Japan.

Fourth, despite widespread dissatisfaction with the government's performance in dealing with the problem of unemployment, people, particularly those in the developed countries as well as India, do not expect their government to spend more on unemployment benefits. The intra-country ranking for unemployment benefits ranges from fifth (Japan, Russia, and China) to eighth (Australia and India).

Fifth, India is a unique case with respect to the relative ranking of the military and defense. While this area ranks sixth (Russia) to tenth (Japan) in the other five countries, it comes only after education and health and occupies the third position in India.

Finally, notwithstanding the growing importance of developing public transport and telecommunications infrastructure to socioeconomic progress and globalization, people in the moderately globalized countries all accorded this category a lower priority – it ranks either eighth or ninth in the moderately globalized countries, as compared with fourth in Australia and sixth in the United States.

## Determinants

Since the 1990s, there has been increasing discussion about the consequences of globalization for the state. Yet no consensus has been reached on the specific impact of globalization on the public's appraisal of their government and the demands that they make on it. The prevailing views on this subject can be categorized into three contending perspectives. The first asserts that globalization has had no significant effect on the state; its direct influence on public attitudes toward the state is thus either limited or exaggerated (Castles, 2004). The second (e.g., proponents of the "efficient" hypothesis and the "race to the bottom" perspective) emphasizes the imperatives of cross-national market competition and economic efficiency. Global competition not only reduces the willingness and ability of governments to provide economically uncompetitive goods and services to their citizens but also renders governments more accountable to external actors than to their own citizens. Globalization would thus lead to the stagnation or retrenchment of social policies and an adverse perception of policy efficacy, which inevitably fosters public dissatisfaction with governments (Hellwig, 2007). The third (e.g., proponents of the "compensation" hypothesis and the "embedded liberalism" thesis) suggests that while globalization increases volatility, uncertainty, material inequality, and economic insecurity, these developments create political incentives for governments to appease citizens, to compensate the losers from globalization, and to avert a protectionist backlash by expanding social policies, especially in representative democracies (Hays, Ehrlich, & Peinhardt, 2005).

In view of this ongoing debate, the impact of globalization was selected as the major variable in explaining the public's appraisal of the state and their demands on it. Two sets of fixed-effects and country-level regressions were conducted to explore how personal sociodemographic attributes (including gender, age, marital status, educational attainment, and household income) and globalization-related variables (including capacity, experiences, and preference), after

controlling for state-related attitudinal orientations (including national identity and trust in government), affect an individual's satisfaction with the government's performance and demands on the government. Specifically, there are four globalization-related variables: (1) "English language capacity," a tool to globalize, was measured by fluency in spoken English. The score ranged from 0 (cannot speak) to 3 (speak fluently). (2) "Digital connectivity index," ranging from 0 to 6, is a simple composite index of three items, i.e., the frequencies of using Internet browsing, email, and mobile phone messaging (Cronbach's  $\alpha = 0.79$ ). The higher the score is, the stronger is the digital connectivity of the respondent. (3) "Personal contact index," ranging from 0 to 6, is a simple composite index of six items measuring personal contacts with overseas people and foreign cultures, e.g., family members or relatives living abroad, experience with international travel, and so on (Cronbach's  $\alpha = 0.70$ ). The higher the score is, the stronger is the respondent's international ties. (4) "Support for globalization forces index," ranging from 0 to 6, is a simple composite index of six items measuring public attitudes toward supranational agencies, i.e., the influence of the EU on one's society, and the trust in the WTO, UN, World Bank, IMF, and multinational companies to operate in the best interests of one's society (Cronbach's  $\alpha = 0.79$ ). The higher the index score is, the greater is the support for the forces of globalization. "National identity" was measured by a single item with dichotomized responses. A simple composite index of "trust in government" was measured by two items with dichotomized responses (Cronbach's  $\alpha = 0.70$ ): trust in the central government and the local government to operate in the best interests of one's society.

On satisfaction with the government's performance, the results of the pooled analysis confirmed that Australians and Chinese report a higher level of satisfaction with the government's performance than Indians, while Americans, Russians, and Japanese are significantly less satisfied. When country-specific variations are allowed, those who are male,

younger, have a lower English language capacity, and who are more supportive of the forces of globalization are more likely to report a higher level of satisfaction with the government's performance than their counterparts. In the country-level regressions, these independent variables can explain 14.1 % (China) to 22.2 % (the United States) of the variance in the satisfaction with government index.

When individual societies are examined, the following observations are notable. First, support for the forces of globalization turns out to be the most influential variable in predicting satisfaction with the government's performance in all of the six countries. Second, the influences of personal sociodemographic attributes are weak and vary across societies – gender exerts a significant independent effect only in Australia and Japan; and age and educational attainment have a minor effect in India and Russia, respectively. Third, the three individual variables of globalization have either a sporadic or insignificant independent effect in all of the six countries – English language capacity is negatively related to satisfaction with the government's performance in the United States, digital connectivity has a weak positive effect in India, and personal contact has a minor negative impact in China and India (Table 4).

On demands on the government, the results of the pooled analysis also confirmed that Russians and Chinese demand significantly more of their government than do Indians, while Australians have a similar level of demands, and Americans and Japanese a lower level. Those who are female, have a lower household income, a higher English language capacity, and are more supportive of the forces of globalization tend to report a higher level of demand for government spending than other groups.

The results of the country-level analysis reveal that, with the exception of India, these independent variables are definitely insufficient to predict the public's demand for government spending (the adjusted  $R^2$  values range from 0.012 in Russia to 0.200 in India). None of the variables studied exerts a significant independent effect in all of the six countries. Support for the forces of

**Public Attitudes Toward the State in Asia-Pacific Region, Table 4** Standardized regression coefficients of sociodemographic and globalization-related variables on the satisfaction with government index ( $\beta$ )

	Highly globalized		Moderately globalized				Pooled sample
	Australia	USA	Japan	Russia	China	India	
Sociodemographic variables							
Gender	0.138***	0.029	0.067*	0.024	-0.010	0.053	0.048***
Age	-0.037	-0.030	0.006	-0.071	0.019	-0.075*	-0.051***
Marital status	-0.016	0.064	-0.057	0.000	-0.004	0.039	0.019
Educational attainment	0.059	-0.053	0.059	0.102**	0.033	-0.037	0.009
Household income	0.005	0.003	-0.052	-0.061	0.015	-0.004	-0.005
Globalization-related variables							
English language capacity	-0.001	-0.087**	-0.010	0.002	-0.039	-0.056	-0.083**
Digital connectivity index	0.047	0.052	-0.010	-0.017	-0.019	0.075*	0.021
Personal contact index	0.013	-0.008	0.003	0.046	-0.096**	-0.076*	-0.003
Support for globalization forces index	0.198***	0.290***	0.279***	0.242***	0.207***	0.105***	0.205***
Australia							0.150***
USA							-0.038*
Japan							-0.141***
Russia							-0.132***
China							0.119***
Adjusted R <sup>2</sup>	0.207	0.222	0.194	0.215	0.141	0.177	0.286
F	17.405***	20.711***	16.317***	21.436***	14.589***	21.131***	124.951***

Coefficients for control variables, including national identity, trust in government, and demands on the government index, are not shown (Source: 2008 AsiaBarometer Survey)

\*  $p < 0.05$

\*\*  $p < 0.01$

\*\*\*  $p < 0.001$

globalization is the only variable that has a significant positive influence on demands on the government in five countries. In this respect, Russia is the exception. There seems to be no consistent pattern regarding the influence of other variables. For example, in the United States, Russia, and China, females are more likely to demand more from the government than males. But the effect of gender is negligible in Australia, Japan, and India. The effect of age is positive in Japan, but negative in India. Educational attainment is negatively related to demands on the government in India, but its effect is negligible in the other five countries. Personal contact with overseas people and foreign cultures has a positive, minor effect in Russia and China, but not in Australia, the United States, Japan, and India (Table 5).

In sum, although there are extensive differences among these six Asia-Pacific countries in

sociopolitical characteristics and technological development, both intra- and intercountry variations relating to the influences of globalization on public attitudes toward the state are not particularly prominent. The most consistent finding is that support for globalization turns out to be the only variable that exerts an independent influence on the two state-related attitudinal variables in almost all of the six countries under study – that is to say, those who support globalization are more inclined than others to be satisfied with the government's performance and to demand more government intervention. The only exception is the effect of support for globalization on the demands placed on the government in Russia.

In the final analysis, the central concern is whether or not the degree of globalization at the level of the individual has actually affected the attitudes of individuals toward the state.

**Public Attitudes Toward the State in Asia-Pacific Region, Table 5** Standardized regression coefficients of sociodemographic and globalization-related variables on the demands on the government index ( $\beta$ )

	Highly globalized		Moderately globalized				Pooled sample
	Australia	USA	Japan	Russia	China	India	
<b>Sociodemographic variables</b>							
Gender	-0.014	-0.072*	0.058	-0.072*	-0.067*	-0.001	-0.029*
Age	0.066	0.034	0.095*	0.047	0.036	-0.071*	0.027
Marital status	0.050	-0.117**	-0.078*	0.034	-0.043	0.032	-0.027
Educational attainment	-0.017	0.013	0.038	0.042	0.028	-0.124***	-0.011
Household income	-0.042	-0.086*	-0.022	-0.071	0.010	-0.084**	-0.055***
<b>Globalization-related variables</b>							
English language capacity	-0.052	-0.014	0.094*	0.032	0.092*	0.100**	0.097***
Digital connectivity index	-0.051	0.012	-0.055	0.005	-0.049	-0.002	-0.009
Personal contact index	-0.026	-0.009	0.018	0.082*	0.074*	0.044	0.022
Support for globalization forces index	0.085*	0.162***	0.162***	0.008	0.125***	0.070*	0.079***
Australia							0.034
USA							-0.157***
Japan							-0.156***
Russia							0.304***
China							0.221***
Adjusted R <sup>2</sup>	0.018	0.050	0.040	0.012	0.031	0.200	0.187
F	2.130*	4.623***	3.630***	1.876*	3.666***	24.299***	72.233***

Coefficients for control variables, including national identity, trust in government, and satisfaction with government index, are not shown (Source: 2008 AsiaBarometer Survey)

\*  $p < 0.05$

\*\*  $p < 0.01$

\*\*\*  $p < 0.001$

The empirical analysis has yielded the following findings.

First, factors related to globalization at the individual level have no uniform or directional effects on a person's satisfaction with the government's performance. In other words, in different countries, the more globalized a citizen tends to be, the more positive or negative that person could be toward the performance of his/her own government. This means that the impact of globalization can be complex and that it is not either positive or negative.

Second, concerning the relationship between an individual's experiences with globalization and demands for government expenditure, again, no conclusive finding can be made. However, it seems that the more one is inclined to support the forces of globalization, the more one demands of the government. To come to this tentative assertion is not really surprising, as

exposure to the forces of globalization can spur the public into demanding their government make better use of the public's resources. This also means that globalization does play a role in changing the expectations that citizens have of their government and the demands that they place on it.

Finally, the findings for countries in the Asia-Pacific region suggest that support for globalization is not only related to satisfaction with the government's performance but also connected with a demand for more government intervention. Clearly, globalization is not antithetical to the image that the public has of the state and its attitudes toward the state. On the contrary, the more one supports globalization, the more one may first demand that the government take greater responsibility in various areas and be more responsive toward the public. Then, once the state has indeed acted on the public's

demands, the greater the support that more globalized citizens will give to their government. In one way or another, this finding sheds some light on the existing contradictory hypotheses on globalization and the public's response to the state.

## Cross-References

► [Transport](#)

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## Public Awareness of Science

► [Public Understanding of Science](#)

## Public Debt

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## Synonyms

[Public indebtedness](#); [Public sector debt](#)

## Definition

Public debt means the financial obligations of the public sector, i.e., of the governments and the public institutions at the local, state, and federal levels of a country. These moneys are borrowed from and owed to domestic and/or foreign lenders. Public debt is the accumulation of previously incurred budget deficits on the level of local, state, and national government, i.e., when government expenditures exceed government revenues. Public debt has to be distinguished from corporate debt (debt of companies) and debt of individuals and households (► [debt](#), ratio of personal household debt to GDP).

## Description

Public debt is composed of various forms and types of obligations (► [debt](#)). These may be distinguished by the maturity composition of the debt (short-term and long-term liabilities), the creditor

type (official creditors, private creditors, multilateral financial institutions), the currency composition of the debt (domestic and foreign debt), the type of debt instrument used (loans, bonds, and securities), or the purpose/function for which the debt has been incurred (e.g., trade-related credits, development assistance, stabilization and structural adjustment loans, infrastructure loans, or industry financing). Public debt often includes not only obligations of the public sector but also private sector debt that has been publicly guaranteed, particularly in the economically less advanced ► [developing countries](#). The most important instruments of public debt include federal or municipal bonds, bank credits, private and official export credits, long-term development loans granted by other governments (like development assistance agencies) or international organizations (like the World Bank), and short- and medium-term stabilization loans (like the credits granted by the International Monetary Fund – IMF). The relevance of these different financial instruments varies considerably over time, across and within countries. Thus, the United States public debt consists largely of domestic bonds, i.e., long-term debt denominated in US dollars, mostly held by private creditors (like the Treasury bonds issued by the federal government; Engen & Hubbard, 2004).

The distinction between domestic and foreign (or external) public debt is of particular importance. Domestic public debt is denominated in domestic currency and owed to the country's residents. External or foreign public debt, on the contrary, is usually denominated in foreign currency and held by foreign investors (nonresidents). Foreign public debt thus implies that debt service payment has to be transferred to another country and that the local currency has to be converted into foreign exchange, i.e., that the debtor country has to increase exports and/or reduce imports, in addition to the increase in public revenues. The implications of this “transfer risk” or “transfer problem” were discussed, among others, within the context of the German reparation payments from World War 1 (the debate between Keynes and Ohlin in the 1920s), the so-called gap theories of the 1960s (Chenery

& Strout, 1966), as well as the foreign sovereign debt and financial crises of the 1980s (Latin America), 1990s (Asia), and 2000s (Krugman, 1999).

Several indicators and debt ratios have been developed to assess the sustainability/risks of debt and the creditworthiness of sovereign borrowers. These measures include the ratio of public debt to GDP (ratio of federal debt to GDP, ratio of total country debt to GDP) or to tax revenues, an indicator of solvency of the public sector. A second key indicator is the (public) debt service ratio, calculated by dividing interest and/or principal payments due on public debt during a year by the country's export earnings for that year, a measure for the transfer risk. This measure is particularly relevant for assessing the debt burden of *external* public debt, since debt service on foreign debt has to be paid in foreign currency, i.e., by the country's income from exports. Finally, several liquidity indicators are used, relating a debtor country's international reserves to its short-term debts and/or scheduled debt service obligations for the coming year and indicating the country's vulnerability to adverse developments in international capital markets and/or the domestic and global economy.

Public debt has become a key issue and a source of serious concern as a result of repeated sovereign debt crises since the early 1980s, particular the Latin American debt crisis of 1982–1983, the Asian financial crisis of the 1990s, and the current European and US public debt crises (ratio of federal debt to GDP). There is a growing body of literature dealing with public debt and sovereign debt crisis, the causal mechanisms of public debt booms and sovereign debt crisis, as well as the economic, social, and political consequences and implications of public debt burden (Suter, 2012). Two strands of this literature are of particular interest: On the one hand, comprehensive, historical studies (Kindleberger, 1978; Marichal, 1989; Roodman, 2001; Sturzenegger & Zettelmeyer, 2006; Suter, 1992; Reinhart & Rogoff, 2009) demonstrate that public debt booms and sovereign debt crises have repeatedly occurred and that a global sovereign debt restructuring regime dealing with the

settlement of public debt problems has gradually evolved over the past 200 years (globalization, ► [governance](#)). On the other hand, several comparative quantitative studies (► [comparative analysis](#)) explored the consequences of external public debt and IMF conditionality for the population's quality of life (basic needs' satisfaction, physical quality of life, life expectancy, infant mortality, school enrollment) in the crisis-affected countries. The results, however, are mixed. Thus, while Bradshaw and Huang (1991) and Bradshaw and Wahl (1991) report nonsignificant relationships between foreign debt and physical quality of life, Bradshaw, Noonan, Gash, and Buchmann (1993), Buchmann (1996), and Schafer (1999) found generally negative effects on educational enrollment and the survival of children, particularly concerning IMF conditionality.

Thus, while research has substantially improved our understanding of the macro dynamics and consequences of public debt, microlevel processes are not yet fully understood and require a more systematic examination. Long-term consequences and implications of public debt and sovereign debt crises at the individual and household level would particularly merit further research.

## Cross-References

- [Comparative Analysis](#)
- [Debt](#)
- [Developing Countries](#)
- [Federal Debt to GDP, Ratio of](#)
- [Governance](#)
- [Personal Household Debt to GDP, Ratio of](#)
- [Public Expenditure](#)

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## Public Expenditure

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## Definition

The expenditure incurred by an entity to provide for goods and services collectively consumed by the society.

## Description

These public goods and services are provided for each person to enjoy or not according to his or her taste (Samuelson, 1955). Purely public goods are wholly non-rival and nonexcludable in consumption (Pickhardt, 2001). Public expenditures are usually incurred by the central government, local government, and government agencies and in some cases by private firms under the umbrella of corporate social responsibility.

## Why Public Expenditure?

The rationale for the public sector spending lies in the quest to respond to market failure and the concern on equity (Foster & Fozzard, 2000). In a market economy, consumption is competitive (rival) and the market provides for those who express their preferences (excludable), and investors are for wealth maximization. However, not all citizens can express their preferences and be able to compete, and that not all goods and services can be priced to attract private participation. As such, governments (central, local, and its agencies) intervene to correct market imperfection by providing public goods and services through public expenditure. According to Foster and Fozzard (2000), government interventions include the following: (i) provisioning of pure public goods (law and order, defense, macroeconomic management, and public health) and protecting the poor through initiating and funding relief programs and (ii) addressing externalities (basic education and environmental protection), regulating monopoly, overcoming imperfect information, and providing social insurance.

Other objectives of public expenditure may include (i) acceleration of economic growth, (ii) adjustment of economic imbalance, and (iii) promotion of employment opportunities.

## Types of Public Expenditure

Public expenditure can be divided into capital expenditure and current expenditure (Scotland, 2012). Capital expenditure (sometimes referred to as development expenditure) involves expenditure on development of public sector infrastructures (schools, hospitals, roads, and

bridges) and the acquisition of plants and machinery. Current expenditure (sometimes referred to as recurrent/supply expenditure) includes expenditure on public sector remunerations, office supplies, social security, and other payments necessary for the day-to-day operations of the government.

## Characteristics of Public Expenditure

Public expenditures are incurred to provide public goods and services. A public good is a good which is both non-rival and nonexclusive (Ahlersten, 2008). Non-rival because two or more persons can consume the same unit of a good without affecting each other's utility. Streetlights, parks, national defense, and public roads are good examples of public goods incurred through public expenditure. Nonexclusive because, first, there is no need for one to indicate his prior preference for the good for the government to provide it, and, secondly, it is not possible to exclude a person from consuming the good. In contrast, private goods are both rival and exclusive. The two characteristics of non-rivalry and nonexcludability make private markets fail to supply goods and services typically funded through public expenditure.

## Cross-References

► [Public Good\(s\)](#)

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## Public Good

### ► Public Interest

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## Public Good(s)

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### Definition

Public goods are key in maintaining quality of life. Consumption of common or private goods implies externalities that limit the quality of life. Government intervention through the provision of public goods includes (a) the definition of a legal framework for defining proprietary rights and the delimitation of common and private goods, (b) legislation and regulation that articulate social norms and behavior, and (c) the provision of public services and taxation.

### Description

Economists assume that individuals' well-being depends on the consumption of goods. Increased consumption implies higher utility, and for normal goods and some basic assumptions on the utility function like monotonicity, quasi-concavity, continuity, and globally non-satiation, this utility is marginally decreasing in the consumption of this good. The individual's choice of consumption is also supposed to be sovereign, i.e., consumption is independent from external factors.

However, quality of life implies that consumption of individuals does not just depend on the consumption of goods but on the wider context of experience of these goods. On the one hand, consumption of private goods imposes externalities on other consumers (Wingo, 1977). This effect is not just a pecuniary externality as private

consumption modifies prices on the market for the good but includes all social aspects of private consumption. Consumption of private goods is a social act and therefore determines the quality of life of other individuals. Activities that do not incorporate all societal costs are produced in too large quantities, whereas economic activity that supposes a benefit to society at large is not provided in sufficient quantities. On the other hand, quality of life depends to a large extent on the consumption of common goods. Common goods that are non-rival and non-excludable such as air quality, landscapes, and cultural heritage importantly determine the quality of life but become increasingly rival due to congestion. As the consumption of these common goods is implicitly included in the evaluation of other private goods, they become rival. The consequence is excess consumption of the common good.

Externalities of this kind may limit quality-of-life. Market mechanisms to compensate for these externalities may exist when all interested parties involved have complete information, own proprietary rights on the goods, and transaction costs are low. These mechanisms can take the form of monetary compensation not only between different agents but also through the development of social norms. However, markets or norms cannot solve all types of externalities as there is not always a way to contract compensation due to a lack of property rights, the lack of representation of all interested parties, or the negotiation would be prohibitively costly. This calls for government intervention to provide public goods (Atkinson & Stiglitz, 1980). Hence, provision of public goods is important in determining or maintaining the quality of life.

Provision of public goods to modify the quality of life involves government interference in many areas. These do not only comprise the provision of public goods in *sensu stricto* (public services or taxation) but include institutional practices and all aspects of social norms and attitudes. Public goods can come under three different functions. First, the government defines the framework in which individuals can exert their rights to consume goods. The definition of property rights distinguishes common from

public and private goods. This distinction is not fixed but can evolve over time, as new demands on common or public goods may require a reclassification or private goods into these categories. Second, government sets legislation or regulation to bound the use of private goods and formalizes social behavior. Third, government can intervene by setting taxation to correct externalities (Pigouvian taxation). Government may also need to raise taxes to pay for the provision of specific public services for which no market exists or private provision would be prohibitively costly.

Societies develop different ways of government intervention to regulate quality of life. Some societies prefer government regulation and taxation over litigation over property rights to resolve the same externality (Laffont & Tirole, 1993).

Government intervention does not solve all externalities. Often, public goods are themselves an externality and hence suppose a social cost (Pearce, 1977). This social cost has to be weighed against the cost that the externalities cause in the first place. Such a cost-benefit analysis may be impossible to quantify since both the evaluation of externalities and the cost of public goods are fraught with difficulties.

## Cross-References

- ▶ [Consumption](#)
- ▶ [Consumption Externalities](#)
- ▶ [Marginal Utility](#)
- ▶ [Policy Evaluation](#)
- ▶ [Public Expenditure](#)
- ▶ [Social Interaction](#)
- ▶ [Taxes](#)

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## Public Health

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## Definition

Public health is the science and art of preventing disease, prolonging life, and promoting health through the organized efforts of society (Acheson, 1988). This definition underscores what society does to assure the conditions for people to be healthy, not just physically and biologically but also mentally (Flemming, 2009).

## Description

### Goals of Public Health

The traditional goal of public health is the promotion of population health. More recently, two goals were added, namely, to address health inequalities (*to empower various weak or disadvantaged groups*) and autonomy (*to respect individuals' choices even when they chose not to make use of health opportunities offered*)

(Munthe, 2008). A frequently asked question regarding public health is “how can it be distinguished from medicine.” Public health focuses on the health of populations, while medicine deals with the health of individuals. Public health has a broad scope of interests but primarily deals with preventing disease, while medicine is concerned with curing disease in people who already suffer from illnesses. Anticipating and preventing future problems, identifying current problems, implementing different strategies, and, finally, evaluating their effectiveness are all the scopes of public health (Detels, 2009).

### Functions of Public Health

Public health performs a wide range of functions. The primary functions are to prevent disease and injuries and to promote healthy lifestyles and good health habits. Ten essential public health services have been described by National Public Health Standards Program of the USA (Centers for Disease Control and Prevent, The Core Public Health Functions Steering Committee, 1994):

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal- and population-based health services.
10. Research for new insights and innovative solutions to health problems.

*Source:* The Core Public Health Functions Steering Committee, Centers for Disease Control and Prevention. *10 Essential Public Health Services*. [Online] 1994. Available from <http://www.cdc.gov/nphpsp/essentialServices.html>

### Contemporary Health Issues and Challenges of Public Health

Operating within a context of ongoing changes, public health systems are facing a number of pressures, which include shifts in demographic and epidemiological trends in diseases; shifts in the prevalence of risk and protective factors; new technologies for health care, communication, and information; existing and emerging environmental hazards; and health reform (World Health Organization, 2003).

Underlying almost all the public health problems worldwide is the issue of poverty. Poor socioeconomic status affects health throughout life. Unfortunately, the disparity between the rich and the poor is increasing not only within countries but also between rich and poor countries. A significant transition of major disease burden has emerged from infectious and communicable diseases to chronic diseases in the twentieth century. Infectious diseases remain the major cause of death for the world's poorest people. In 2008, for most of the middle- and high-income countries, the leading cause of death was chronic disease (Table 1), as shown in the latest statistics from World Health Organization (WHO, 2008).

In the twenty-first century, public health is facing one of the key challenges, namely, globalization, which interacts with other important determinants of population health status (Beaglehole & Bonita, 2001). There are reemerging or newly identified infectious diseases, such as HIV/AIDS, SARS, and avian influenza; an aging population; and the emergence of unhealthy diets and physical inactivity contributing to increasing levels of overweight and obesity. A series of projects have been published to provide global projections of mortality and burden of disease for the next two

**Public Health, Table 1** Leading causes of death in 2008 by income group

	Deaths in millions	% of deaths
Low-income countries		
1. Lower respiratory infections	1.05	11.3
2. Diarrheal diseases	0.76	8.2
3. HIV/AIDS	0.72	7.8
4. Ischemic heart disease	0.57	6.1
5. Malaria	0.48	5.2
6. Stroke and other cerebrovascular disease	0.45	4.9
7. Tuberculosis	0.40	4.3
8. Prematurity and low birth weight	0.30	3.2
9. Birth asphyxia and birth trauma	0.27	2.9
10. Neonatal infections	0.24	2.6
Middle-income countries		
1. Ischemic heart disease	5.27	13.7
2. Stroke and other cerebrovascular disease	4.91	12.8
3. Chronic obstructive pulmonary disease	2.79	7.2
4. Lower respiratory infections	2.07	5.4
5. Diarrheal diseases	1.68	4.4
6. HIV/AIDS	1.03	2.7
7. Road traffic accidents	0.94	2.4
8. Tuberculosis	0.93	2.4
9. Diabetes mellitus	0.87	2.3
10. Hypertensive heart disease	0.83	2.2
High-income countries		
1. Ischemic heart disease	1.42	15.6
2. Stroke and other cerebrovascular disease	0.79	8.7
3. Trachea, bronchus, and lung cancers	0.54	5.9
4. Alzheimer and other dementias	0.37	4.1
5. Lower respiratory infections	0.35	3.8
6. Chronic obstructive pulmonary disease	0.32	3.5
7. Colon and rectum cancers	0.30	3.5
8. Diabetes mellitus	0.24	2.6
9. Hypertensive heart disease	0.21	2.3
10. Breast cancer	0.17	1.9

Source: World Health Organization. *The top 10 causes of death*. [Online] 2008. Available from <http://www.who.int/mediacentre/factsheets/fs310/en/>

**Public Health, Table 2** Changes in ranking for 15 leading causes of death, 2002 and 2030

Category	Disease or injury	2002 Rank	2030 Rank	Change in rank
Within top 15	Ischemic heart disease	1	1	0
	Cerebrovascular disease	2	2	0
	Lower respiratory infections	3	5	-2
	HIV/AIDS	4	3	+1
	COPD	5	4	+1
	Perinatal conditions	6	9	-3
	Diarrheal diseases	7	16	-9
	Tuberculosis	8	23	-15
	Trachea, bronchus, and lung cancers	9	6	+3
	Road traffic accidents	10	8	+2
Outside top 15	Diabetes mellitus	11	7	+4
	Malaria	12	22	-10
	Hypertensive heart disease	13	11	+2
	Self-inflicted injuries	14	12	+2
	Stomach cancer	15	10	+5
	Nephritis and nephrosis	17	13	+4
	Colon and rectum cancers	18	15	+3
	Liver cancers	19	14	+5

Source: Mathers and Loncar (2006)

decades (Mathers and Loncar, 2006; Murray and Lopez, 1997). Table 2 shows the changes in rank order of deaths/projected deaths between 2002 and 2030 for the 15 leading causes of death according to the WHO (Mathers and Loncar, 2006). Lower respiratory infections, perinatal conditions, diarrheal diseases, malaria, and measles are all projected to decline substantially in importance. On the other hand, diabetes mellitus, lung cancer, stomach cancer, and liver and colorectal cancers are all projected to move up three or more places in the rankings. This has profound practical and strategic implications for global public health initiatives.

## Cross-References

### ► Health

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## Public Health Measurements

### ► Epidemiologic Measurements

## Public Housing

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## Synonyms

[Affordable housing](#); [Community housing](#); [Section 8 public housing](#); [Social housing](#)

## Definition

Public housing currently represents a diverse array of public policies, financing mechanisms, and publicly managed built spaces designed to provide decent, safe, and affordable housing to low- and very low-income persons, families, those with disabilities, and the elderly.

## Description

### General Description

Public housing is a complex array of policies, financing tools, and buildings that work together to create a merit-based system to provide housing for an area's low-income residents (including those with disabilities and the elderly). Originally, many national governments initiated public housing programs to build, own, and operate safe, sanitary, and affordable homes for lower-income citizens. Today, public housing has grown to encompass a broad range of tax and investment policies, ownership and management structures, and types of housing units. Its stakeholders are national, state, and local governments as well as private firms, public-private partnerships, individuals, households, and families. Although “public housing” can be synonymous with “social housing” and refers to all programs and related housing inventory subsidized directly by government for qualified

groups, in the United States public housing often refers more narrowly to that portion of the subsidized inventory that is owned and operated by local public housing authorities.

### **Early and Present Intent**

Beginning in the late nineteenth century and carrying into the early to mid-twentieth century, public housing was created in many areas as a social safety net to provide low-income families with safe, clean, and affordable places to live (Krieger & Higgins, 2002; Rosen, 1993). The beginnings of the public housing movement occurred concurrently with other social reforms such as sanitation, crowding, ventilation, and infectious disease control (Krieger & Higgins, 2002; Rosen, 1993). Public housing was (and is) typically provided to those families that were excluded from participation in the private housing market by the disparity between the families' income and market rate housing costs ("Housing Act of 1937," 1937; Stoloff, 2004). In the United States, the purpose of the 1937 Housing Act was to alleviate present and recurring unemployment, to remedy unsafe and insanitary housing conditions, and to reduce the shortage of decent and safe housing for families of low income. Similarly, public housing was also created as a method of slum clearance and urban renewal.

Following World War II, the 1949 US Housing Act sought to promote housing growth and reinforce policies of slum clearance. Its goal was to "require housing production and related community development sufficient to remedy the serious housing shortage, the elimination of substandard and other inadequate housing through the clearance of slums and blighted areas, and the realization, as soon as is feasible, of the goal of a decent home and suitable living environment for every American family" (Koebel & Rennecker, 2003). In the late nineteenth century, Western Europe, specifically the UK, began a process of social reform using urban renewal as a tool to erase urban blight. Spain and Australia used similar premises

in both Bilbao's and Melbourne's renewal (Baniotopoulou, 2000; Shaw, 2008).

At present, the intent of public housing efforts is to use a range of products that create ways for low- and very low-income families to rent and own safe and affordable housing. An additional goal (e.g., HOPE VI) is to use this range of methods to create mixed-income communities where public housing assistance recipients live among market rate renters and homeowners rather than concentrated into groups, as was the historic pattern.

### **Quality of Life: Public Housing as a Merit Good-Income Qualification**

One of the central components to public housing programs is income qualification. Those applying to live in publicly run buildings or receive other forms of public housing assistance typically must meet or fall below some income standard. The US Department of Housing and Urban Development (HUD) describes qualifying incomes as low if the family makes 80 % or less than the area median income (AMI) and very low as making 50 % or lower of AMI (though individual public housing authorities may have slightly different qualifying metrics). With respect to housing expenditures, families that live in public housing units or receive other assistance (e.g., vouchers) may only spend 30 % of their annual gross income on housing costs such as rent. This cap on household expenditure ensures that the rental price paid remains affordable to the tenant and does not create a housing cost burden or restricts the occupancy within a range of incomes that can afford the established rental price.

Public housing is a critical component of quality of life in that housing is both a necessity good and a physiological need – the base of Maslow's hierarchy of needs (Maslow, 1943). Humans need food, clothing, water, and shelter to maintain life functions. Public housing provides safe and affordable housing options when a family cannot provide housing for itself or expends an unacceptable percentage of their income on housing costs. Public housing serves as both a merit and necessity good for many of

its users. Research should continue to focus on public housing as a merit good and its role in influencing design and policy.

### Methods of Creation and Financing

Early public housing projects tended to be financed using federal funding sources and operated by local agencies (with exceptions for charity) (Hays, 2012). Beginning in the late 1950s and lasting into the early 1970s, HUD and other agencies created and provided tax incentives, interest rate subsidies, and rent subsidies to make the creation of public housing attractive to private firms (Feins, 1994). Despite the intent of remedying a lack of safe, decent, and affordable housing for those priced out of the market, the process tools used to create public housing stock failed. The incentives tended to concentrate new units into poorly designed, appointed, and maintained high rises located on superblocks (2–3 traditional city blocks) (Stoloff, 2004). Research indicates that despite the common practice of blaming the social habits of residents, the typical shortfall between rental income and operational costs created a state of decay inside many public housing projects (Hays, 2012).

HOPE VI is a program administered by HUD and seeks to change the shape of public housing, establish positive incentives for resident self-sufficiency, deconcentrate public housing, promote mixed-income community development, and create partnerships with a broad range of public and private firms (“Hope VI,” 2011). HOPE VI is a grant-based program to local public housing authorities that funds capital costs of major rehabilitation or new construction, demolition of distressed public housing, community and resident support program, and main street revitalization including affordable housing (“Hope VI”).

### Low-Income Housing Tax Credits and Housing Vouchers

The low-income housing tax credit is a tax credit program created by section 42 of the Internal Revenue Code. The program creates tax credits (dollar-for-dollar reductions in annual tax

liability) that are allocated to various housing development agencies who then sell the credits to individuals or corporations (“Low-Income Housing Tax Credit,” 2007). The proceeds from the sale of the credits are used to acquire and develop properties to be used as publicly assisted housing developments.

The residents of these properties may pay their rent with housing vouchers (colloquially known as Section 8 vouchers from their location in historic federal housing legislation) or other forms of rental subsidies provided by federal agencies or local public housing authorities. Vouchers provide a means of paying the difference between fair market rent and the 30 % of a household’s income that it may spend on housing costs.

### Public Housing and Quality of Life Research

As public housing can qualify both as a necessity and merit good, it tends to serve individuals, households, and families that exist at or below poverty thresholds. Similarly, public housing provides a safety net for those struggling under housing cost burdens. Research has focused on housing needs at various income levels and even projecting worst case housing needs (Koebel & Renneckar, 2003). It will be important to continue to monitor the spatial demands of populations and their associated incomes to ensure suitable and adaptable policy choices. Likewise, future research should focus on mixed-use and mixed-income communities and their financial and social successes and failures. As public housing has design, policy, and financial components, it will be important to conduct research that engages these variables with an eye towards innovations on each in the market place.

Additional research should focus on public housing and dynamics of poverty. As many public housing users exist at or below poverty thresholds for their household sizes, it will be important to constantly monitor space users’ needs and abilities to pay. Additionally, as market rate space users, space producers and infrastructure entities must rely upon one another for success (Graaskamp, 1993); public

housing quality of life research should focus on this interdependence in the context of poverty investigating, for example, whether or not innovations in public housing have been effective at blunting the effects of poverty for users.

## Cross-References

- ▶ [Affordable Housing](#)
- ▶ [Section 8 Public Housing](#)
- ▶ [Social Housing](#)

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## Public Indebtedness

- ▶ [Public Debt](#)

## Public Interest

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## Synonyms

[Common good](#); [Commonwealth interest](#); [Public good](#)

## Definition

Public interest means the welfare of society as a whole. Public interest can be universal, in that it includes all decisions and actions, or particular, in that it is specific with no general significance.

## Description

In the late seventeenth century, the term public interest was commonly used in discussing domestic affairs in Europe as it symbolized the evolution of democratic government in the West (Beard, 1934). The term is vague, changeable, and confusing as to what it really connotes (Sorauf, 1957; Schubert, 1957). The generality surrounding the term only begins to disappear when it is placed in a specific context. As such, the term lends itself to convenient use and resists unequivocal definition.

Leys and Perry (1959) identified two broad meanings of public interest as:

1. Formal meaning: whatever is the object of duly authorized, governmental action.
  - Simple conception: the intention of parliament or sovereign.

- Pluralistic conception: the objectives that are sanctioned by any legal or political process, it being assumed that, as a matter of fact, decisions are made in various ways and in various places.
2. Substantive meaning: the object that *should* be sought in governmental action (or in nongovernmental action, i.e., a delegation of government power or accepted in lieu of governmental action)
- Utilitarian or aggregationist conception: the maximization of particular interests.
  - The decision which results when proper procedures are used such as due process of law, majority rule, and adherence to the procedural rules of legal and political processes.
  - A normative conception of public order.

The term “interest” in the phrase “public interest” implies a stake, concern, or responsibility; it conveys personal connotations which are associated with the concept of good. In the formal sense, government lays claim to the public interest and seeks to ensure its attainment through public policy. For instance, governments act in the public interest in the provision of public goods and regulation (Stigler, 1971; Peltzman, 1976; Cowen, 1992). In essence, public policy is meant to promote the greatest good to society (and thereby enhance quality of life).

In a democracy, the Median Voter Model serves as the basis for determining what the public interest is and to direct ► [public policy](#). The problem with this majority rule method of satisfying the public interest is that it underrepresents minority interests and also equates the public interest to the sum of private interests (Congleton, 2003; Holcombe, 1980). In democracies, special interest groups try to influence governmental policy changes or legislation in the interest of the public. Unlike professional or organizational bodies that seek economic benefits for their members, special interest groups pursue the changes or carry out actions that will benefit their members and the larger society. Valentine (n.d.) makes a distinction between public interest groups on the basis of their goals. These are (1) equality-seeking groups and (2) quality of

life groups. Equality-seeking groups attempt to influence governmental policy in order to change the personal status of individuals, while quality of life groups seek to influence governmental policy in order to improve or change the overall quality of life for all individuals in society (Valentine, n.d.). The latter conception is at the core of (urban and regional) planning in Western liberal democracies. The actions or decisions of planners are undertaken in the best interest of the public; planners and governmental agencies promote the quality of life as a public interest.

There is no consensus on what constitutes the public interest. However, assumptions about the public interest influence and shape the policy and actions of governments, agencies, and various professions. According to Daniel Bell and Irving Kristol, editors of the now defunct *The Public Interest Journal*, political scientists believe that “there is no such thing as ‘the public interest’; there are only private interests – of individuals, groups, classes – which maneuver to obtain the greater amount of public influence and public power, and each of which discerns ‘the public interest’ in its own image” (The Public Interest, *Editorial-What is the Public Interest*, 1965).

## Cross-References

- [Social Well-Being](#)
- [Welfare](#)

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## Public Libraries

- ▶ [Arts in British Columbia, Canada](#)

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## Public Memory

- ▶ [Collective Memory](#)

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## Public Opinion

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## Synonyms

[Consensus](#); [Debate of ideas](#); [Hegemony of value judgment](#)

## Definition

Public opinion are the synthesis of value judgment expressions that arise from the debate within a group of people united by a theme of common interest.

## Description

The public opinion is always the product of a debate. Debate grows, improves, and enriches critical views on issues of public interest. The necessary condition for the debate is the freedom to express or to give judgments about the issues proposed to them to different audiences (Price Vincent, 1992). One indicator of the quality of civic life and social integration is strongly associated with the ability to participate freely in discussions, listen to, but above all, be heard. Under optimal conditions, no opinion should be silenced. The debate is free to involve conditions. Therefore, the develop of a public opinion is associated with individual freedom and citizenship building openness, civil participation and integrated society; these conditions constitute the core of democratic societies.

We can identify three dimensions of the public opinion: cultural, social, and psychological. The construction of the public opinion is based on identities and categories specific to the cultural history of the context to which it belongs. The social dimension includes the institutions, participation, and community organization. The psychological dimension refers to the individual integration into society, a link that relates and identifies with the different audiences of which is a part.

One of the most outstanding qualities of public opinion is its volatility, their ability to be modified in relatively short time. The public opinion is dynamic, for the same exposure to opinion makers, social referents, political leaders, and media. To strengthen the free exercise of the public opinion, it is essential to expand and improve channels of participation in different audiences. The debate provides the framework for the production of messages, not just free to be consumers of messages. This is essential to link the public opinion to the general quality of life.

For the democratic societies, life is central to identify conditions for generation of the public opinion as an indicator of quality of life. To increase civil participation in the discussion of public issues, will be greater the level of social integration and freedom for the exercise of citizenship rights. The societies who monopolize or

reduce the instances or opportunities for discussion are usually associated with restricted or autocratic political systems.

The public opinion are a powerful political tool to guide, persuade, convince, and transmit the value judgments within an audience. It is an instrument of political action that can lead different audiences to actions that are of common interest. It is also the raw material of social and political leaders as they work to build consensus or support.

Nevertheless, the interaction between the social and technological networks is modifying the panorama. De Ugarte (2007) says that the form of the network in which the information is transmitted is being modified by the world in turn impelled by the technological change. He says that while the previous structure of information had a hierarchic power, the technologies of social webs in the Internet (YouTube, Facebook, Twitter, etc.), do information more distributed, in which any subject can, potentially, communicate with anyone. As indicated by Bard and Söderqvist (2002) here, the individual actors decide on themselves but do not have the aptitude to decide on the others; that is why any distributed network is a network of equal, although there are nodes more connected than others and the capture of decisions in it does not happen across 'yes/no' but across "in major or minor measurement." They allude this system as *pluriarquía* and think that it does not allow to support the fundamental notion of democracy, in which before the differences of opinion, the majority decides on the minority. This way, de Ugarte (2007) points out that the technological and informational revolution is changing the form that people operate along the conflicts and it can also change the public agenda. Urrutia (2003) refers to the new collective subject as cyber mobs, whereas Rheingold (2004) alludes to the smart mobs, considering them to be groups of subjects that tackle collective mobilizations because a new way of communication makes other ways of organization possible, to a novel scale, between subjects that could not coordinate such actions till then, reflecting on a new stage in the refinement of the social networks that impact in a new rearranging of existence; de Ugarte

(2007) supports that cyberactivism is a strategy to form temporary coalitions of subjects that generate a critical mass of information and debates, that in turn transcend the *blogosfera* and modify visibly the way of acting of many persons. Nevertheless, he adds that the technological hardware can spread a mobilization of adherence or rejection, but not impel a deliberation or debate that leads to the construction of public opinion.

There are diverse studies that consider different elements of public opinion (as freedom, participation, and so on) in relation to quality of life or it can be considered among the patterns of democratic societies.

Jama, Reads, Gámez Pérez, and Sands (2009) discuss if the individualistic societies show major levels of happiness due to freedom, autonomy, and opportunities of people living in them, pointing out that the positive correlation between the freedom of people who live in a culture and the individualistic nature of the same one bears the fact that to more individualistic the culture is happier as it tends to be.

Frey and Stutzer (1999) support that there exist two reasons for which the biggest possibility of political direct participation or the most developed institutions of direct democracy (in particular route referendum and initiatives) can raise the subjective well-being of the citizens (Cronin, 1989; Budge, 1996): (1) the biggest control of politicians, due to the active role of citizens and (2) the fact that the institutions of the direct democracy extend the possibilities of citizens of being part of the process. The experimental evidence (Tyler, 1990; Bohnet & Frey, 1999), they say, suggests that the procedure effect is independent of the political activity result itself.

Dorn et al. (2007) find a positive and significant relation between democracy and happiness.

## Cross-References

- ▶ [Active Citizenship](#)
- ▶ [Agency](#)
- ▶ [Community Participation](#)
- ▶ [Community Values](#)
- ▶ [Democracy](#)

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## Public Opinion About the Death Penalty

- ▶ [Attitudes Toward the Death Penalty](#)

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## Public Opinion Toward the Welfare State (Welfare State)

- ▶ [Welfare State Attitudes](#)

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## Public Participation

- ▶ [Community Participation](#)

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## Public Perception of Crime Trends

- ▶ [Crime Trends in Spain](#)

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## Public Policy

- ▶ [Community Participation](#)
- ▶ [Policy Analysis](#)

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## Public Safety Indicators in Taiwan

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## Synonyms

[Subjective legitimacy of public safety indicators](#)

## Definition

One of the major functions of ▶ [crime statistics](#) is to provide a social indicator. Crime statistics serve this function by providing estimates of the level and change in one aspect of the well-being of a nation, state, or locality. Crime and the ▶ [fear of crime](#) impose costs on citizens. Conversely, public safety from crime and from fear of crime has a positive value to households, as evidenced by the willingness of the public to pay both through ▶ [taxes](#) and private precautions for safety improvements. A measure of public safety has the potential not only to summarize the level of ▶ [security](#) that an area enjoys but also to

provide benchmarks against which to measure the performance of agencies in the criminal justice system, such as the police, with responsibility for the delivery of public safety.

## Description

Just as many countries and international organizations have attempted to develop measures to evaluate the effectiveness of their criminal justice agencies and the allocation of resources or to make comparisons of public safety with other countries, so arguably Taiwan has also responded to the challenge of changing needs in terms of public safety indicators.

However, arguably, none of the official measures developed in Taiwan in the recent past seems to have satisfied either academics, practitioners, or, more importantly, society at large. A number of distinct obstacles can be identified with regard to government indicators of public safety and crime in the recent past in Taiwan, all contributing to a sense of inertia in responding to the changing societal role and significance of such measures.

1. Governmental agencies in Taiwan work largely independently without cooperating with each other. The National Police Agency publishes annual crime statistics reporting three major crimes (violent crime, theft/larceny, and others) by the number of incidents, cleared cases, and suspects. The Ministry of Justice, on the other hand, publishes annual official data mainly on the number of prosecuted cases by type of crimes, the number of convicted cases by court, the prison and parole populations, and drug rehabilitation cases. The Judicial Yuan (the government branch dealing with court and judicial proceedings) has its own annual statistical series mainly on conviction cases, appeal cases, and sentencing. Other governmental offices such as the Coast Guard Administration, the Bureau of Investigation, the Immigration Office, and the Financial Supervisory Commission publish their own separate statistics. The Coast Guard Administration focuses on smuggling cases, the Bureau of Investigation on drug smuggling cases, the Immigration Office on foreign criminal cases, and the Financial Supervisory Commission on major economic crimes. It is no surprise that each of these agencies has their own priorities and selectively chooses what statistics to collect and report, according to their own administrative concerns, interests, and agency-specific demands. Some of these statistics double count the same cases (i.e., more than once). Some crimes are completely neglected by all the agencies. Cases are considered according to each agency's administrative "logic" and standards, which are sometimes in conflict. There is no external or indeed interagency monitoring of the validity and [reliability](#) of data that have been collected and analyzed. Chief officers are in a position, in each agency, to make changes as and when judged appropriate on the reporting of their crime-related statistics. This approach to officially published statistics results in a fragmented and often inconsistent story about how "safe" citizens of Taiwan are and of course does nothing to dispel public distrust.
2. The government lacks systematic information based upon a national self-report victimization survey or indeed any wider data on fear of crime. Unlike the UK (United Kingdom) or USA (United States of America), successive Taiwanese governments seem not to have recognized the importance of such measures. England/Wales has had eight large-scale self-report national victimization surveys between 1981 and 1999 and annually since 2001. Taiwan, however, has commissioned only three national surveys, in 2000, 2005, and 2010, overseen by the Ministry of Justice and Ministry of Interior (Sheu, Mo, Chen, Mon, & Tsai, 2000, 2005, 2010). Yet, arguably, these three surveys merely illustrate the unstable and periodic nature of government interest in such activity, with no definite longer-term policy on the need for such time-series data. Additionally, only a limited number of crimes are reported on in the Taiwan victimization

surveys. For instance, homicide and drug-related crimes were not included in the 2000 and 2005 surveys, while violent crimes were removed from the 2005 and 2010 surveys. Indeed, the first national victim survey investigated six crimes, namely, theft, assault, robbery, kidnap, intimidation, and rape, while the second and third one in 2005 and 2010 listed crimes such as assault, robbery, theft (including larceny, burglary, and vehicle theft), and fraud. The inconsistency of inclusion of differing crime types in three surveys makes comparison highly problematic. In spite of the relatively large sample sizes (i.e., 10,375 household interviews in 2000; 18,046 telephone interviews and 2,025 face-to-face interviews in 2005; and 16,015 telephone interviews and 1,800 fact-to-face interviews in 2010), no attempt was made to estimate the “dark figure” (Sheu et al., 2000, 2005, 2010). Partly this was due to the pluralistic data gathering methodology, which makes estimation difficult. Unlike usage of victimization research data in some other countries, in Taiwan, such data are seen by government as solely for the strategic uses of, on the one hand, the National Police Agency in assisting the development of crime prevention policy and, on the other, for the Ministry of Justice to better understand victims’ needs. None of the data are yet available for secondary analysis by independent researchers nor are they seen as appropriate to share as part of the wider debate about crime and feelings of safety. In short, the surveys are principally for governmental purposes and in that sense do not readily provide, for public debate, a comparable “alternative” measure to complement the well-known inadequacies of official police crime-recorded statistics.

3. Taiwan has weak “subjective legitimacy” measures of public safety. As Tyler (2002) opines, “it is not enough to focus on the actual quality of criminal justice performance, since an agency may execute their duties effectively and constitutionally and still find themselves without community support” (p. 72). After all, “subjective legitimacy,” which according to

Tyler is the perceived legitimacy of various criminal justice agencies, may be said to constitute public faith in and appreciation of the services that the criminal justice agencies deliver. In Taiwan, the proxy “subjective legitimacy” measure is public opinion polls. The polls on perceptions of public safety and confidence in the criminal justice agencies are mostly undertaken under the auspices of agencies themselves and lack that sense of legitimacy (or at least a sense of credibility among the public). In Taiwan, the police are the agency most interested in and most often under pressure to conduct such opinion polling. The outcomes, however, are often questioned by the public, primarily because results almost always show highly positive attitudes towards police in terms of job performance and their contribution to enhancing public safety. Interestingly, government apparently recognized the lack of public trust in such self-regulated polling strategies and has since “contracted out” polling to commercial professional public polling agencies. Nevertheless, government in Taiwan still has the ultimate power and discretion to determine the content of such polls and, more importantly, the nature and timing of any dissemination of results. Arguably, the Taiwanese public still remains skeptical. Nevertheless, although not unproblematic, at least the police were the first and currently the only criminal justice agency prepared to be the subject of such direct public polling. Other Taiwanese criminal justice agencies have been reluctant to engage with this particular approach to performance “evaluation.”

### **Public Security and Crime Indicators: A Way Forward**

A study on the development of public security and crime indicators was conducted in 2007, funded by the Research Development and Evaluation Commission of the Executive Branch (Yuan) of the Taiwanese Government (Hebenton, Jou, & Chang, 2010). It aimed to construct a full-scale, cultural-specific indicator framework by collecting ad hoc, already existing, public

safety and crime indicators in Taiwan (as well as, importantly, proposing others) developed and utilized by other countries and international organizations.

The framework began with a systematic literature review of public safety and crime indicators used in Taiwan, and in other countries, including the USA, Canada, Germany, Japan, Singapore, Mainland China, the UN (United Nations), OECD (Organisation for Economic Cooperation and Development), and EU (European Union). By comparing, screening, and reorganizing, the study refined a draft framework containing eight dimensions and 54 indicators. Methods of Delphi and focus group were used to comment upon the appropriateness and importance of each indicator. Additionally, the Taiwanese experts were asked to rate the relative importance of each dimension and associated indicator by using the analysis of hierarchical process (AHP) technique (Saaty, 1980). The final framework contained nine dimensions and 55 individual indicators (see Table 1).

In the framework proposed in Table 1, the research distinguishes “outcome” from “process” and “objective measures” from “subjective measures.” The framework addresses multiagency performance including police, prosecution, courts, and corrections. It also attempts to capture the likely increase in white-collar crime (e.g., economic crime, corruption, fraud) in modern society.

The “process” element includes the accountability of police, prosecution, court, correction/probation services, and judicial resources. The “outcome” element takes account of the outcome of the criminal justice agencies, namely, crime rates, at-risk population, rates of victimization, and fear of crime.

#### 1. The Four Process Elements and Their Indicators.

The respondents perceived police to be the most important dimension compared to the other four process elements. As to the other four elements, prosecution is perceived to be more important than corrections, followed by prosecution, court service, and the least perceived important element, criminal justice

resources. In other words, unsurprisingly, when it comes to public safety, police work is perceived to be the most important input. Furthermore, compared to other criminal justice agencies, the effectiveness of prosecution work is much more significant than court and correction/probation sectors. This result is indicative that in Taiwan, the performance of police and prosecutors is strongly perceived by professionals as “core” to preventing and controlling crime (and arguably enhancing public safety). While it is perhaps possible to assume this as an “elite” point of view, survey evidence of public attitudes in Taiwan mirrors this contention of the primacy of police and prosecutorial activities in detecting crime and bringing offenders to justice (National Police Agency, 2006a, 2006b, 2007a, 2007b, 2008; Research, Development and Evaluation Commission, 2009).

#### 2. The Four Outcome Elements and Their Indicators.

For four outcome elements, AHP results show that fear of crime and rate of victimization are perceived to be almost equally indicative of public safety, followed by the high-risk population. Crime rate seems to be the least indicative dimension for the respondents. The respondents demonstrate very little confidence in the reliability of official crime data. Within the high-risk dimension, the number of drug addicts is reported to be the most important indicator, followed by juvenile delinquents, youth offenders, hooligans, and foreign offenders. That is to say, the experts believe that drug addiction and juvenile delinquency are highly correlated with other criminality which in turn would weaken public safety in larger measure.

As to the victimization rate, most respondents perceived that victims of robbery/forcible taking are most indicative of public safety, followed by victims of burglary, intimidation, motor vehicles, aggregate assault, and fraud. In relation to fear of crime indicators, the AHP result illustrates that fear of crime in general should be understood as the most important indicator of public safety (and we return to this issue in our general

**Public Safety Indicators in Taiwan, Table 1** Taiwan's framework of public safety and crime indicators. (Source: the authors)

Dimension/indicator	Definition	
Process		
I. Police service		
1.1	Violent crime clearance rate	Clearance cases for murder, robbery, forcible taking, rape, intimidation, extortion, aggregate assault per 100 incidences
1.2	Theft clearance rate	Clearance cases for burglary, motor vehicle theft, and larceny per 100 cases reported to police
1.3	Fraud clearance rate	Clearance cases for fraud per 100 cases reported to police
1.4	Total crime clearance rate	Clearance cases for all crimes per 100 cases reported to police
1.5	Confidence in police capability	Respondent's confidence in police capability
1.6	Confidence in police integrity	Respondent's confidence in police integrity
1.7	Confidence in police fairness	Respondent's confidence in police fairness
II. Prosecution service		
2.1	Conviction rate in district courts	Convicted offenders in district courts per 100 prosecuted suspects
2.2	Confidence in prosecutor's capability	Respondent's confidence in prosecutor's capability
2.3	Confidence in prosecutor's integrity	Respondent's confidence in prosecutor's integrity
2.4	Confidence in prosecutor's fairness	Respondent's confidence in prosecutor's fairness
III. Court service		
3.1	Upheld district court decisions	Upheld district court cases per 100 appealed cases
3.2	Upheld high court decisions	Upheld high court cases per 100 re-appealed cases
3.3	Conviction rates	Convicted offenders per 100 convicted and acquitted offenders
3.4	Average time of trial	Average time of trial (starting from prosecution day to final decision)
3.5	Confidence in judge's capability	Respondent's confidence in judge's capability
3.6	Confidence in judge's integrity	Respondent's confidence in judge's integrity
3.7	Confidence in judge's fairness	Respondent's confidence in judge's fairness
IV. Correction/probation service		
4.1	Imprisonment rate	Inmates per 100,000 population
4.2	Recidivism rate	Recidivist inmates per 100 inmates
4.3	Ratio of correction staff and inmates	Correction staff per inmate
4.4	Violation of parole or probation rate	Violation cases per 100 parole and probation cases
V. Judicial resources		
5.1	Per capita police	Number of police per capita
5.2	Police expenditure	Police expenditure per capita
5.3	Prosecution expenditure	Prosecution expenditure per capita
5.4	Court expenditure	Court expenditure per capita
5.5	Correction expenditure	Correction expenditure per capita
5.6	Public support on increasing police expenditure	Respondent's support on increasing police expenditure
5.7	Public support on increasing prosecution expenditure	Respondent's attitudes to increasing prosecution expenditure
5.8	Public support on increasing court expenditure	Respondent's attitudes to increasing court expenditure
5.9	Public support on increasing correction expenditure	Respondent's attitudes to increasing correction expenditure

*(continued)*

**Public Safety Indicators in Taiwan, Table 1** (continued)

Dimension/indicator	Definition
<b>Outcome</b>	
<b>VI. Crime rate</b>	
6.1 Total crime rate	Total crime per 100,000 population
6.2 Violent crime rate	Murder, robbery, forcible taking, rape, intimidation, extortion, and aggregate assault per 100,000 population
6.3 Theft rate	Burglary, motor vehicle theft, larceny per 100,000 population
6.4 Fraud rate	Fraud per 100,000 population
6.5 Illegal guns and lethal weapons	Number of illegal guns and lethal weapons known to the criminal justice agencies
6.6 Drug-related crime rate	Drug-related crime per 100,000 population (not including drug use cases)
6.7 "Corruption" offenders	Offenders committing violation of the anticorruption act and criminal code for official malpractice
6.8 "Economic" offenders	Violation of major economic crime regulations of prosecution office §2 and illegal income over NT\$50,000,000 or victims over 50
<b>VII. At-risk population</b>	
7.1 Foreign offenders	Foreign offenders per 100,000 foreign residents
7.2 Age 12–18 offenders	12–18 offenders per 100,000 12–18 population
7.3 Age 18–24 offenders	18–24 offenders per 100,000 18–24 population
7.4 Drug addicts	Number of drug addicts
7.5 Number of hooligans	Number of convicted hooligans per 100,000 population
<b>VIII. Victim rate</b>	
8.1 Victims of burglary	% of victims of burglary
8.2 Number of stolen motor vehicles	Stolen motor vehicles
8.3 Victims of robbery/forcible taking	% of victims of robbery and forcible taking
8.4 Victims of assault	% of victims of aggregate assault
8.5 Victims of intimidation	% of victims of intimidation
8.6 Victims of fraud	% of victims of fraud
<b>IX. Fear of crime</b>	
9.1 Perception of fear of crime	% fearful of walking alone at night
9.2 Perception of fear of burglary	% fearful of being burgled
9.3 Self-protection behaviors	% of household installing window bars to prevent burglars
9.4 Perception of the importance of safety and crime issue	Respondent's perception of importance of safety and crime issues
9.5 Confidence in personal safety	Respondent's confidence in government's ability to improve citizen's personal safety

discussion below). In particular, fear of domestic burglary is perceived to be the symbolic crime which underscores general public fear. Residents' self-protection behavior is perceived to be the third indicative element of public safety. Other subjective indicators are relatively less significant than the above three.

Experts in Taiwan, however, had varying opinions on crime statistics as a proxy indicator. They pointed to the problems of reliability and

validity of official police-recorded "total crime rates" as a measure. They would rather prefer to utilize crime-specific rates in relation to public safety. Among the different types of crime rates, violent crime rate is perceived to be the most important one, followed by the number of illegal guns and lethal weapons known to criminal justice agencies. Property crime, fraud, corruption, and economic crime are seen to be less indicative for public safety.

## Discussion

Taiwan, in the past 30 years, has succeeded in laying the foundations for a safe and open ► **democracy**. The country has a desire to continue on the road to even greater societal ► **progress**. Yet, an underlying institutional and cultural inertia as well as the particularities of a certain political decision-making style cast a shadow over effective implementation of any framework of the type that had been proposed (Jan, 2004; Shih, 2007). Public policy analysts note that decision-making in Western societies is mostly rational choice based, often involving cost-effectiveness calculations, after carefully considering a variety of proposals. In contrast, decision-making in Taiwan tends towards an “incremental model” which often makes rapid minor adjustments based on existing policy (Shih). There are several reasons for this Taiwanese approach: one is that such decision-making is often a quick reaction to an event, within the context of maintaining shifts in public support – thus not permitting much time to collect data and analyze options and solutions. Second, such an “incremental model” has less political and financial costs; if mistakes are made, there is still room to change it (Fell, 2005).

The proposed indicator framework detailed above, however, requires encouragement of a longer-term perspective by the Taiwanese government, initially by designing a set of incentives and disincentives to (1) oblige interagency cooperation; (2) encourage advocacy groups on “public safety” issues, thus ensuring informed public debate on access to data sources and dissemination practices; and (3) “nudge” stakeholders within the criminal justice to recognize the importance of a well-funded and well-designed national victimization survey, with appropriate sample size to allow for sufficient granularity at local levels. The government may have to review, restructure, and perhaps dismantle some of the institutional barriers that have been responsible for allowing cultural inertias to develop around these issues. Given that public confidence in public safety statistics is such an issue, the introduction of some form of regulation may help to improve perceptions that the

statistics can be trusted. A clear set of standards is required to address the collection, analysis, access, and dissemination of crime-related statistics, ensuring that the public and other scholars can feel confident in the approaches taken. Regulation may also help to improve transparency. The number of different sources of public safety statistics identified in our framework is confusing for the public. Having a single organization – perhaps a National Public Safety Statistics Commission – which is solely responsible for the statistics could help the public to understand that these sources, though different, are not entirely at odds with each other and can be used to complement each other.

Finally, it is important to acknowledge the limitations of any single measure of public safety in the framework proposed. First, the measure can only be as good as the raw data that are its principal constituents. Such data are known to have weaknesses and bias, with the result that any summary measurement based on them will have its own inherent limitations. Second, we need to acknowledge the “level” of the measure. From an operational point of view, it may be difficult for Taiwanese criminal justice professionals (as indeed elsewhere) to estimate either how their decision-making will impinge on the measure or what the relationship might be between the indicators they are accustomed to using and any higher order safety objective. Arguably, the challenge for Taiwan is to fully establish safety indicators and related incentive structures which enhance institutional capacity to both monitor agencies’ performance and meaningfully assist public debate on matters of security.

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## Public Sector Debt

- ▶ [Public Debt](#)

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## Public Sector Reform

- ▶ [Service Quality in New Public Management](#)

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## Public Services, Quality of

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## Public Spending for Education

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### Definition

Expenditures for education can be divided into private (supported by private institutions or individuals) and public, meaning the expenditures for educational purposes of various levels of the state government – central or regional or local governments. Official statistics record the percent of expenses for education in the state budget and the percentage of public spending for education in the GDP.

### Description

The latest decades have witnessed a spectacular increase in the amount of public resources poured into formation of human capital: in 1960 the world average expenditure on education as % of GDP was 2.5 %; by 1995 it had reached 4.7 % (Ansell, 2008) and 4.9 % or 15.7 % of total public

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## Public Scholarship

- ▶ [Community-University Partnership\(s\)](#)

spending by 2010 (World Bank). According to the data of 2007–2010 published by the World Bank (Klein, 2011), one could find a recorded minimum of 0.8 % (in Zambia) or 1.2 % (United Arab Emirates and Monaco) and maximums of 16.8 % (Timor-Leste), 13.6 % (Cuba), or 13.1 % (Lesotho). Levels of public spending for education as percentages of GDP display also a large range of variations. However, half of the countries in the World Bank's data file are missing the data on this variable. Given this dynamics and variation in education, it is no wonder as to why policy analysts have turned their interest towards finding the explanations for the amount of public investment at country level.

### **Covariates of Public Spending in Education Across Countries**

All studies agree that the main covariates of public spending in education are demographic and economic.

First of all, investment in primary and secondary education depends also on the proportion of youth of school age in the total population. Because primary and secondary education is conceived as standard ► **public good** provided in all modern industrial states, public spending for tertiary education has a larger variation across countries than spending for primary and/or secondary education (variation of spending for tertiary education is 0.35 while that of pretertiary is 0.17 according to Busemeyer (2007)); enrollment in tertiary education is a good indicator of a developed country's willingness and capacity to invest in education.

GDP per capita influences spending on education in two ways: on the one hand as an indicator of economic resources available for education and, at least as important, as an indicator of need for skilled labor – the more developed a nation, the more it needs better educated workforce (Wagner's law). Analyzing the evolution of public spending in education across countries in the last decades, Busemeyer (2007) finds that across countries there is a strong positive correlation between GDP/capita and the percent of GDP spent on education. On the other hand, the

growth of GDP correlates negatively with the percent of GDP allocated for education because of the constancy over time of education expenditures and because of the preferences of governments to direct additional resources to other destinations, like ► **welfare** (Busemeyer, 2007), which show more variation over time.

Social cleavages also have the capacity to inhibit spending for education. Ethnic or racial fractionalization is such a feature that may restrict investment in public goods that members of the rival groups can benefit from (Alesina, Baqir, & Easterly, 1999). Data at community, neighborhood, and township levels support the thesis that ethnic diversity inhibits public spending, including for provision of education, and that the effect of ethnic or racial division is aggravated if these categories have different age compositions (Poterba, 1997).

Another relevant fracture opposes, according to some, the elderly to the younger age groups as their interest in investments in education is much weaker: while youth and adults will prefer investment in education, elder people apparently prefer that public resources be allocated for direct welfare expenses of which they can directly benefit. Empirically, this thesis has found consistent support in the analysis of relationship between age structure and the destination of public spending. According to Cattaneo and Wolter (2009) elderly people in Switzerland display a low willingness to spend money on education compared to the rest of population, preferring rather health and social security. Analyzing 1996 ISSP data on 14 OECD data Busemeyer, Goerres, and Weschle (2009) found that life cycle position is a more important predictor of welfare preference than income. Moreover, Poterba finds that, at US state level, education spending per pupil is correlated negatively with the proportion of elderly residents (1997).

### **The Theory of Partisan Factors and Its Limitations**

Most of the above correlations involving the amount of public spending for education can be understood in terms of the theory of partisan factors. In this view, the proportion of public

resources allocated for education is conceived usually as depending on the political structure of the governments (theory of partisan factors). Ansell (2008) and Busemeyer (2007) have shown that leftist governments invest more on primary and secondary governments than rightist governments. Boix (1998) had already shown that leftist governments spend more on education than rightist governments. This is explained conventionally through partisan politics arguments according to which the rightist electorate belongs usually more to the middle and upper classes that see more interest in the financing of higher educational institutions or of private schools and a lower participation in education of the working classes and are less interested in the provision of universal education.

Such explanations are based on the idea that education, especially at the primary and secondary levels, is a means of redistribution and leveling of social opportunities. Both education and social security programs were seen as instruments of fulfilling the goals of equality and security by emerging welfare states during the nineteenth century (Flora & Heidenheimer, 1981). Recent analyses argued that the two types of policies had been alternatives in realizing the objectives of welfare states. Flora and Heidenheimer (1981), Hecló (1985), and Francis Castles (1989) maintain that there is a trade-off between public spending in education and spending for ► [social policy](#). This statement involves the balance of public investment in education, on the one hand, and governmental payments for ► [healthcare](#), old age pensions, and unemployment insurance. Hega and Hokenmaier (2002) find, for example, negative correlations between OECD nations' spending for social insurance and education per capita, on the one hand, and positive correlation of public spending for education per capita with GDP per capita (for obvious reasons) and if the country belongs to a social-democratic type of welfare regime according to Esping Andersen's theory.

Besides the arguments presented above, economists and sociologists of education, however, have shown long ago (see Le Grand, 1982) that families from middle and upper classes are taking

a disproportionate share of public resources poured into education due to their better access to the best of public schools and universities. Moreover, all evidences show that expansion of education (and of educational attainment for children from lower classes) did not entail a democratization of society through better upper social mobility for them. Although all these arguments are in favor of the thesis that socialist and social-democratic parties do not have actually an interest in the expanding of public spending for education, the above-mentioned correlation requires better and more profound explanation than the reference to party ideology.

Moreover, time series for OECD countries show (Busemeyer, 2007) that the correlation between the partisan structure of the government and the relative amount of public money spent on education holds especially for the interval until 1980, while later the relationship become more blurred. Thus, the waning of the welfare state coincides with a weakening of partisan impact on public education. Moreover, analysis of time series of data on OECD countries' investment in education shows that contrary to simple partisan theory expectations, social democrat participation in governments is correlated with higher investment in tertiary education.

### **Institutional and Cultural Factors**

In several papers, Castles (1989) and later Busemeyer (2007, 2009) highlighted the role of institutional and cultural factors in explaining a certain distribution of resources allotted for education with arguments close to the theories of partisan factors. Extent of democracy and decentralization of the state and the religion structure of the constituency would predict the amount of money spent on education by the states. Increased democracy, for example, measured simply as voter turnout brings more public investment in public education. The argument is simple: higher turnout means more participation of the working class which is clearly interested in more investment in public education.

One would expect federalism – as an indicator of constitutional decentralization – to inhibit public spending in education because budgetary decisions would be then the results of a competition between levels of government, in this case between the local and the national (government) and mainly between the federal territories (i.e., *die Lander* in Germany) who are expected to run a tax competition. Cross-country comparisons using multivariate analysis prove the contrary though (Busemeyer, 2007): decentralization in advanced industrial societies brings increased public spending for education as a consequence of interregional competition to attract residents (Busemeyer, 2007).

Castles (1994) maintains that Catholicism, contrary to Protestantism, inhibits the establishment of an extended public education sector because in line with the subsidiarity principle, education – as many other services – is confined to families or private organizations. Public spending in countries with large shares of people of Catholic denomination will have consequently lower public spending for education. However, Castle's conjecture has not been supported by all the subsequent works. Not all Catholicism or conservative ideologies are opposed to public spending in education. Christian conservatives of the sort to be found Germany, Austria, and Italy are apparently more favorable to public education following the tradition of social Catholicism (Hicks & Swank, 1992; Wilensky, Luebbert, Hahn, & Jamieson, 1987). Type of organization of capitalist economies and societies have been regarded recently by some theoreticians as consequential upon the amounts and specific destinations of funds spent for education by the governments. In liberal market economies (typically Anglo-Saxon countries) more is allotted by the governments for comprehensive final levels, like general higher education, while in coordinated market economies (Germany, Scandinavian countries, Japan) more is invested in primary and secondary instruction and in vocational education and training at post-secondary ages (Iversen & Soskice, 2009; Jensen, 2011). This occurs because coordinated market

economies invest more heavily in industrial workforce, to assure it's better productivity and availability.

## Cross-References

- ▶ [Public Good\(s\)](#)
- ▶ [Social Policy](#)
- ▶ [Welfare](#)

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## Public Transport and Quality of Life

### ► Transit Systems and the Quality of Life

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## Public Understanding of Science

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### Synonyms

Public awareness of science; Scientific culture;  
Scientific literacy

### Definition

All encompassing term that refers to a relationship between the general public and

the scientific community regarding scientific knowledge, literacy, awareness, attitudes, and behaviors.

### Description

#### Historical Developments

In the 1950s, the economic and political pressures of the “space race” prompted the USA scientists to elicit public support for scientific endeavors as a way to lobby for increased government spending on science and technology (S&T). American parents also became concerned that their children were not equipped to function in a society that was becoming increasingly reliant on S&T. In this context, the government needed to facilitate the relationship between the general public and S&T. John Miller, a fellow of the American Association for the Advancement of Science, first proposed the concept of scientific literacy and developed an instrument to measure this literacy on behalf of the government (Bauer, Allum, & Miller, 2007). Miller hypothesized that a scientifically literate person would be able to understand basic scientific facts, positively appreciate the outcomes of scientific research, and reject superstitious beliefs (Miller, 2004). This scientific literacy model contends that the general public does not know enough about S&T to participate fully in S&T policy issues (Miller, 1998). This results in the public being hostile toward the S&T community and suspicious of S&T innovations. Such negative attitudes toward S&T can cause public outcry and thus hinder S&T progress. These attitudes also create an obstacle that prevents the public from benefiting from S&T (Miller). This model calls on the S&T community to educate the “ignorant” public on S&T issues. A scientifically literate public would be better positioned to appreciate S&T (Laugksch, 2000).

The scientific literacy model arguably lacked sophistication and eventually encountered criticism. For example, academics asked why textbook knowledge of S&T should be given special attention (Bauer et al., 2007). A more basic question is does scientific literacy always lead to

a positive relationship between the public and S&T? The scientific literacy model assumes a causal link between the acquisition of scientific knowledge and the creation of positive attitudes between the public and S&T. Furthermore, there is no provision for the acquisition of knowledge leading to a negative attitude toward S&T (Bauer et al., 2007).

In the 1970s, S&T research and development in the ► [United Kingdom](#) was managed on a commercial model. As such, government scientific endeavors were commonly contracted to private businesses. There was little room for public engagement in this model (Gregory & Lock, 2008). Some scientists, however, tried to mobilize among themselves to manage the lack of a relationship between science and the public. They believed that the negative attitudes caused by the exclusion of the public in S&T matters, as well as a lack of interest of the public in science, had weakened the scientific community's political influence. As a result, levels of government funding for science had decreased (Miller, 2001). The term "public understanding of science" (PUS) emerged from these concerns (Gregory & Lock 2008). This led to a report entitled "public understanding of science," which was published by the Royal Society to raise concerns about the political vulnerability of the scientific community due to waning levels of public support for S&T (Miller, 2001).

This model assumes that more effective communication of S&T to the public will result in more positive attitudes toward S&T and greater interest in S&T (Gregory & Lock, 2008). The public understanding of science model acknowledges some aspects of the multidimensional character of the public's relationship with S&T. Hence, measures have been used to gauge levels of public understanding of science to examine knowledge of science, attitudes toward S&T, and interest in S&T issues (Bauer, Petkova, & Boyadjieva 2000).

### Contemporary Views

During the mid-1990s (mainly in the United Kingdom), the science in society framework emerged out of the criticisms lodged against the

scientific literacy and public understanding science models. This model contends that the relationship between science and the public is based not only on formal literacy or ► [attitudes](#) but also on the public's social, cultural, and political environments (Bauer et al., 2007). This model takes into account indigenous (scientific) knowledge or the application of S&T in daily practices within particular contexts (Sturgis & Allum, 2004). This moves away from assuming that formal science is superior to indigenous science. Instead, it is acknowledged that there needs to be a collaborative approach between the two sciences by incorporating elements of both (du Plessis & Raza 2004). Another part of this contemporary model is how science communication shapes science attitudes and dispositions of the public. Thus, the focus of research, especially in Europe, is on science communication. This has led to the publication of journals such as *Science Communication* (Sage Publications) which focuses on the dissemination and diffusion of science and technology knowledge and expertise among professionals and to the public. Such publications broaden the discourse surrounding the public understanding of science by traversing national, cultural, and economic borders on issues such as ► [health care](#) policy, educational reform, and environmental risk.

This model is the most "democratic" out of the three models discussed. It emphasizes the participation of the public in S&T issues and the empowerment of the public. Debates are ongoing relating to the manner in which these concepts are measured. As a result there has been little investigation into this model's achievements (Bauer et al., 2007).

### Research in Developed Countries and Developing Countries

A number of countries have assessed public understanding of science using variations of the theoretical frameworks discussed. General population assessments have been used to provide information describing the views of the public in order to plot trends over time and to inform comparison with other countries. The results from these studies have been used to influence

**Public Understanding of Science, Table 1** International surveys conducted on PUS (Source: Reddy et al., 2009)

Context	Title	Years	Data collection	No. of respondents
USA	Science and engineering indicators	1979–2008	Random digit dialing (RDD) computer-assisted telephone survey	1,600–2,000
Europe	Eurobarometer wave 63.1: Europeans science and technology	1992, 2005	Face to face interviews	16,029
Canada and USA	Canada-US survey on biotechnology	2005	RDD	3,200
Russia	Russian public opinion on the knowledge economy	1996–2003	Paper questionnaires	2,107
China	China science and technology indicators	2001	Information not available	8,350
Japan	The 2001 survey of public attitudes toward and understanding of science and technology in Japan	2001	Face to face interviews	2,146
Korea	Survey of public attitudes toward and understanding of science and technology 2006	2006	Face to face interviews	1,000
Malaysia	Public awareness of science and technology Malaysia 2004	2004	Face to face interviews	6,896
India	India science report	2005	Face to face interviews	30,000

public policy. Periodic assessments include the National Science Foundation's (NSF) Science and Engineering Indicators (USA) and the ► [Eurobarometer](#) (Europeans countries). India has set a precedent for measuring the public's relationship with science in the developing country context. Studies have been conducted in Malaysia, Japan, Korea, China, and ► [South Africa](#). Most studies have been undertaken on the general population (see [Table 1](#) for summary of studies conducted internationally). However, a few studies have been administered to students. Such examples include the Relevance of Science Education (ROSE) project, items in the Programme for International Student Assessment (PISA), items in the Trends in Mathematics and Science Study, and select items from the India Science Report. These are international comparative studies which examine what students perceive as the important factors affecting S&T education.

The NSF in the USA releases Science and Engineering Indicators biennially. Surveys have been conducted on public attitudes toward an understanding of S&T periodically since 1979. The study explores knowledge and attitudes concerning S&T matters and compares this

information to what the public should know about S&T.

The European Union has developed the ► [Eurobarometer](#), which is a series of surveys periodically conducted for the European Commission since 1973. It produces reports of public opinions in European Union member states. The standard ► [Eurobarometer](#) is carried out annually, and special modules such as Science and Technology are incorporated irregularly. The 2005 ► [Eurobarometer](#) incorporates a module that examines Europeans' experiences and perceptions of S&T across 15 member states.

The India Science Report (national survey in India) comprises items from the NSF and ► [Eurobarometer](#) and a set of items tailored to the Indian population. India's National Council of Applied Economic Research (NCAER) commissioned a national study in 2004 that sought to assess India's readiness to overcome challenges of and to take advantage of opportunities that a knowledge-based economy would bring. One aspect that the survey examined was public attitudes toward S&T. The survey was administered to over 30,000 members of the public over the age of 10 years, using random stratified sampling. The survey took stock of the

science and engineering human resources that the country possessed and assessed how these resources were distributed both by type of profession and geographic location. One component of the survey focused on public attitudes toward S&T. This included questions related to public sources of S&T information, interest in S&T issues, and knowledge of S&T.

### Future Research

In pursuing a research agenda on the public and science, future research endeavors may encompass the dimensions of (i) the heterogeneous nature of society; (ii) the attitudes, values, and knowledge of the general public; and (iii) the dimension of communication and awareness programs. This framework would consider both science and the public as important stakeholders in the relationship and acknowledges that each affects the other, rather than previous frameworks which gave science a position of power and perceived the public to be more or less deficient (Reddy, Juan, Gastrow, & Bantwini 2009).

### Cross-References

- ▶ [Attitude Measurement](#)
- ▶ [Canada, Quality of Life](#)
- ▶ [Democracy](#)
- ▶ [Education](#)
- ▶ [Health Care](#)
- ▶ [Indigenous Knowledge](#)
- ▶ [Japan, Quality of Life](#)
- ▶ [People's Republic of China](#)
- ▶ [South Africa, Quality of Life](#)
- ▶ [United Kingdom \(UK\)](#)

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## Punitive Violence Against Children

- ▶ [Child Maltreatment: Physical Abuse](#)

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## Punk Folk

- ▶ [Folk Music](#)

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## Purchase

- ▶ [Consumption](#)

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## Purchasing Power Parity

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## Synonyms

PPP

**Definition**

A purchasing power parity (PPP) is an artificial exchange rate used to convert nominal values from one currency to another so that the true purchasing power of each currency in its own currency area is reflected as accurately as possible. A PPP shows the number of units of a country’s currency that are needed there to buy a specific bundle of goods and services that one unit of a “numeraire” country’s currency will buy in the numeraire country (usually the United States). When the gross domestic products (GDPs) of countries are converted using PPP values, they are not only being measured in a common currency, but, in principle, they are being valued using the same prices. Differences in GDPs or their components then reflect differences in quantities of real goods and services, not price level differences. This permits cross-country comparisons of such things as economic welfare, ► [inequality](#) and ► [poverty](#), as well as estimates of the size of the world economy.

**Description**

The comparison of GDPs and of material living standards across countries is complicated by the presence of different national currencies in which expenditures are measured. Converting these values into a common measure using market exchange rates is unsatisfactory because market exchange rates typically do not reflect accurately the relative purchasing power of currencies in their respective countries.

**A Numerical Example**

A simplified example illustrates the central issues. Suppose that two countries, North and South, have separate currencies, the mark and the rupee, respectively. There are two goods consumed in each country, X and Y, with the prices shown in [Table 1](#).

Suppose that the market exchange rate is 1 rupee/mark. GDP per person in South is 2,000 rupees and consists of 1,000 X and 1,000 Y per person. At the market exchange rate, this would be

**Purchasing Power Parity, Table 1** A numerical example

Goods	Price in North (marks)	Price in South (rupees)
X	2	1
Y	1	1

valued at 2,000 marks. However, at the prices in North, those real quantities would cost 3,000 marks. Using the market exchange rate understates the purchasing power of the rupee in South and thus understates economic welfare there.

Because good X is relatively inexpensive in South, the price level there is relatively lower than that in North, increasing the rupee’s purchasing power in South. To compare material living standards accurately, the real quantities of goods and services need to be valued at the same prices. If we measure the GDPs in a common currency (in this case, marks), a purchasing power parity (PPP) conversion factor needs to be calculated. This exchange rate is the ratio of the cost of the real GDP bundle in South to the cost of the same bundle in the prices of North: 2,000 rupees/3,000 marks or 2/3 rupees/mark.

Compared with the market exchange rate, this raises the value of the rupee, reflecting its ability to buy relatively cheaper goods such as X at home. Now measured in PPP terms, per capita GDP in South is 2,000 rupees divided by the PPP exchange rate of 2/3 rupees/mark. This gives 3,000 marks, which accurately reflects economic welfare in South. The purchasing power of a mark in North is the same as the purchasing power of an “international mark” (worth 2/3 rupees) in South.

In this simple example, good Y can be thought of as a traded good whose price is determined in a global market. The market exchange rate reflects purchasing power over such traded goods. A long-standing theory of exchange rate determination holds that if all goods were tradable, market exchange rates would move towards PPP exchange rates. However, in practice, this convergence is slow and imperfect (Rogoff, 1996).

Good X can be thought of as a non-traded good. These are typically cheaper in developing

countries than in industrialized countries. As a result, using the market exchange rates of developing countries to express their GDPs in US dollars would significantly understate the size of their economies and the economic welfare of their inhabitants. For example, the World Bank's PPP calculations for 2005 set China's GDP per capita at \$4,091 compared with US \$1,721 if the market exchange rate were used (World Bank, 2008a, p. 24). Such adjustments raise the middle-income and low-income countries' share of the world economy in 2005 from 22 % to 39 % (World Bank, p. 10).

### National Price Levels

In the same way that a consumer price index (CPI) is a price index for a set of goods and services in one place over various points in time, the PPP exchange rate acts as a price index that allows comparison of prices of a set of goods and services in various countries at a point in time. The ratio of the PPP exchange rate to the actual exchange rate is termed the "national price level." Its value of  $2/3$  in the numerical example indicates that prices in South are, on average, lower than in North, the country whose currency is being used to measure prices internationally. If the ratio were greater than one, it would indicate a weighted average of prices that are higher than those in North.

Table 2 shows World Bank estimates of the ratio of these PPP conversion factors to the actual exchange rate for a small selection of countries in 2011. The value for the United States is 1 by construction because the US dollar is used to measure international prices. For countries where estimates exist, the lowest value is 0.3 (Ethiopia) and the highest is 1.6 (Norway and Switzerland). These estimates imply that using market exchange rates to compare GDP and material living standards across countries would be seriously misleading.

### Data Collection and Estimation of Actual PPP Values

The data for the calculation of PPP exchange rates are produced under the auspices of the International Comparison of Prices Program (ICP) of

**Purchasing Power Parity, Table 2** National price level estimates

Country	National price level (2011)
Canada	1.2
China	0.6
Ethiopia	0.3
India	0.4
Norway	1.6
United States	1.0
Switzerland	1.6

Source: World Bank, <http://data.worldbank.org/indicator/PA.NUS.PPPC.RF>

the World Bank. The program was initiated in 1968 by the United Nations Statistical Office and the University of Pennsylvania but is now managed by the World Bank under the auspices of the United Nations Statistical Commission.

The goal of the ICP is the production of internationally comparable estimates of countries' real gross domestic products and their expenditure components (consumer expenditures, government services, investment expenditures, and net exports). These estimates permit comparison of average material living standards or economic welfare across countries, as well as providing estimates of absolute poverty rates using the US \$1.25/day standard (Deaton, 2011) and the degree of inequality in living standards across the world (Milanovic, 2005).

The fifth round of the ICP, using prices of 2005, estimated PPP exchange rates for 146 countries (World Bank, 2008a). A sixth round using prices from 2011 is scheduled for completion in 2013. It will contain estimates for about 180 countries divided into six regions.

The core data required for PPP calculations are GDP expenditures, disaggregated for the 2011 round into 155 expenditure components (termed "basic headings") and average prices for a sample of goods and services corresponding to each of them. Price data is collected through surveys administered by national statistical agencies on behalf of the ICP, whose regional agencies guide and coordinate the data collection and validate the results. The Organization for Economic Cooperation and Development (OECD) and the Statistical Office of the European

Commission (Eurostat) collect data in parallel for their member countries. The ICP's global office combines the regional data and PPP estimates into a world comparison.

In addition to the PPP estimates produced by the World Bank, the ICP data is used to estimate PPPs for the Penn World Tables. The OECD produces separate PPP estimates for its member countries.

### Discussion

In practice, PPP calculations face many practical difficulties (Deaton & Heston, 2010; Deaton, 2010). Like any price index, many different formulas may be used with the price data collected by the ICP, each formula resulting in different PPP values. As well, the underlying GDP estimates for many developing countries are inaccurate and produced using outdated methods.

A fundamental and intractable difficulty is that the same goods and services are not available in dissimilar countries. Thus, PPP comparisons between similar countries such as Canada and the United States will be more reliable than comparisons between dissimilar countries, such as Canada and India. Such difficulties hinder a precise comparison of material living standards between countries with very dissimilar relative prices and patterns of consumption, raising questions about whether even attempting such comparisons is worthwhile and whether other approaches should be tried (Deaton, 2010, p. 31).

There may also be systematic quality differences between the goods available in different countries. If lower quality goods in poorer countries are being equated with higher-quality goods in the richer countries, this would tend to overstate living standards in poorer countries. On the other hand, if only the higher-quality goods more commonly available in rich countries were being compared with the same goods in poorer countries (e.g., which might only be available in speciality shops in urban areas), this would tend to raise the apparent price level in the poorer countries and understate their actual living standards. Related to this, the determination of a national price level is made more difficult by large differences in urban and rural prices, driven mostly by

differences in the price of services (Heston, 2008, p. 68), compounded with a possible urban bias in the actual prices collected in the ICP.

PPP calculations also face difficulties in valuing "comparison-resistant" goods and services that lack market prices (Deaton & Heston, 2010, pp. 22–26). The imputed rent for owner-occupied housing is one example. Another are the services of civil servants and workers in the education and health sectors, expenditures on which must be appropriately deflated to get estimates of real quantities. To do this, assumptions must be made about how these workers' productivity is changing over time, assumptions that can have significant effects on the results (Heston, 2008, p. 66). Recent rounds of the ICP have devoted attention and resources to these and other methodological problems (Rao, 2009; World Bank, 2008b, World Bank, 2013).

### Concluding Remarks

PPP exchange rates are a central component of international comparisons of economic welfare. The methods used to calculate PPPs are continuously evolving as both more countries are brought into the ICP project and more resources are devoted to it. While the resulting PPP estimates are not unique, will necessarily remain imperfect, and should be used with caution for some purposes, considerable progress is being made in increasing their ► [reliability](#).

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## Purmerend

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### Definition

Purmerend is a city in the Dutch province North Holland and is located about 15 km north of Amsterdam, the capital city of the Netherlands.

### Description

Purmerend has 79.175 inhabitants (1 April 2011) and is part of the Randstad, one of the largest conurbations in Europe. Most of the inhabitants of Purmerend are commuters; in the municipality itself, there is relatively few employment. Most of the commuters travel to Amsterdam for work.

The age distribution is approximately the same as in the Netherlands as a whole. Also, in Purmerend as well as in the Netherlands, the proportion of the youth is declining and the proportion of the elderly is rising.

Compared to the Netherlands, there are fewer higher educated people in Purmerend and more lower educated people.

In a 2010 report on the social situation in Purmerend (called “the state of Purmerend”),

a couple of important life domains are covered: demography, education, economy, health and care, safety, sport, culture and well-being, housing, accessibility, public space, and services. These domains are mainly chosen because of their policy relevance: the same domains are chapters in the community budget.

The idea with the report is that the local government wanted to know how the municipality fares as a means to identify necessary new policies (strategic agenda).

The report describes not only the actual situation people are in but also the subjective experiences (are they satisfied).

A central focus in the report is the attractiveness of the city: a successful city is attractive for inhabitants as well as for businesses. The attractiveness of Purmerend is understood as livability: Purmerend should be a livable city. A central question then is to find ways to prevent livability problems from arising.

### Data and Some Results

For the report “the state of Purmerend,” a variety of available, local surveys is used – for example, “Purmerend in Figures,” a survey among elderly and a survey among the youth.

A selection of results:

Mean satisfaction with quality of the shops	7.3
Percentage dissatisfied with possibilities for recreation	14
Percentage of people saying their health is good	87
Mean report grade for city as a place to live	7.3
Percentage of people that has to few social contacts	10
Percentage of people that is actively involved in the neighborhood	12
Report grade house	7.3
Report grade environment of the house	6.8

### Life Situation and Lifestyle

In 2004, Purmerend had a special social report, which was focused on the life situation of the people. In order to compare the quality of life of the city with other cities and with the Netherlands as a whole, Purmerend made use of the life situation index. This index, which is constructed by the Netherlands Institute for Social Research | SCP, integrates eight important life domains:

**Purmerend, Table 1** Life situation scores (index = 100 in 1997) – Purmerend compared to the Netherlands as a whole

	Purmerend	The Netherlands	Difference
Mean	99	102	-3
18–24 years old	104	107	-3
25–34 years old	103	105	-2
35–44 years old	105	106	-1
45–54 years old	102	105	-3
55–64 years old	97	101	-4
65–74 years old	87	94	-7
75 years or older	75	77	-2
Men	101	103	-2
Women	98	101	-3
Has paid work	104	107	-3
Has no paid work	89	93	-4
Lower or no education	81	87	-6
Lower secondary education	93	97	-4
Secondary education	99	104	-5
Higher secondary education	104	105	-1
Tertiary education	107	109	-2
Living alone	86	90	-4
Couple without child(ren)	96	102	-6
Couple with child (ren)	105	107	-2
Single-parent family	97	97	0
Low income	85	89	-4
No low income	102	105	-3
Indigenous	100	103	-3
Non-Western allochthonous	95	93	+2
Western allochthonous	101	100	+1

Life situation survey, 2003

Source: Municipality Purmerend (2004).

health, housing, participation in sports, social participation, sociocultural leisure activities, ownership of durable consumer goods, holidays, and mobility (see ► [Life Situation Index](#) and Boelhouwer, 2010).

The life situation of Purmerend inhabitants is less good compared to the Dutch population as a whole (see [Table 1](#) below).

**Purmerend, Table 2** Life situation related to happiness and subjective health

Happiness	
Very happy	105
Happy	101
Not happy/not unhappy	93
Unhappy	84
Subjective health	
Good/very good	103
Not good/not bad	88
Bad	80

Life situation survey, 2003

Source: Municipality Purmerend (2004).

Notable is that the allochthonous Purmerend inhabitants score better than the average Dutch allochthonous people. Still, their score is a bit worse compared to indigenous Purmerend inhabitants.

The life situation of people without a job, living alone, with a low income, or with low educational levels is obviously less good than the life situation of others (more on comparisons between Purmerend, the Netherlands, and other cities can be found in Schyns and Boelhouwer, 2004).

As the life situation index gives an impression of the situation people are in, but not on how they feel about that, figures are presented on happiness and satisfaction. Inhabitants of Purmerend are happy people: about 20 % says to be very happy and another 63 % says to be happy. About 4 % says to be unhappy.

The relationship between the life situation and happiness is a positive one: the happier a person is, the better his or her life situation is (see [Table 2](#) below). The same holds for the relationship with subjective health: the better someone says his or her health is, the better the life situation is.

## Cross-References

- [Life as a Whole, Satisfaction with](#)
- [Neighborhood](#)
- [Satisfaction with Life as a Whole](#)

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## Purpose in Life

► [Meaning in Life](#)

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## Purpose in Life Test

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## Synonyms

[PIL](#)

## Definition

The PIL test is a 20-item self-report attitudinal scale designed to measure the extent to which a respondent perceives a general sense of meaning and purpose in life or respectively suffers from an “existential vacuum” (Frankl, (1959/1985), p. 18).

## Description

The PIL (Crumbaugh & Maholick, 1969/1981) test is the first and the most-studied questionnaire to measure perceived life purpose and meaning. It consists of 11 items which focus on the respondents’ mood (e.g., item 1: I am usually completely bored, neutral, exuberant, enthusiastic), 3 items which address life goals (e.g., item 3: In life I have no goals or aims at all, neutral, very clear goals and aims), and 3 items which address ► [meaning of life](#) itself (e.g., item 4: My personal existence is utterly meaningless without purpose, neutral, very purposeful and meaningful).

## Theoretical and Practical Applications

Crumbaugh and Maholick (1969/1981) developed the PIL test in 1964, with the goal of measuring purpose and meaning in life. The PIL test is based on Viktor Frankl’s concept of the existential vacuum: a perceived lack of meaning in life, characterized primarily by an ongoing lack of meaning, accompanied by apathy, lack of interest, and pervasive boredom. According to Frankl’s theory, the experience of an existential vacuum is not necessarily an indication of psychopathology, but may lead to, if unmitigated, existential frustration and eventually to noögenic neurosis (Frankl, 1988).

At least three potential applications of the PIL test have been identified in the research literature (Crumbaugh & Maholick, 1969/1981; Hutzell, 1988): (a) to screen for the presence of existential vacuum in counselling/psychotherapy, (b) to evaluate the effectiveness of therapeutic interventions, and (c) to administer to individuals or groups for research purposes. The PIL test has been used in a range of research settings (e.g., studies emphasizing existential or theological ideas) and populations (e.g., university students, retirees, critically ill, handicapped persons, delinquents). It has also been used to assess covariates to meaning in life (e.g., alcohol abuse, demographic variables, time orientation).

### Test Item Theory, Construction, and Selection

Crumbaugh and Maholick (1969/1981) do not provide information about the method of formulating and selecting the items and the item statistics. The aim was to validate Frankl's logotherapy and meaning concept measuring the "existential vacuum" and to differentiate prospective logotherapy clients from non-clients.

### Structure, Administration, Scoring, Norms, and Revised Versions

The PIL test consists of three parts, which are described in further detail below. Only Part A is commonly used in research (Crumbaugh & Henrion, 1988; Hutzell, 1988).

The original PIL test was written in English; since then, it has been translated and adapted into many languages, including Russian, German (Sink, Purcell, van Keppel, & Gamper, 1997), Czech, Polish (Halama, 2009), and Chinese (Shek, 1992). The PIL test is written for adults at a fourth-grade reading level, but some words may be difficult for adolescents to understand (Crumbaugh & Henrion, 1988). It can be administered to individuals or to groups (Hutzell, 1988), although the individual administration is not as reliable as the group administration due to individual distortions and social desirability (Crumbaugh & Maholick, 1969/1981).

Examiner involvement in the PIL test administration and scoring is minimal, with instructions to respondents printed on the answer sheet. No specific expertise in testing is required. In the PIL test manual, the authors state that the test should be used with caution in competitive settings, to reduce the influence of social desirability on scores (Crumbaugh & Maholick, 1969/1981; cf. Hutzell, 1988).

The PIL test and manual are published by Psychometric Affiliates (Box 3167, Munster, IN, 46321).

### Part A

Part A is composed of 20 Likert-type response items on a 7-point scale; where a score of 1 represents low purpose, 4 represents neutrality, and 7 represents high purpose. Each item has

different anchor points, either bipolar, unipolar, or unique (e.g., "If I could choose, I would: prefer never to have been born [1]. . .like nine more lives just like this one [7]"; Reker & Cousins, 1979).

There are no time restrictions for Part A, and most respondents can complete this section in 10–15 min (Crumbaugh & Henrion, 1988). Two of the items (related to retirement and preparation for death) may cause negative reactions for some respondents (Hutzell, 1988).

Part A is scored by adding individual item ratings for a total score that ranges from 20 (low purpose) to 140 (high purpose). Interpretation of the scores is objective, and percentile equivalents of the raw scores for Part A are provided in the test manual. These norms are based on 1,151 individuals, who are not representative of any specific population and who were selected by convenience sampling. The PIL test manual authors reported that approximately 70 % of the sample cases were "normal" or non-patients, and the other 30 % were psychiatric patients (Crumbaugh & Maholick, 1969/1981; Hutzell, 1988). The highest score among groups was attained by successful business and professional personnel ( $X = 119$ ,  $SD = 11.3$ ,  $N = 230$ ), whereas college undergraduates attained lower scores ( $X = 108$ ,  $SD = 14$ ,  $N = 417$ ) (Crumbaugh & Maholick, 1969/1981).

The test authors suggest that the best "cutting score" (the score that identifies a patient from a non-patient) is 102 (rather than the obtained overall mean of 106.47, due to the larger proportion of "normal" individuals); and the overall estimated standard deviation is 19. Based on the original norms ( $N = 1,151$ ), scores of 113 and above indicate definite purpose in life, scores between 92 and 112 are in the indecisive range, while scores of 91 and below indicate the lack of clear meaning and purpose in life. Raw scores are used for many research studies (Crumbaugh & Henrion, 1988; Hutzell, 1988).

Attempts to detect relationships between PIL test scores and age, education, intelligence, and gender have been unsuccessful or have met with mixed results, possibly due to population differences (Crumbaugh & Henrion, 1988).

## Parts B and C

Part B consists of 13 sentence-completion items concerning respondents' life purpose (Crumbaugh & Henrion, 1988).

Part C asks respondents to write a paragraph about their life goals, ambitions, hopes, future plans, sources of meaning (in the past), and motivations (in the future). Respondents are also asked to evaluate the progress being made in accomplishing these (Crumbaugh & Henrion, 1988; Hutzell, 1988).

Clinicians must interpret the results of Parts B and C subjectively, for use with individual clients (Crumbaugh & Henrion, 1988).

## Revised Versions

Many alternate versions of the PIL test (Part A) have been developed, often because of concerns about the original PIL test having unique anchor points, which may be confusing to respondents. The PIL revised tests are composed of fewer items, simplified wordings, and/or modified response formats (Hutzell, 1988). Examples of a revised PIL test include the Life Purpose Questionnaire (LPQ; Hablas & Hutzell, 1982; Hutzell, 1988; Hutzell & Peterson, 1986), a test which may be better-suited for geriatric, alcoholic, or schizophrenic populations, as well as the more recently developed Meaningful Life Measure (Morgan & Farsides, 2009). Becker (1985) conducted a ► [factor analysis](#) and found that several items (#7, 12, 13, 14, 15, and 18) were not sufficiently selective and thus proposed a short form.

## Reliability

The PIL test has been widely used and appears to be reliable, though technical data can be difficult to locate. Split-half and ► [Cronbach's alpha](#) estimates as well as ► [test-retest reliability](#) estimates from various studies indicate that the PIL test is sufficiently reliable, though reliability estimates in divergent populations need to be established (Hutzell, 1988).

## Test-Retest

PIL test-retest reliabilities from various studies range from a 1-week coefficient of .83 ( $N = 57$

church members; Meier & Edwards, 1974), a 6-week coefficient of .79 ( $N = 31$  college students; Reker & Cousins, 1979), to a 12-week coefficient of .68 ( $N = 17$  penitentiary inmates; Reker, 1977).

## Split-Half

PIL test split-half reliabilities have been recorded from .77 to .85 (Spearman-Brown corrected to .87 and .92, respectively; Crumbaugh, 1968; Crumbaugh & Maholick, 1964; Hutzell, 1988; Reker, 1977; Reker & Cousins, 1979). Data were collected from a variety of populations, including students, psychiatric outpatients, and penitentiary inmates (Hutzell, 1988).

## Alpha Coefficients

PIL test alpha coefficients range from .86 to .97 (Reker & Fry, 2003; Schulenberg, 2004).

## Validity

A number of studies have demonstrated the validity of the inferences drawn from the PIL test and that the test adequately measures the extent to which individuals find meaning in their lives, although other studies have shown minimal associations between measures and constructs which should be theoretically related to the PIL test.

## Face Validity

Face validity for the PIL test appears adequate, because the items appear to assess what is intended (Hutzell, 1988).

## Construct-Convergent Validity

The PIL test has been correlated with several theoretically related measures, including positive correlations with the Frankl questionnaire's measurement of existential vacuum (.68,  $N = 136$ ; .56,  $N = 200$  in another study with church members; Crumbaugh & Maholick, 1969; 1981), the LPQ (Hablas & Hutzell, 1982), measures of happiness (Debats, 1990; Reker, Peacock, & Wong, 1987), and the Existential Scale (ESK) (.49,  $N = 1,028$ ; Längle, Orgler, & Kundi 2000). It has also been negatively associated with suicidal ideation (Harlow, Newcomb, & Bentler, 1986) and the use of

alcohol (Crumbaugh & Carr, 1979; Waisberg & Porter, 1994) and drugs (Harlow et al., 1986; Padelford, 1974).

In addition, when therapists were asked to fill out a PIL test for ( $N = 50$ ) patients, the correlation between their ratings and the patients' own was .38. A correlation of .47 was found between the ratings of 120 parishioners' PIL test scores and the scores produced by a group of ministers who rated the degree of meaning in life exhibited by their parishioners (Crumbaugh & Maholick, 1964).

#### Construct-Discriminant Validity

The authors of the PIL test have reported low correlations between the PIL test and MMPI scales (Crumbaugh & Maholick, 1964). Small-to-moderate relationships have been found between PIL test scores and neuroticism (Eysenck's EPI:  $-.32$ ,  $N = 1,028$ ; Längle et al. 2000), extraversion (EPI:  $.14$ ,  $N = 1,028$ ; Längle et al.) and measures of depression, ranging from  $-.30$  to  $-.65$  (Crumbaugh & Henrion, 1988; Dyck, 1987; Längle et al. 2000). Further evidence of association with depression emerged from a factor analysis with the PIL and the Zerssen Depression Scale (Längle et al.), which brings it close to the measures of depression. Dyck (1987) also describes a correlation with anxiety ( $-.52$ ).

#### Known-Groups Validity

The PIL test has found significant differences between individuals with and without mental illnesses and has done so for a number of groups (Crumbaugh & Maholick, 1964; Garfield, 1973). It is remarkable that schizophrenic patients had clearly better results (between 97 and 108) than neurotic patients (93), alcohol dependents (85), and not schizophrenic psychotic patients (81) (Crumbaugh & Maholick, 1969/1981, p. 2).

## Discussion

### Single Versus Multiple Factor Models

Most studies assume the PIL test is unidimensional and report a single total score for the measure. Yalom (2008) notes that the items appear to relate to several different constructs:

life meaning (purpose or mission), life satisfaction (boredom, excitement, painfulness), freedom, fear of death, suicide, and how worthwhile one perceives one's life to be (Melton & Schulenberg, 2008).

Multiple factor analytic investigations (e.g., Marsh, Smith, Piek, & Saunders, 2003; Schulenberg & Melton, 2010; Waisberg & Starr, 1999) have yielded inconsistent results as to the factor structure that underlies the PIL test. Although many factor analytic studies of the PIL test argue that the measure may be comprised of multiple factors, the item composition of each factor and the number of factors vary from study to study (Melton & Schulenberg, 2008).

The paucity of studies about the factor structure of the PIL test, along with the differences in the findings, suggests that caution is warranted for the assumption that the PIL test is measuring a unidimensional construct. If purpose in life, as measured by the PIL test, is not unidimensional, then the validity of adding scores for all the PIL test items to form a total score may also be called into question (Marsh et al., 2003). Factor analytic investigations of the PIL test are an important avenue for future research (Melton & Schulenberg, 2008). Several recent studies have suggested that a two-factor model of the PIL might be more psychometrically appropriate (Morgan & Farsides, 2009; Schulenberg & Melton, 2010), although additional research is needed to substantiate these initial findings.

### Parts B and C

When the PIL test is studied empirically, the focus tends to be on Part A given that the scoring is straightforward. Ebersole, Levinson, and Svensson (1987) argue for more frequent use of Parts B and C and call for further research on these sections. The authors identify the potential use of Part B as providing a partial qualitative description of one's life meaning and presenting pertinent personal identifying material. They also call for the potential use of Part C as creating a categorization system of different purposes, investigating which types of goals seem to be reported more capable of fulfillment, and

comparing the types of meanings emphasized during different life-span developmental periods.

### Culture

Additional research is needed to validate the PIL test cross-culturally and to establish locally based norms. The PIL test manual norms can act as a comparative guide but should not be assumed to be valid for non-English-speaking cultures or for all American subcultures. Researchers should also continue to investigate the meaning construct and related postulates in different cultures, because how meaning is defined, and the pathways to a sense of life meaning, may differ cross-culturally (Savolaine & Granello, 2002).

The PIL is not based on a clear definition of meaning but constructed on a cultural understanding of meaning. Cultures and subcultures divergent from Western philosophy and middle-class thought may find life meaning in contexts not addressed by the PIL test or may interpret the PIL test items differently from the bulk of the samples studied to date. Generalization of the PIL test must be questioned for these groups and specific validity studies are warranted (Hutzell, 1988).

### Understanding of Meaning

The PIL test measures an active, emotionally stable, goal-oriented, positive direction of life, in which initiative, change, success, and being prepared for death are seen as contributing to life meaning. In comparison with the ESK (which measures capacities for finding meaning and personal fulfillment), the understanding of meaning in the PIL is lighter, has more emotional resonance, and has less decisiveness (Längle et al. 2000). It is possible that the test may correspond largely to a common American ideal and uses defined values (which may be further exaggerated in Parts B and C). In contrast to a depressive attitude, the PIL test seems to measure a kind of “mood for meaning” or a “positive feeling for life” in which one feels held and protected and which may include spiritual/religious dimension. It is thus more a global measure of the meaningfulness of the respondent’s life.

## Cross-References

- ▶ [Attitude Measurement](#)
- ▶ [Convergent Validity](#)
- ▶ [Cronbach’s Alpha](#)
- ▶ [Discriminant Validity](#)
- ▶ [Existential Analysis](#)
- ▶ [Existential Fundamental Motivation](#)
- ▶ [Existential Psychotherapy](#)
- ▶ [Known-groups Validity](#)
- ▶ [Meaning in Life](#)
- ▶ [Meaningfulness of Work](#)
- ▶ [Personal Existential Analysis Method](#)
- ▶ [Reliability](#)
- ▶ [Test-Retest Reliability](#)

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## Purposive Sampling

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## Synonyms

Non-probability sampling; Theoretical sampling

## Definition

Purposive sampling is intentional selection of informants based on their ability to elucidate a specific theme, concept, or phenomenon.

## Description

As utilized in qualitative and mixed methods research, purposive sampling involves an iterative process of selecting research subjects rather than starting with a predetermined ► [sampling frame](#). Akin to grounded theory, the selection process involves identifying themes, concepts, and indicators through observation and reflection (Schutt, 2006: 348). Schutt places particular emphasis on the importance of each sampling element occupying a unique position relative to the research endeavor (2006: 155). Along these lines, researchers often utilize a purposeful sampling technique to select informants based on their particular knowledge of, and/or experience with, the focus of empirical inquiry.

Purposive sampling is a sampling design that is not intended to offer a ► [representative sample](#) but rather to hone in on particular phenomena and/or processes. In their overview of qualitative interviewing, Rubin and Rubin (1995) suggest guidelines for selecting informants purposively. These include focusing on subjects who are (1) knowledgeable about the cultural arena or situation or experience being studied, (2) willing to talk, and (3) are able to cover a range of points of view (Rubin & Rubin, 1995: 66). On a similar note, Glaser and Strauss (1967) emphasize utilizing purposive sampling to highlight the range of similarities and differences among informants.

Consistent with other forms of ► [non-probability sampling](#), purposive sampling generates information distinct from that culled through probability sampling. Nevertheless, it can provide valuable insight to studies employing quantitative and mixed methods by drawing on

divergent perspectives, thereby illuminating the relevance of the positionality of informants vis-a-vis the research in question. In discussing their typology of purposive sampling, Teddlie and Yu (2007) underscore several ways in which purposive sampling techniques contribute to broader research objectives, including establishing representativeness or comparability, highlighting special/unique cases, and selecting cases gradually based on their relevance to the research query. Furthermore, Shaw (1999) points out that purposive sampling allows researchers to engage with informants for extended periods of time, thus encouraging the compilation of richer amounts of data than would be possible utilizing probability sampling.

Though distinct from probability sampling, it is important to underscore the difference between purposive sampling and other types of non-probability sampling. In contrast to availability sampling and snowball sampling, purposive sampling is neither the most readily available component of the population in question nor the easiest to reach or find. It is also distinct from ► [quota sampling](#) in that the basis of selection in purposive sampling is not necessarily demographic in nature (e.g., gender or race).

The primary criticism of purposive sampling is that researchers who utilize this technique sometimes fail to adequately disclose their selection criteria, thus undermining the transparency of their research as well as missing an opportunity to leverage this information in their analysis. This is particularly problematic for researchers who use purposive samples to make claims about the representativeness of specific populations (e.g., unique cases). Nonetheless, if researchers are forthcoming about their selection criteria, purposive sampling can be employed as a technique to help deepen our understanding of complex social processes are either ignored or underappreciated in studies utilizing probability sampling. Moreover, it can help to elucidate a wider range of perspectives, especially those which are considered outliers in representative samples.

## Cross-References

- ▶ [Non-probability Sampling](#)
- ▶ [Qualitative Methods](#)
- ▶ [Quota Sampling](#)
- ▶ [Representative Sample](#)
- ▶ [Sampling Frame](#)

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## PWB

- ▶ [Psychological Well-Being Inventory](#)

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## Pythagoras

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### Birth, Education, Work History, and Main Contributions

Pythagoras of Samos (c. 560 – c. 480 BCE) is one of history's most extraordinary people, brilliant, charismatic, and enigmatic. He and his friends

created associations that engaged in socio-economic, political, religious, and academic activities. Although he seems to have written nothing, so remarkable were his talents and character that incredible legends were attached to him, e.g., that he could walk on water and be in two different places at the same time. Economically and politically, Pythagorean societies were relatively successful aristocracies, religiously they were relatively secretive and ascetic, and academically they nourished creative scientists and mathematicians. While the theorem bearing his name was known to earlier Babylonians, he seems to have discovered that musical intervals could be expressed mathematically, i.e., that musical qualities could be expressed quantitatively. Since the essence of ▶ [social indicators](#) or ▶ [quality of life](#) research is precisely the measurement (quantification) of qualities, it is fair to regard Pythagoras as the first researcher in our field.

As one might have expected, his initial efforts were not uniformly successful. He is reported to have believed that the ultimate material of the universe was numerical in some sense, but the sense was quite unclear. According to McKirahan (1994, p. 112),

The Pythagoreans believed that number is fundamental to all things, that the basic features of all things are numerical, that numerical considerations are basic in understanding all things, that all things are generated in a similar way to numbers. These statements are all ways of claiming primacy for numbers, but they are different ways.... They were not interested in analyzing different ways numbers are primary, only in establishing that numbers are in fact primary. They formulated their thesis vaguely, to accommodate the different relations they found between things and numbers. . . to judge by Aristotle's criticisms [in his *Metaphysics*], their vague notion of priority does not stand up to analysis....

For present purposes, the details of the Pythagorean scheme are not as important as the general idea that the universe is not only intelligibly ordered but constructed out of entities with geometrical shapes that, in principle perhaps, might be measurable. The following fragment by

a relatively obscure writer from the first century AD known as Aetius expresses this idea:

There being five solid figures called the mathematical solids, Pythagoras says that earth is made from the cube, fire from the pyramid, air from the octahedron, water from the icosahedron, and from the dodecahedron is made the sphere of the whole. (McKirahan, 1994, p. 102)

With the “mathematical solids” as basic building blocks, Pythagoras imagined that the universe, which he called the *kosmos*, was somehow held together or connected by *harmonia*, i.e., by some sort of principle of harmony, which he had shown was intimately related to numerical analysis. He apparently believed that all living things (plants as well as animals) have immortal souls which at death transmigrate among diverse species, trading up or down as it were, depending partly on individuals’ behavior and character. It is unclear if souls were supposed to be discrete, singular entities, aggregations of entities connected by the same principle of harmony holding the universe together, or merely that very same principle under a new name when it is applied to holding the parts of an individual’s body together. The first of these alternatives would probably be the easiest to combine with a theory of transmigration. In any event, the aim of the relatively ascetic Pythagorean “way of life” was to bring increased harmony to an individual’s soul, thereby improving that individual’s chances for trading up rather than down and ultimately being released from the whole process. This notion of a harmonious soul or a soul at peace with itself found a place in the writings of most of his near-contemporary philosophers. To some extent, it is a feature of our contemporary popular psychology revealed in remarks about people having or needing to “get it all together,” “pull themselves together,” and “getting your heart and head together.”

Pythagoras has been investigated thoroughly and revealed to be a complex historical phenomenon. The man himself was certainly not a philosopher or a mathematician, but an early Orphic religious cult leader who used number

magic as part of his cult doctrine. Most of what we associate with him has been retrojected back onto him by his followers, who considered any revision in the understanding of his doctrine to be the true meaning of the original prophet (and hence attributed it directly to him as the original intent of his words). Central to this cult was the idea of purification (ultimately, purification of the body from the soul), which in time led his followers to create a genuine school of philosophy (the Pythagoreans) based on the notion that scientific learning and abstract mathematics was the kind of purification that Pythagoras had had in mind. Plato picked this up, along with the “way of life” which Plato translated into the Academy. The Pythagoreans certainly hit upon the mathematization of nature and via that the idea of quantitative analysis in science. The theory of the solids much occupied them, but the version given here is practically straight out of Plato’s *Timaeus* (another case of retrojection, McKirahan’s n. 40, p. 102).

The Pythagorean “way of life” was pretty clearly divided into two main paths, the path of scholarship engaged in a variety of intellectual inquiries versus a path of religious asceticism engaged in following an array of more or less reasonable rules, e.g., eating in moderation and only vegetables, not eating beans, not keeping swallows in the house, and not urinating facing the sun. However one assesses the two distinct paths characterizing the Pythagorean “way of life”, the philosopher’s most important contributions to our subject lie elsewhere. These are, first, his discovery of the fact that qualitative features of the world can be quantified and, second, his theory that the observable conditions of an individual’s life and the individual’s observable behavior have an impact on that individual’s unobservable soul. Most importantly, by positing an unobservable immortal soul as the final recipient of any rewards or punishments justly visited upon an individual for his or her own behavior, Pythagoras directed our attention away from overt appearances to covert realities. After all is said and done, according to Pythagoras, the ► [good life](#) we seek is the unobservable harmony of that unobservable entity, the immortal soul.

## Cross-References

- ▶ [Quality of Life, Two-Variable Theory](#)
- ▶ [Social Indicators](#)

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