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## ABSTRACTS

### PERCEPTIONS OF RISK FOR MYOCARDIAL INFARCTION AMONG PERSONS WITH HEART DISEASE: DETERMINANTS OF ABSOLUTE AND COMPARATIVE PERCEPTIONS

Aalto, Anna-Mari, Finland; Weinman, John, UK; Aro, Arja, Finland; French, David, UK

*Objectives* To examine perceived risk of myocardial infarction (MI) and its correlates among person with heart disease (HD) and to examine whether the correlates differ for absolute and comparative risk perceptions (RP).

*Methods* The sample ( $n = 2745$ ), aged from 45 to 74 years and stratified by gender was drawn from the drug reimbursement register of the Social Insurance Institution. RPs were measured by three questions: perceived personal risk of MI (absolute risk, RP\_ABS), perceived MI risk of average same sex, same age Finn and perceived MI risk of average same sex, same age Finn with CHD. Two variables for comparative risk perceptions were computed: (1) own risk compared to that of an average Finn (RP\_GEN) and (2) own risk compared to that of an average Finn with heart disease (RP\_HD). Independent variables were sociodemographics, HD severity, HD history, risk behaviours, vicarious experiences and psychosocial resources.

*Results* Among persons with diagnosed heart disease, 39% perceived that they were at lower risk of MI than an average person and 51% assessed to be at lower risk than persons with HD in general. Men and those with higher education held more optimistic PR. Illness severity and previous MI were related to optimism in all risk perceptions. Vicarious experiences were related to RP\_ABS and RP\_GEN but not to RP\_HD. Strong psychosocial resources, self-efficacy in particular, were related to more optimistic RP both in absolute and comparative terms.

*Conclusions* On aggregate level these results indicate an optimistic bias in MI risk perceptions among persons with heart disease. Illness severity and illness experiences were the strongest correlates of risk perceptions. Only a few differences were found in correlates of absolute and comparative RPs.

### A SYSTEMATIC APPROACH TO GUARANTEE ADOPTION AND MAINTENANCE OF A THEORY- AND EVIDENCE-BASED REGIONAL DISEASE PREVENTION FRAMEWORK

Absetz, Pilvikki, Patja, Kristiina, Valve, Raisa, Uutela, Antti, Talja, Martti, Nissinen, Aulikki; Finland

*Background* Theory- and evidence-based medicine offers potential for effective disease prevention within the health care system. However there are many obstacles to the adoption and

maintenance of even the most effective programs or practices as an integral part of routine care. In the Ever-good Aging research and development program (Ikihyvä), an integrated regional disease prevention framework is being created. Within this framework, theory- and evidence-based methods are developed, tested and adapted into regional use by different professional groups. Two main initiatives included are:

- (i) Regionally adapted package of national clinical guidelines related to lifestyle factors that influence chronic disease (hypertension, hyperlipidemia, obesity and nicotine dependency/smoking cessation).
- (ii) Theory- and evidence-based lifestyle counselling program.

Practical example of a systematic approach to ensure maintenance. Widespread adoption into routine care and maintenance of the prevention framework poses a major challenge. To ensure this, a systematic approach has been incorporated to planning for program adoption, implementation, and sustainability. The approach includes:

1. Linkage: Collaboration with all the health care professional groups involved, the health care administration at local/regional level and at national level, and scientists.
2. Analysis: Needs' assessment, obstacles and facilitators of adoption.
3. Motivation: Multi-level, continuous.
4. Development: Design and testing of methods and strategies.
5. Education: Setting up a training and support system for program users.
6. Evaluation: Multi-level: Effect, process, feasibility, economical.
7. Structures: Existing and novel.
8. Policies.

This article describes how these issues have been dealt with in practice. How the issues are inter-related, and how they feedback upon each other in ways that are critical in terms of adoption and maintenance of the framework are also discussed. Finally, some future directions are pointed to.

### **ROLE CONFLICT AMONG FEMALE PHYSICIANS IN HUNGARY: CAUSES, EFFECTS AND COPING STRATEGIES**

Adam, Szilvia, Gyorffy, Zsuzsa; Hungary

*Background* The prevalence of role conflict, its sources and potential impact on female physicians' general health have received little scientific attention in Hungary.

*Aim* To explore the prevalence and determinants of perceived role conflict among female physicians in Hungary.

*Method* A nationwide survey among 500 female physicians using questionnaires. Complete data were available for 298 (59.6%) female physicians.

*Results* The prevalence of role conflict was 63% among female physicians. Principal sources of role conflict were associated with maternal duties (56.4%), occupational factors (21.5%), and domestic duties (19.9%). Furthermore, a high prevalence of somatic and psychiatric morbidities have been found. Correlation analyses confirmed a significant relationship between role conflict and depression, suicidal ideation, hypertension, pathologies associated with pregnancy, long working hours (> 8 h) and the frequency of night duty. In addition, 82.2 and 83% of the female physicians reported sleep deprivation and exhaustion due to excessive workload, respectively. Five categories of coping strategies for role conflict-induced distress were identified: specialty change made for children (37.1%), seeking support from family members/colleagues (23.5%), suppression (14.5%), smoking (5%) and drug abuse (2%).

*Conclusion* High prevalence of role conflict and maladaptive stress-coping strategies may serve as catalysts of physical and psychiatric ill-health among female physicians in Hungary.

### **BIOMEDICAL OR BIOPSYCHOLOGICAL PROBLEMS? AN INTEGRATIVE APPROACH TOWARDS UNDERSTANDING ILLNESSES IN PRIMARY HEALTH CARE**

Andersson, Sven Ingmar; Sweden

*Objective* To study illness cognitions/representation in various public health care patient groups in an integrative biopsychosocial perspective.

*Methods* Questionnaire and interview studies involving more than 500 patients.

*Results* The biomedical orientation of many patients, in particular those suffering from chronic widespread fatigue or pain, appeared to be a function of their extended pharmaceutical and surgical treatment and their efforts to be recognized, by health and unemployment insurance authorities in particular, as suffering from a definite somatic disease.

*Conclusions* The illness representations in public health care patients tend to be limited by what public health care authorities permit. In order to deepen the understanding of health and illness at a theoretical, a clinical and a methodological level, the organization of primary health care should assign psychologists and social workers an important role and deal with everyday health problems of ordinary people to a greater extent.

### **HOSPITAL FOR CHILDREN AND ADOLESCENTS, HELSINKI UNIVERSITY CENTRAL HOSPITAL, HELSINKI, FINLAND**

Andersson, Sture; Finland

Small size at birth is associated with adult cardiovascular disease and many other common disorders. These findings have brought up the concept of early programming of adult health. It is obvious that such a concept may have a fundamental public health potential.

Size at birth is a rough sum of many different conditions, some of which may have dissimilar late-life consequences. The aim of this study is to present an overview of common pregnancy disorders with a potential for such consequences, including pre-eclampsia and related disorders of placental insufficiency, as well as severely preterm birth that inevitably is associated with impaired growth of the newborn.

Pre-eclampsia affects 3–5% of pregnancies. It is characterised by maternal elevated blood pressure and proteinuria and is often associated with placental dysfunction and impaired fetal growth. Severe pre-eclampsia may be life-threatening to the mother or the fetus, necessitating immediate caesarean section and thus preterm birth. One of the features of pre-eclampsia is a decreased function of the placental enzyme  $11\beta$ -hydroxysteroid dehydrogenase-2. This enzyme protects the fetus from excess maternal cortisol, and its decreased function is likely to result in fetal hypercortisolism. Although direct long-term data from humans is lacking, increased fetal glucocorticoid exposure in animals results in low birthweight and elevated blood pressure in adulthood.

In today's neonatal intensive care, infants born as early as 23–24 weeks' gestation have a chance to survive. Such infants experience a month-long period characterised by long ventilator

treatment, inadequate nutrition, painful procedures and, at least until recently, long courses of high-dose glucocorticoids. Very little is so far known about cardiovascular risk in these infants in adulthood, although a number of small studies have suggested considerably increased risk factors.

Despite its importance, the specific long-term effects of maternal nutrition in humans remains poorly known, partly because of methodological difficulties. A common perception based on recent studies is that relatively minor changes in the intake of protein, fat or folic acid seem to be associated with marked metabolic differences during childhood, although this remains to be confirmed.

#### **CANNABIS USE AND RISK PERCEPTION: TIME PERSPECTIVE AS A MODERATING VARIABLE**

Apostolidis, Thémis, Fieulaine, Nicolas, Morin, Michel; France

Various studies revealed a link between temporal perspective (TP) and risk taking in the field of Health (Zimbardo and Boyd, 1999). We present recent research data, which we collected to evaluate to what extent TP influences risk perception linked to cannabis consumption, and use of psychoactive substances.

A sample of French students ( $n=200$ ; mean age = 21.8 years;  $SD=1.96$ ) was administered a validated French version of the ZTPI scale (Apostolidis and Fieulaine, in press). Risk perceptions were measured out of a list of 25 items referring to recognized risks linked to cannabis consumption. Declared cannabis consumption's frequency and levels were collected for all respondents. Data were also looked for in order to identify poly-consumptions.

Data analysis was based on ZTPI scores, declared consumptions and two risk perception indices, constructed after a factorial analysis (CPA).

ANOVA analysis shows significant differences on the ZTPI scores depending on the use of psychoactive substances and consumer frequency of cannabis. This result reinforces previous research conclusions (Keough *et al.*, 1999). Significant links appear between consumption and risk perception.

A second series of analysis (pathways analysis; Baron and Kenny, 1986) shows that the PT acts as a moderating variable between consumption and risk perception. Thus, the consumption level seems to influence risk perception according to the subject's temporal profiles.

The results are discussed which indicate that PT could be used as a crucial variable in addictive behaviors analysis. This line of research already suggests new stimulating perspectives for Health Psychology. Prevention projects should focus on nonsanitary determinants of risk behaviors and emphasize temporal dimensions of health behaviors.

#### **SELF-REPORTED POOR HEALTH AS INDEPENDENT PREDICTOR OF HOSPITALIZATION IN PATIENTS WITH PERIPHERAL ARTERIAL DISEASE**

Aquarius, Annelies, Denollet, Johan, Hamming, Jaap, Breek, Jan-Kees, De Vries, Jolanda; The Netherlands

*Objectives* Evidence suggests that self-reported health status and quality of life (QOL) may predict health outcomes in cardiac patients; therefore, the role of health status, QOL, and disease severity as determinants of hospitalization in patients with intermittent claudication, a common expression of peripheral arterial disease (PAD) are examined.

*Methods* Two hundred patients from the vascular outpatient clinic of the St. Elisabeth teaching hospital, Tilburg, completed the RAND-36 and WHOQOL to assess health status and QOL, respectively. Diagnosis of intermittent claudication was based on history, physical examination, treadmill-walking distance, and ankle-brachial pressure.

*Results* Self-reported health status and QOL were only weakly correlated with standard indices of disease severity (mean  $R=0.14$ ; 0.02% common variance). After one year of follow-up, 93 patients (46.5%) had been hospitalized for cardiovascular reasons. Self-reported symptoms of poor physical functioning (RAND-36,  $p=0.001$ ), emotional problems (RAND-36,  $p=0.044$ ), and poor physical health (WHOQOL,  $p=0.042$ ) were associated with increased risk of hospitalization. Both self-reported physical functioning (OR = 3.71; CI = 1.59 – 8.67;  $p=0.002$ ) and pain-free walking distance (OR = 3.01; CI = 1.26–7.21;  $p=0.013$ ) retained as independent predictors of hospitalization in a logistic regression model.

*Conclusions* These findings support the notion of assessing health status and QOL in patients with PAD, in addition to traditional clinical measures.

## MEASURING LIFE SATISFACTION AMONG WORKERS IN THAILAND

Ariyabuddhiphongs, Vanchai, Ariyabuddhiphongs, Kris; Thailand

A short questionnaire measuring life satisfaction was developed and tested among office and factory workers in Thailand. Life satisfaction was defined operationally as: good health, absence of crisis in family life, good job position, salary sufficient for spending and saving, important possessions in life and absence of worry in life. A six-item questionnaire, each item representing one aspect of the operational definition, was developed. Copies of the questionnaire were mailed to personnel managers of 160 industrial companies in Thailand for distribution to office and factory workers. A total of 661 copies of the questionnaire were returned from 66 managers, representing 41% return. One third of the respondents was male, and two thirds female. Most were office workers, 35 years old or less, college educated and earned Baht 15 000 or less per month. Their responses were factor analyzed and rotated to varimax solution. The analysis yielded two components: one involving personal matters – health and family, and the other involving material matters – job position, salary, important possessions in life and absence of worry in life. The implication of the result on life satisfaction theory was that among workers in developing countries life satisfaction involved health, family and other matters of existence needs. The limitation of the study was the high proportion of female and office workers in the sample; future research needs to include male and factory workers.

## PSYCHOLOGICAL IMPACT OF GENETIC COUNSELING FOR CANCER

Aro, Arja, R., Absetz, Pilvikki, Schreck, Marjut, Rautalahti, Matti, Pöyhönen, Minna; Finland

*Objective* The objective is to evaluate cognitive, emotional, and behavioral impact of genetic counseling for cancer, which was offered as a service outside clinical context.

*Methods* The data are gathered by a survey pre-counseling (T0), and two (T1) and 12 weeks (T2) post-counseling in two towns in Finland. Forty-five (70%) clients (5 males) replied all the three surveys. Outcome measures included knowledge and perception of cancer and cancer risk; illness attitudes; anxiety (STAI), mood (POMS); cancer-specific items for worry and rumination; and health behaviors.

*Results* In the counseling 5 (11%) clients got low, 21 (46%) moderate, and 20 (44%) high genetic risk estimate. However, at T1 9% recalled their risk low, 76% moderate, and 15% high. At T2 the corresponding figures were 13, 71, and 16%. The risk levels combined, there were no significant changes in the standard measures over time, except increase ( $p=0.032$ ) in POMS anger scale from T0 to T2. Knowledge and health behaviors increased, and cancer worry decreased, especially from T0 to T1. In the high risk group rumination increased, and worry decreased in time. In the low and moderate risk groups worry decreased by T1, but increased again by T2.

*Conclusions* The risk notification received was clearly downplayed by the clients. The counseling had a positive impact in improving knowledge and health behaviors, but left those at markedly increased risk ruminating about cancer. Cancer worry among those at lower risk levels fluctuated over time. The counseling could be targeted more individually to provide more lasting effects.

### **COMPARATIVE OPTIMISM IN PERCEIVED RISK OF SARS AND INFECTIOUS DISEASES IN GENERAL**

Aro, Arja, R., Finland; Vartti, Anne-Marie, Finland; Oenema, Anke, The Netherlands; Uutela, Antti, Finland; Brug, Johannes, The Netherlands

*Objective* The objective is to study comparative optimism and its associations with sociodemographic factors both in perceived risk of SARS and that of infectious diseases in general in Finland with a few suspected SARS cases at the time of the study.

*Methods* The data are gathered by an internet panel ( $n=308$ , age 17–66, 54% females, Finnish speaking). The SARS Psychosocial Research Consortium survey was used extended with questions on risk perception and vulnerability to SARS and infectious diseases in general. Comparative optimism was measured by rating ones own risk compared to that of others of the same age and gender living in Finland.

*Results* Overall, 80% of the subjects estimated their risk of getting SARS negligible – women significantly ( $p<0.05$ ) more often than men – and those with intermediate level of education more than others ( $p<0.05$ ). 40% rated their risk negligible (34% of women, 47% men,  $p<0.05$ ) when compared to that of their peers. Both personal and comparative risk of infectious diseases in general were considered negligible by 7–10%; the lowest educational group rated its personal risk lowest, but there was no difference in comparative risk between educational groups.

*Conclusions* Perceived risk of SARS was low. Nearly half, and men somewhat more than women, were comparatively optimistic about their risk of getting SARS, whereas very few were optimistic about their risk of infectious diseases in general. This differential risk perception of SARS and of infectious diseases in general has implications for both the measurement of risk and or risk communication.

### **GLOBAL PERCEIVED HEALTH THREATS: SARS, BIRD FLU, FOOD SCARES – CHALLENGES FOR HEALTH PSYCHOLOGY**

Aro, Arja, R.; Finland

Both lay people and health policy makers are faced with new global health threats such as SARS last year, and bird flu this year. To control these diseases rapid international actions are necessary in terms of international research, informing population, and in disease control and health policy.

For health psychology these global health threats pose challenges in testing applicability of the theories and measures of health perception and behavior. Health psychology is rather well prepared for research in chronic, non-communicable, and life-style diseases, but less so in communicable, environmental, and global health threats, in which individuals can have less control. This round table will put these modern worries in a perspective, provide an overview of the recent global health threats relevant for the research in health psychology. Applicability of the established theories and measures, plus challenges for health promotion and global action will be discussed. Further, information will be exchanged on international research networks such as SARS Psychosocial Research Consortium, and EU-projects. Future collaboration possibilities will be mapped, too.

### **STUDYING PERSON-ENVIRONMENT TRANSACTION THE LONG WAY: METHODOLOGY AND APPLICATION TO HEALTH PSYCHOLOGY**

Asendorpf, Jens, B.; Germany

Over the past 25 years, dynamic interactionism has been the main paradigm for the study of personality development. It is assumed that individuals develop in a dynamic, continuous, and reciprocal process of transaction with their environment. Although this assumption is widely shared among both developmental and personality psychologists, only recently longitudinal studies have been conducted that make it possible to contrast environmental effects on personality and personality effects on the environment with one another empirically. One major finding of these studies is that personality effects on the environment dominate environment effects on personality at least after adolescence.

In this keynote lecture, an overview of the results of three longitudinal studies on personality-environment transactions that the three authors and his colleagues have conducted over the past 10 years: transactions between ages 12 and 22 as they occurred in the LOGIC study of the Max Planck Society, transactions between mean ages 24 and 32 as they occurred in the Family Survey of the German Youth Institute, and transactions over the first 18 months of university as they occurred in the Berlin Relationship Study have been provided. The methodological problems in the empirical study of transactions are highlighted, and developmental mechanisms are discussed that may drive the observed causal flow from personality to environment and vice versa.

Subsequently similarly designed studies on transactions between health and environment (e.g., stressors, work environment, social position), are reviewed with an eye on parallels to studies of personality-environment transactions. It is concluded by encouraging the audience to extend traditional studies of environment effects on health by paying as much attention to health effects on the environment as to environment effects on health.

### **TWO SCALES OF SELF-PERCEIVED HEALTH: DIFFERENCES AND ASSOCIATION WITH HEALTH INDICATORS**

Avendano, Mauricio, Aro, Arja, Mackenbach, Johan; The Netherlands

*Background and Objectives* The single self-perceived health (SPH) item is a strong predictor of mortality. Two versions of this item have been applied: the so-called American and European scales. The aim of this study is to assess the correlation between these two versions, differences in their distribution and associations with objective health indicators in a European population.



*Methods* Cross-sectional data on self-perceived health and physical health outcomes were collected in a pooled sample of older adults from nine European countries ( $n=668$ ). Both the American (excellent, very good, good, fair, poor) and European (very good, good, fair, poor, very poor) versions were applied. Correlation coefficients were calculated between the scales and differences in response distributions were assessed. Odds ratios were calculated using logistic regression in order to assess the association between SPH and chronic diseases and symptoms.

*Results* A significant correlation was observed between the American and European measures of self-perceived health ( $r=0.82$ ,  $p<0.001$ ). The European version generally showed a skewed distribution towards the positive extreme of SPH, indicating a ceiling effect. In contrast, the American version was more normally distributed among middle-aged Europeans and skewed towards the negative extreme among older participants, indicating a floor effect. Despite these differences, a similar correlation was observed between the two scales and self-reported chronic diseases and symptoms. Similarly, when combining the two top categories of good health, both scales were strong predictors of chronic diseases and symptoms.

*Conclusions* Overall, the American and European scales of SPH were strongly correlated and showed a similar discriminatory power for best and worst health among Europeans. However, differences in distribution may bias comparisons between studies using different scales of SPH. These variations should be considered when comparing the level of self-perceived health across different populations.

## **PSYCHOSOCIAL RISK FACTORS FOR CARDIOVASCULAR DISEASE IN ROMANIA**

Baban, Adriana, Mih, Viorel; Romania

*Objective* Cardiovascular disease (CVD) is the leading cause of mortality and morbidity in Romania, for both men and women. In Romanian women CVD mortality is more than twice the European average. The present study was conducted in order to estimate the prevalence of psychosocial and behavioral risk factors for cardiovascular disease among Romanian adults, and to examine gender differences in health-related behavior, stress and coping strategies, health knowledge and beliefs, negative emotions, and motivation for changing health risk behaviors.

*Method* The 931 participants (424 men and 507 women) were recruited from two large state-owned companies. The following scales were used: the European Health and Behavior Survey, COPE scale, Beck Depression Inventory, State-Trait Anxiety Inventory, Health Locus of Control, Bortner and Perceived Stress scales.

*Results* Few gender differences in the prevalence of alcohol consumption, smoking, maladaptive eating habits and physical exercise were found. Women scored significantly higher on perceived stress, daily hassles, depression and anxiety than men. Different patterns of coping with stress were observed in women and men. Women reported seeking instrumental and emotional social support more frequently than men; women also reported venting of emotions, turning to religion, but also disengaging mentally and behaviorally more often than men. Women scored significantly lower on type A behavior than men. The multiple regression analysis shows that smoking is predicted by stress, denial, anger trait and type A behavior.

*Conclusion* The results of this study may contribute to the identification of target areas for the primary prevention of CVD in Romania.

## PROMOTING SOCIAL AND EMOTIONAL WELL-BEING IN CHILDREN WITH SPECIAL NEEDS THROUGH THE SELF-DISCOVERY PROGRAMME

Bagh, Jagrup Kaur, Cullen, Lesley, Barlow, Julie; UK

*Objectives* The purpose of this study is to evaluate the effectiveness of a Self-Discovery Programme (SDP) designed to provide vulnerable children and children with special needs a range of skills and techniques to promote social and emotional well-being and enhance self-confidence, communication and interaction skills.

*Methods* The SDP has 16 × 1 h of sessions delivered weekly across one school academic year. Trained tutors qualified in complimentary therapy delivered sessions within primary and secondary mainstream schools.

A pilot evaluation focussed on 49 children (18 girls, 31 boys, aged 7–13 years). Data were collected via behavioural profiles completed by teachers, reviews with teachers and tutors, and Visual Analogue Scale (VAS) completed by children measuring happiness before and after SDP sessions. Children's progress in using SDP techniques and their responses was observed by an independent researcher.

*Results* Behavioural profiles and reviews from teachers revealed improvements in self-confidence and eye contact in a classroom situation. Participation in classroom activities had increased than before the SDP. Negative behaviour was reported to have reduced and children demonstrated self-control in stressful and demanding situations. Improvements were also noted in children's communication and interaction with peers and teachers. VAS scores showed children's happiness had increased as the SDP course progressed. Researcher's independent observations confirm these findings.

*Conclusions* The SDP appears to offer children strategies that may assist achievement of personal potential, self-confidence, social competence and attention skills, which may improve the quality of their school life.

## POSITIVE VERSUS NEGATIVE EVENT-MOOD LINKAGES, THEIR IMPACT ON DAILY HEALTH REPORTING, AND THE ROLE OF SOCIAL PROBLEM SOLVING: A PROSPECTIVE DAILY PROCESS APPROACH

Baker, Sarah; UK

*Objectives* Within contemporary transactional social problem solving theory (e.g. Maydeu-Olivares and D'Zurilla, 1996), problem solving is conceived as an adaptive coping strategy, which enables people to better manage daily problematic situations and their emotional effects. The aim of this study is to examine at a within-person, idiographic level daily event-mood linkages, their impact on reported health, and the influence of social problem solving on such relationships.

*Methods* The study utilized a prospective daily process approach involving three stages: baseline, diary, follow-up. Only data from the first two stages are reported here. At baseline, participants ( $n = 39$ ) completed a measure of social problem solving followed, approximately five weeks later, by reports of mood (positive and negative), events (uplifts and hassles), and global health status and URI symptoms daily for a period of 14 days.

*Results* A series of random coefficient multilevel models (Bryk and Raudenbush, 1992) were used to examine relations among variables within a single individual over time (across days). In the first set of day level analyses, a domain specific (as opposed to a cross-over) effect of events on mood

was evident; daily hassles contributed significantly to levels of daily negative mood but not positive mood, and vice versa for daily uplifts. The second day level analyses revealed that daily negative states were significant contributors to both health models; a worse global health status and a greater number of reported URI symptoms were associated with more daily hassles and higher levels of negative mood. In contrast, positive states (uplifts, positive mood) were not significantly related to health reporting. In the final person level models, social problem solving was significantly predictive of all daily measures, although the extent and direction of the association was dependent on which problem solving component-daily variable relationship was being assessed.

*Conclusions* The present results demonstrate the importance of moving away from traditional nomothetic approaches when attempting to address inherently within-person questions within stress and coping research. The data are discussed with reference to social problem solving theory, and the role of problem solving orientations and skills in facilitating positive states/health.

### **THE ROLE OF TRAUMATIC SYMPTOMS, DEPRESSION AND LOSS OF RESOURCES ON THE QUALITY OF LIFE IN WOMEN WITH CANCER**

Banou, Evangelia, Hobfoll, Stevan, Trochelman, Douglas; USA

*Aim* The experience of traumatic symptoms (e.g. intrusive thoughts) and depression has been linked to greater psychological distress and poorer quality of life in cancer patients both during treatment and posttreatment. Research also show that depletion of resources (social resources) might have a negative effect on quality of life. The goal of the current study was to examine a mechanism for explaining the impact of traumatic symptoms and depression on quality of life among women with cancer.

*Hypotheses* It is hypothesized that recent loss of resources would mediate the relationship between cancer-related traumatic symptoms, depression and quality of life.

*Methods* Participants were 64 adult females with different types of cancer (80% breast cancer) seeking treatment at a hospital in a Midwestern city in the US. They were assessed for recent loss of resources, depression, cancer-related traumatic symptoms and quality of life (e.g. physical functioning, social functioning).

*Results* Results indicated that the relationship of traumatic symptoms and certain aspects of quality of life (e.g. general health) were mediated by loss of resources. Loss of resources also mediated the impact of depression on quality of life (e.g. social functioning).

*Conclusions* The findings of this study supported the mediational role of recent loss of resources in the relationship of traumatic symptomatology, depression and quality of life in women diagnosed and treated for cancer. Implications of the findings for the development of interventions as well as the limitations of this study are discussed.

### **ASSESSING REPRESENTATIONS OF AGEING IN OLDER PEOPLE: THE AGEING PERCEPTION QUESTIONNAIRE**

Barker, Maja, O'Hanlon, Ann, McGee, Hannah, Hickey, Anne; Ireland

*Objectives* There are few conceptual approaches or instruments to systematically assess perceptions of ageing. The aim of this study is to determine if the Self-Regulatory Model (SRM)

(Leventhal *et al.*, 1990) could be utilised as a framework for considering dimensions of ageing in older adults.

*Methods* The first phase was translation of the key dimensions of the SRM from the context of health and illness into the context of ageing. The second phase was development of an instrument that could assess ageing perceptions. Questionnaire items were devised to assess the adapted SRM dimensions and were generated either by older adults' during focus group interviews or by researchers using the SRM as a framework. The selected items were those which best reflected the translated dimensions of the SRM. These were piloted with 128 older (aged 65+) adults recruited from active retirement associations and day-care centres. Mode of administration was either interview or self-report.

*Results* Analyses showed that the six sub-scales of the Ageing Perception Questionnaire: identity, control, consequences, timeline, cause, and emotional representations were reliable and valid. The scales demonstrated good internal consistency ( $\alpha$  range 0.70–0.90) and there was little overlap between factors. The instrument also had good concurrent validity as demonstrated by significant logical relationships between the sub-scales and measures of health and well-being.

*Conclusions* The SRM is an appropriate heuristic device for investigating older adults' perceptions of ageing. Preliminary empirical data showed the Ageing Perception Questionnaire to be a promising instrument for quantitatively assessing these perceptions. Further empirical data on the Ageing Perception Questionnaire will be gathered from a large-scale population study ( $n = 2000$ ) underway from April 2004.

## APPLYING A DEVELOPMENTAL PERSPECTIVE TO THE STUDY OF ILLNESS AND SOMATISATION BELIEFS

Barros, Luísa, Joyce-Moniz, Luis, Fradique, Fernando; Portugal

*Objectives* Somatisation is a dimension seldom used in the study of patients' beliefs about their illness. This paper presents the application of a developmental model to the analysis of the representations of somatisation, and reviews three studies applying this model.

*Methodology* We present a developmental model of characterising patients' representations of their illness, that comprises a hierarchical sequence of five levels, progressively more abstract, complex, integrated and flexible.

This article presents three studies where groups of adult patients with different medical conditions (recovering from cardiac infarction, with chronic pain and with an identified somatisation disorder) were interviewed about their illness representations, with special incidence in their subjective constructions about somatisation, and its relation with their presenting symptoms. The authors used a clinical, semi-structured format of interview. After recording and registering all patients' verbalisations, a content analysis was performed, using the developmental grid with five levels of beliefs.

*Results* Results show that the model allows a useful clinical characterisation of patients beliefs about somatisation. Subjects beliefs are distributed along the five levels. Patients post-cardiac infarction and with chronic pain show special incidence in the intermediate levels of beliefs. Patients with a somatisation disorder present a different distribution, with more subjects using higher levels of representation.

*Conclusion* Our results show that a developmental analysis of patients' beliefs constitutes a comprehensive model for studying illness representations, that offers a relevant and pragmatic perspective and has important consequences to the choice of communication and intervention strategies with different patients. The dimension of somatisation is important to understand

patients subjective experience of their physical condition. Some examples of tailoring intervention methodologies to the patient's level of representation are presented.

### **HEALTH WORRIES: ANALYSIS OF MASS MEDIA INFLUENCE**

Belendez, Marina, Martin-Llaguno, Marta, Suria Raquel; Spain

During the last years, mass media have centred on health and illness information more than ever before and stories about health risks fill up newspapers, magazines, TV programmes and internet sites. Recently, much of these informations are focused on emergent health risks, such as genetically modified food. In western countries, mass media appear as one of the main sources of health risks information for many people with a potential effect to shape individuals' health perceptions and worries. Although there is a growing interest in studying the media coverage of health topics in Spain, it may be necessary to go beyond and to understand the social and psychological processes (interpersonal communication, dependence on mass and media exposure) through which mass communication impact on individual beliefs about personal health.

The present study is part of a larger project aimed to examine: (a) the relationship of new health worries to health complaints and perceptions of health, (b) the media coverage of emergent risks and of its impact on health in Spain, (c) the influence of exposure to information about these topics on health worries and the role of interpersonal communication and dependence on media. Preliminary results from the first phase of this project will be presented and discussed.

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### **HOW PEOPLE TALK ABOUT THEIR ILLNESS IN INTERNET? A PRELIMINARY STUDY USING THE SPANISH VERSION OF LIWC**

Belendez, Marina, Suriá, Raquel, Spain; Ramirez-Esparza, Nairan, USA

Computer-mediated communication has become a new source of informational or emotional support for many people suffering diseases around the world. Particularly, the number of newsgroups, forums or chats created for Spanish-speaking patients is increasing. In these groups, participants seek information and/or share concerns about their illness conditions. This give us the possibility of better understanding the illness experience through the analysis of postings contents and patterns of communication occurring in this virtual context.

Text-analysis software has been designed to map linguistic and psychological variables of written messages and can be used to examine the postings from participants in internet groups. One of the most used programs in English language is the Linguistic Inquiry and Word Count (LIWC) (Pennebaker *et al.*, 2001). The LIWC analyzes written text on a word by word basis and calculates the percentage of the total words that matches up to 72 language categories and subcategories (linguistic dimensions, psychological processes, relativity and personal concerns).

The objective of this study is to analyze the word choice of Spanish-Speaking people in online forums of different illness groups. Furthermore, we analyzed differences by gender.

A total of 300 postings of participants in several internet forums (diabetes, AIDS, cancer) were analyzed.

The Spanish version of the Linguistic Inquiry and Word Count (LIWC) program, which has an internal dictionary of approximately 7000 words and word stems, was used to analyze the postings of the virtual forums.

Results showed significative differences in several LIWC dimensions as a function of illness condition and sex.

## ILLNESS REPRESENTATIONS AND EMOTIONAL DISTRESS ABOUT CORONARY HEART DISEASE

Beltrami, S., Cauteruccio, M.A., D'Alisa, S.; Italy

The illness representation has been often used in studies of illness adaptation in patients with several pathological conditions, including heart disease.

The aim of this study is to investigate illness representation and psychological status (anxiety and depression) in patients affected by myocardial infarction (MI) and in patients after coronary artery bypass graft surgery (CABG).

Fifteen MI patients in intensive care cardiac unit (UTIC) and 15 after CABG in intensive cardiac rehabilitation (CR) were recruited.

The Revised Illness Perception Questionnaire (IPQ-R) was used to assess the representations about coronary heart disease and Hospital Anxiety and Depression Scale (HADS) for the emotional distress of the patients.

Mean values of anxiety and depression of UTIC patients were higher than those of CR patients, although not significantly. No difference between groups in IPQ-R scales, were found.

Emotional distress, in particular anxiety, was negatively correlated to the treatment control scale ( $r = -0.64, p < 0.0001$ ) and illness coherence scale ( $r = -0.51, p < 0.01$ ); depression was negatively related with the treatment control scale ( $r = -0.59, p < 0.01$ ) and personal control ( $r = -0.46, p < 0.05$ ). Stress was the most common attribution in both groups.

Specific psychological intervention to reduce the level of distress are warranted in both UTIC and CR patients, in addition to conventional cardiac care.

## HOW WOMEN DIAGNOSED WITH BREAST CANCER EXPERIENCE ILLNESS PRIOR TO MASTECTOMY: A QUALITATIVE AND PHENOMENOLOGICAL STUDY

Ben Sassi, Mary-Laure, Demierre, Melanie, Piot-Ziegler, Chantal; France

Eleven women, aged from 38 to 58 years and diagnosed with breast cancer participated, prior to mastectomy, in a semi-structured interview exploring their illness history until surgery. A qualitative analysis was performed and four main categories were formalized:

- First the definition and symbolic weight of cancer was mentioned with a strong reference to the unpredictable irruption of a "silent" illness in their lives.
- Second most women expressed a strong need to find an explanation for what could have caused cancer: illness was either a bodily reactivation of past unhappiness, or was defined as an uncontrollable misfortune, related to divine will or fatality.
- Third they described their reactions to illness and reported their emotional experience. They used defence mechanisms, such as minimization, or acted as if a tacit pact could be settled: after surgery and the sacrifice of their breast, cancer in return would be healed. Willing to protect loved ones women deliberately silenced their anxiety and did not appeal to social sharing of negative emotions.
- Finally, cancer was defined through its consequences on body image and the difficulty to foresee the future, the organization of their everyday life, in particular their life as a couple; consciousness of the value of life and the emergence of a new philosophy were mentioned.

Breast cancer is a traumatizing experience. Through these interviews, the experience of an illness at its first stage could be thoroughly described. These results gave a very rich phenomenological definition of illness integrated in the life course of these women.

Follow-up interviews were conducted at six months and one year after mastectomy.

### **A DISTRACTION-BASED INTERVENTION TO REDUCE DISTRESS IN WOMEN UNDERGOING CANCER GENETIC TESTING**

Bennett, Paul, Phelps, Ceri, Brain, Kate; UK

*Background* Around a third of women experience distress when undergoing cancer genetic risk assessment. Psychological theory suggests that distraction may help individuals manage intrusive thoughts whilst waiting for notification of their level of risk. A distraction-based coping leaflet has been developed and its effectiveness assessed through a randomised trial with women referred into the Cancer Genetics Service for Wales.

*Methods* Participants were pre-randomised into intervention (distraction leaflet) or control condition (standard information) and completed a postal questionnaire upon referral (T1) and four weeks later before receiving their risk information. 162 participants (trial  $n=86$ ; control  $n=76$ ) completed T1 questionnaires and 99 ( $n=50$  and 49 respectively) completed T2 questionnaires.

*Findings* Repeated measures ANOVA was conducted using the Impact of Event Scale as the key outcome measure. No significant interaction effects over time were found between groups for the whole sample. However, a sub-group analysis of participants with high baseline IES global distress scores revealed a significantly greater reduction in levels of distress over time in the intervention group than in the control group. These results were attributable to significant reductions in levels of avoidance and marginally significant reductions in the frequency of intrusive thoughts.

*Discussion* These results indicate that the distraction leaflet is effective in reducing distress in women with high levels of distress upon referral for cancer genetic risk assessment. The leaflet may work by reducing the level of intrusive thoughts, resulting in less need to engage in avoidance.

### **CONGRUENCE AND INCONGRUENCE BETWEEN WOMEN'S AND MEN'S PERCEPTIONS OF THEIR INFERTILITY PROBLEM**

Benyamini, Yael, Gozlan, Miri, Kokia, Ehud; Israel

*Objectives* The main objective of this research is to compare women's and men's perceptions of infertility among couples undergoing treatment for infertility and to assess the extent to which congruence or incongruence in their perceptions affect their psychological adjustment to infertility.

*Methods* Sample 1 included 60 couples recruited at their first visit to a regional infertility clinic. Sample 2 included 48 couples at various stages of treatment. Participants filled in the Illness Perception Questionnaire (IPQ; the timeline, consequences, and controllability subscales were used) and a scale of infertility-specific distress.

*Results* Women, as compared with their spouses, reported more severe consequences, a shorter timeline, and greater distress (and in sample 2, also lower controllability). Regression analyses

were used to predict women's distress from both partners' perceptions of infertility and the interaction between them. In Sample 1, for consequences, only women's perceptions of severity were associated with greater distress. For controllability, there was a significant interaction indicating that highest distress was expressed by women who felt low controllability over the infertility problem while their husbands reported high controllability whereas lowest distress was expressed by women in couples in which both partners perceived high controllability. For timeline there were no significant effects. In Sample 2, none of the perceptions or their interactions were related to women's distress.

*Conclusions* Incongruence between women's and men's perceptions of the controllability of their infertility problem could exacerbate women's distress and may be especially important when initially confronted with a health threat. Partners' perceptions are an important area of research because they are part of the context in which women develop their own perceptions and decide on ways of coping.

### **LIFE SATISFACTION OF ADOLESCENTS IN RELATION TO THEIR VALUE ORIENTATION**

Blížkovská, Jaroslava, Klimusová, Helena, Jelínek, Martin, Blatný Marek; Czech Republic

*Objectives* The research studies a particular theme of a project supported by Czech Grant Agency (No. 406/02/1040). This exploratory study contributes to clarifications on relation among life satisfaction, value orientation and selected personality characteristics.

#### *Methods*

(A) the research sample consisted of adolescents ( $N=840$ , 365 men and 475 women) who attended second and third grade at all types of high schools (randomly selected) in the South Moravian Region (the Czech republic) in 2002.

(B) Methods

Rokeache's Value Questionnaire

NEO Five-Factor Inventory (Costa, McCrae; Czech version by Hebíková, Urbánek, 2001)

Satisfaction With Life Scale (Pavot, Diener, 1993)

Rosenberg's Self Evaluation Scale (Rosenberg, 1965; Czech version by Blatný, Osecká, 1994)

Social Prospects Inventory, Optimism and Subjective Feeling of Control Scale (Blížkovská, Klimusová, 2002)

#### *Results*

- (1) The factor analysis of items in Rokeache test showed four factors, which explain 44% of common variance: common human values, traditional "middle class" values, social values and values focused on inner integrity and individual unconventional satisfaction values.
- (2) Types of particular value hierarchy were specified by the cluster analysis using the K-means method and taking the advantage of four value groups mentioned above. The solution for four clusters of persons appeared to be the most useful to be construed.
- (3) The variance analysis was used to investigate the presumption that persons in particular value types differ in average level of optimism, subjective feeling of control, global self evaluation, life satisfaction and five dimensions of Big Five. Persons from four particular value types differed in almost all researched variables on 1% significant level. Variance in average level of life satisfaction and subjective feeling of control has not proved to be significant statistically.



*Conclusions* The study aimed to model value orientation typology suitable relevant to contemporary adolescents and to investigate if value orientation relates to the level of life satisfaction. Based on the cluster analysis, four consistent value groups of girls and boys were identified. Particular types do not differ in the level of life satisfaction. Indirectly, the results support the presumption that life satisfaction relates to goals accomplishment and value fulfillment within the certain cultural context, not to their content – their value orientation types.

Furthermore, the subscription informs briefly about the relation between value orientation and chosen personality characteristics.

### **TOPSE: THE DEVELOPMENT OF AN INSTRUMENT TO MEASURE PARENTING SELF-EFFICACY AS AN AID TO EVALUATING THE EFFECTIVENESS OF PARENTING PROGRAMMES**

Bloomfield, Linda, Kendall, Sally; UK

*Objectives* The aim of this study is to develop robust outcome measures, which draw on well-developed theoretical constructs, that measure parent's perceived ability to manage their children and which are applicable in the UK context. An instrument to measure parenting self-efficacy will enable a rigorous evaluation of the effectiveness of different types of parenting programmes as well as pre- and post-course measures of individual programmes and will facilitate an evaluation of the longer-term effects on the well-being of parents and their children.

*Methods* Focus groups were conducted with a diverse range of parents and with parenting programme facilitators to discover what are the major challenges and difficulties surrounding parenting at different stages of being a parent from infancy through to school entry. We used the evidence base provided by the focus group discussions and from the literature on parenting and self-efficacy to inform the instrument. Self-efficacy statements were developed in Likert-format and a multi-method approach was used to test and refine the instrument. Instrument validity and cultural sensitivity were checked by a panel of experts from the fields of self-efficacy and parenting, and by parents. Internal and external reliability were analysed using SPSS.

*Results* In total 70 participants took part in twelve focus groups and a diverse range of consistent themes emerged surrounding behaviour management, self-control, self-acceptance, empathy and affection. Nine domain specific subscales of parenting self-efficacy were identified from the analysis of the focus group transcripts. Cronbach's alpha coefficients for the subscales ranged from 0.80 to 0.89, the full-scale alpha (82 items) was equal to 0.94. Spearman's correlation coefficients for a control group of parents ranged from  $r_s = 0.58, n = 19, p < 0.01$  to  $r_s = 0.88, n = 19, p < 0.01$ . There was a significant difference in scores between parents identified as having parenting difficulties and the control group on all but one subscale.

*Conclusion* An instrument to measure parenting self-efficacy in the UK has been developed from the evidence provided by parents and parenting programme facilitators. The instrument has been developed from a sound theoretical framework and is currently being piloted to measure the effectiveness of parenting programmes in the UK.

### **THE PROMOTION OF PROACTIVE COPING AS AN ELEMENT OF SUCCESSFUL AGING**

Bode, Christina, de Ritter, Denise; The Netherlands

Proactive coping in this study is defined as the awareness of (future) threats related to old age, the avoidance or decrease of these threats, as well as the formulation of positive future goals. With

regard to successful aging, the prevention of negative developments and the promotion of positive developments is essential. We developed an minimal group intervention that focuses on the clarification of important developmental goals and the way(s) to achieve them. The technique of mental simulation is used to train goal setting and choice of action strategies.

Preliminary results reveal that there is considerable demand for such a program, especially in the age group between 55 and 65 years of age. Significantly more women sign up for the program than men. Nearly half of the participants live alone, the mean educational status is relatively high. General evaluations of the program are good. Participants report commitment to the content of the program and evaluate the technique of mental simulation as stimulating and helpful for goal setting and strategy choice. Skills deduced from proactive coping theory improve significantly.

The combination of perspectives of proactive coping and developmental regulation seems to be a promising way to promote successful aging. This holds true for both theoretical development as well as practical application.

### **GENDER SPECIFIC EFFECTS OF PERSONAL AND SOCIAL RESOURCES IN CANCER PATIENTS**

Boehmer, Sonja, Germany; Mohamed, Nihal, E., Sudan; Schulz, Ute, Germany

Stress theory claims that the adjustment to critical life events like being diagnosed with cancer can be facilitated by personal and social resources. The present study investigated gender effects on (a) the progression of different facets of subjective well-being after cancer-related surgery, (b) the way self-efficacy and social support effect the adjustment to cancer, and (c) the role coping strategies play in this process.

Cancer patients were approached 1 month (T1), 6 months (T2) and 1 year after (T3) surgery ( $n = 130$ , 60% male, aged between 24 and 86 years). The questionnaire assessed emotional, functional and social well-being, health-related quality of life (HRQOL), general self-efficacy, received social support, and coping strategies. ANOVA with repeated measures, and multiple linear regression were used for data analyses.

All facets of well-being and HRQOL improved over time in all patients. Significant interactions with gender were observed in the progression of HRQOL, emotional, and social well-being. Between T1 and T2, for women lack of support predicted depression, and self-efficacy predicted physical and social well-being. For men, lack of support predicted depression, but self-efficacy did not predict any facets of well-being. Between T2 and T3, lack of support did not effect any domain of well-being in both genders, whilst self-efficacy predicted future HRQOL, physical and social well-being in male and HRQOL, emotional and physical well-being in female patients. In neither male nor in female patients were the effects of self-efficacy and received support mediated by coping.

In conclusion, self-efficacy and social support promote different aspects of well-being in male and female cancer patients. Social support is more effective at the beginning, but later on in this adaptation process the optimistic self-belief to cope with difficult demands in life becomes more important.

### **A SELF-REGULATION PERSPECTIVE ON EMOTIONAL DISTRESS AND HEALTH-RELATED QUALITY OF LIFE AFTER MYOCARDIAL INFARCTION**

Boersma, Sandra, N., Maes, Stan, Joekes, Katherine, Dusseldorp, Elise; The Netherlands

*Objectives* Aim of this study is twofold. First, to explore whether conflict and self-efficacy with respect to the pursuit of three personal goals shortly after a Myocardial Infarction (MI) could

predict goal attainment four months later. Second, to investigate direct effects as well as mediating or interaction effects of goal attainment, goal conflict and goal self-efficacy on progress in specific domains of health-related quality of life (HRQL).

*Method* Forty-six MI patients completed questionnaires shortly after hospitalization (T1) and four months later (T2), assessing a health, social, and individual goal for the coming year (T1), specific conflict and self-efficacy beliefs for the three personal goals (T1), goal attainment (T2), and physical, emotional, social and total HRQL (T1; T2).

*Results* The results of a multiple regression analysis suggest that both goal conflict and goal self-efficacy at T1 predict the attainment of three midlevel goals at T2. Furthermore, four separate hierarchical regression analyses were conducted with the specific domains of HRQL as dependent variables and controlling for baseline-scores. Self-efficacy appeared to be an independent predictor of physical, social and total HRQL. Goal attainment had a medium effect on social HRQL, but its effect was mediated by goal conflict and goal self-efficacy. Furthermore, goal self-efficacy mediated an effect of goal conflict on social and total HRQL. No moderating effects were found.

*Conclusion* A goal theory perspective can provide additional insights into the attainment of relevant goals and HRQL outcomes after MI. High conflict beliefs and low self-efficacy expectations with respect to target behaviors should be a focus of attention in cardiac rehabilitation programs.

## COPING STRATEGIES PREDICT QUALITY OF LIFE IN HEART FAILURE

Bonaguidi, Franco, Mazzei, Maria Giovanna, Michelassi, Claudio, Emdin, Michele; Italy

Congestive heart failure (CHF) is a chronic, debilitating disease that interferes with daily activities and reduces quality of life (QOL). Clinical variables appear insufficient to assess the functional impact of the disease on patient's life. Aim of this study is to evaluate the relationship among QOL, coping, personality traits, and clinical parameters in patients with CHF.

*Methods* Fifty-four patients with CHF were selected (9 females, 45 males, age  $62 \pm 13$  years). They underwent the Nottingham Health Profile (NHP) and the Minnesota Living with Heart Failure (MLHF) for QOL, the Cattell's 16PF and the Coping Inventory for Stressful Situations (CISS) for personality and coping strategies assessment. Furthermore, clinical data such as Ejection Fraction (EF), plasma renin activity, aldosterone and noradrenaline were measured. Pearson correlation and stepwise regression analysis were used.

*Results* Both NHP and MLHF (high scores mean poor quality of life) were significantly associated with emotion-oriented coping of CISS ( $p < 0.001$ ) and Emotional Instability personality trait ( $p < 0.001$ ). Noradrenaline correlated with MLHF ( $p < 0.01$ ). No correlation was found between EF and NHP and MLHF total score. When stepwise regression analysis was performed using in turn NHP and MLHF total score as dependent variable, CISS's emotion-oriented coping resulted the strongest predictor of poor QOL, accounting for 27.1 and 17.4% of the variance, respectively. Additional variance was explained by Task Coping negatively oriented in both analyses (9.3 and 11%, respectively).

*Conclusion* These results point out the importance of coping strategies and related personality in heart failure and suggest interventional programs in this direction to improve patients' quality of life.

## **COPING WITH HIV+ AND ANTI-RETROVIRUS THERAPY**

Boskamp-Scholten, Anne, Buchwald, Petra; Germany

The new anti-retrovirus therapy (ART) makes being HIV+ a chronic disease and can extend infected people's live for about 20 years (Götz, 1999). This new therapy, however, requires a high degree of self-regulatory and psychosocial competencies since ART solely unfolds its full effectiveness through patient's extreme adherence (e.g., a punctual taking of tablets). Even if HIV+ patients accept the strict therapy regime it might cause negative side effects and further physical as well as psychosocial losses. According to the conservation of resources theory (COR) this results in stress for the concerned persons (Hobfoll, 1998; Hobfoll and Buchwald, 2004). Our pre-study forms part of a research project that aims at the conception, realization and evaluation of a COR-based intervention for homosexual HIV+ patients. In this pre-study 16 HIV+ homosexual men have been questioned in a half-structured, problem-focused interview. The interview specifically aimed at identifying and understanding the coping strategies used and needed for coping with HIV. Further, we asked whether men experienced anxiety, depression, guilty conscience and social isolation. Results showed a strong correlation between HIV and depression. The strict tablet taking regime, surprisingly, did not create a material problem and most interview partners benefited from a stable social network. However, HIV led to severe losses in self-concept, personal fitness and job. These gained information contributed to a training program for HIV+ patients basing on COR theory as a key intervention strategy. Parts of the program, developed by a multidisciplinary team, consisting of physicians, psychologists, ecotrophologists and pedagogues, are presented.

## **STRESS AND HEALTH IN A STUDENT POPULATION: A TRANSACTIONAL MODEL PERSPECTIVE**

Boujut, Emilie, Bruchon-Schweitzer, Marilou, Rasclé, Nicole; France

Undergraduate students undergo important psychological stress, due to their inability to cope with college's issues and changes in their way of life. Despite expression of various somatic (fatigue, headaches, backaches, etc.), psychological (depression, suicidal tendencies), and behavioral disorders (eating habits, addictive behaviours, etc.) among this population, very few studies have been dedicated to students' stress and health. Moreover, existing ones tend to be more descriptive than explanative.

We applied the transactional model of stress in which appraisal processes and coping lay a major part to explain students' differences regarding health status in a longitudinal study using a large sample of undergraduate students. Measures related to socio-biographic, personality, and environmental characteristics, as well as transactional processes (perceived stress, control, social support, satisfaction, and coping strategies) were completed at the University Medical Care Centre during the mandatory medical check. Mental and physical healths were considered as criteria, and were both evaluated by the physicians and by the students themselves at T2 (five months later).

Best subset of variables was selected with multiple regressions in order to perform subsequent path analysis with LISREL 8.0.

Our results highlight a five-factor model of perceived stress: depressive ideas, personal fears, social preoccupations, doubts about professional outcome, everyday life tension. Path analysis model reveals the indirect influence of personality predictors on somatic symptoms and distress, through transactional variables. Satisfaction with university and income are significantly related to somatic symptoms. Depressive thoughts and stressors frequency also influence significantly mental and physical health.

Moreover, we identified several risk factors associated with emotional distress and somatic symptoms (elevated Neuroticism, high stressors frequency, low income, high perceived stress features, low university satisfaction, low perceived caregivers availability). These results underline the transactional model interest to investigate student's health issues and the need for future research in this area.

### **DISORDERED EATING BEHAVIOURS AND MALADAPTIVE BELIEFS**

Bowman, Jenny, Dyer, Stella; Australia

*Objectives* Relatively little research however investigates the behaviours and beliefs that may be precursors to the development of eating disorders, despite the knowledge that disordered eating symptoms (such as inappropriate dieting, fasting, bingeing and purging) are very prevalent among young women – though not (yet) meeting clinically diagnostic criteria. The main objective of this study is to examine possible relationships between disordered eating behaviours and 'early maladaptive schemas' – deep cognitive structures developed in childhood, and suggested by recent research to be associated with the development of clinical eating disorders and of value to address in treatment. Such relationships may have implications for early detection and intervention to prevent the development of eating disorders.

*Methods* A survey of 111 first year Psychology students, aged 17–25 years, was undertaken. Measures included: BMI, body weight dissatisfaction, disordered eating behaviours, depression and anxiety (DASS), and the Young Schema Questionnaire (YSQ-S1).

*Results* 68% of the sample were dissatisfied with their weight: 30% 'very' or 'extremely'. Of those dissatisfied, 40% nominated an ideal weight that would place them in an underweight BMI category. Disordered eating behaviours, engaged in for the purpose of weight loss, were also prevalent: 67% dieting, 18% fasting, 32% bingeing, and 21% purging, within the past 3 months. Based on practices reported in the past 3 months, subjects were placed in one of the three 'disordered eating behaviour' categories, with the proportions in each as follows: no symptoms (NS) (22%), dieting only (DO) (34%), and eating disordered symptoms (EDS) (44%) (fasting, bingeing, purging). The EDS group had significantly higher mean scores for depression, anxiety and stress than the other groups. The EDS group also had higher scores for the 15 maladaptive schema assessed, significantly so for five (abandonment, social isolation, defectiveness/shame, vulnerability/harm, and emotional inhibition). These particular maladaptive beliefs are those also identified as high among clinical populations with diagnosed eating disorders.

*Conclusions* Maladaptive beliefs, and measures of emotional distress, were related to the practice of particular disordered eating behaviours with interesting possible implications for detection and early intervention with 'high risk' individuals.

### **PREVALENCE AND PREDICTORS OF ALCOHOL INVOLVEMENT IN CASES ATTENDED BY THE AMBULANCE SERVICE, AND THE ROLE OF CONSUMPTION ON LICENSED PREMISES**

Bowman, Jenny, Sidebottom, Claire, Gillham, Karen, Wiggers, John; Australia

*Objectives* The consequences of acute excessive alcohol consumption for the health and well-being of individuals and the community are significant, with drinking on licensed premises

accounting for a disproportionate amount of harm. Most data arises from studies undertaken in hospital admission and emergency departments, with significant limitations. Data from ambulance attendances has a potential to contribute to a more accurate picture of alcohol-related harm in the community, but has as yet not been tested. The objectives of this study are:

1. To determine the prevalence and predictors of alcohol involvement in cases attended by the ambulance service
2. To determine the prevalence and predictors of alcohol consumption having occurred on licensed premises, and
3. To gauge the extent of 'new' alcohol-related harm captured that would not be included in hospital data.

*Methods* One large ambulance station and its officers in Newcastle, NSW, participated. Data was collected from alcohol-related items added to the case sheet information routinely recorded by ambulance officers, and collected for all cases attended over a two-month period.

*Results* Alcohol was involved in 16% of the 1358 eligible cases from which data were available over the study period, and for 44% of these cases, alcohol had been consumed on a licensed premise. Factors associated with cases of alcohol involvement and with cases where alcohol consumption had occurred on licensed premises, were: being male; young; weekend as opposed to weekday; nighttime as opposed to day-time; and presenting with 'trauma' as opposed to other conditions. Cases where alcohol was involved were three times less likely to be transported to hospital, than in those cases where alcohol was not involved.

*Conclusions* The extent of alcohol-related harm evident in cases attended by ambulance was substantial, and the role of drinking on licensed premises evident. The study demonstrated the method of data collection used to be feasible, and that a substantial amount of 'new' alcohol related harm was captured.

## **DEFENDING THE SELF IN CFS: IDENTIFYING THE ENEMY – AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS**

Brocki, Joanna, M., Wearden, Alison, J.; UK

*Objectives* To use qualitative research methods to carry out an in-depth examination of the beliefs that patients with chronic fatigue syndrome (CFS, also known as ME) and their spouses hold about the illness, in particular contrasting how the condition is understood through the evidence of personal experience and by others.

*Methods* Leventhal's self regulatory model (Leventhal *et al.*, 1984, 1997) was used as a guide to construct semi-structured interviews which were carried out with two CFS patients and their spouses. Interview transcripts were analysed using interpretative phenomenological analysis (IPA).

*Results* Four major themes were identified:

1. 'Worker not a shirker' – portrayal of the patient struggling to fight personifications of the illness; inconsistencies in identifying effective methods of management.
2. 'He felt relieved he had a label, he thought he was cracking up' – reactions to diagnosis; dealings with the medical community.
3. 'My ex-wife says it's attention seeking' – perceptions of others; legitimisation of sick role status.
4. 'Do you think people with chronic diarrhoea have diarrhoea for all their lives?' – expectations for the future.

*Conclusions* The effects on self-concept in CFS/ME and perceptions of others' opinions is discussed. It is suggested that this may have implications for treatment uptake and compliance in CFS/ME. The use of IPA methodology facilitated the distinction of individuals' complex reasoning processes whilst enabling the identification of patterns across accounts.

### **PSYCHOLOGICAL FACTORS RELATIVE TO QUALITY OF LIFE AND COPING IN MULTIPLE SCLEROSIS PATIENTS**

Brockly, J sabelle, De Cea, Patricia, Costantini, Marie-Lou, Spitz, Elisabeth; France

The aim of this research is to determine psychosocial factors influencing emotional distress, coping and quality of life of patients with multiple sclerosis.

Thirty-five patients hospitalized were included in the study (mean age was 46 years).

The method consisted of collecting quantitative and qualitative data.

All participants answered a questionnaire including self-esteem, anxiety and depression, locus of control, degree of tiredness, coping, goals, social support, optimism and quality of life.

The results showed on the one hand that goals and quality of life were factors explaining many strategies of coping. On the other hand were, pessimism, tiredness, low self-esteem and low self-efficacy, nonacceptance of disease occurred with psychological distress.

Finally, the perception of control of the disease through personal resources, social support and achievement of one's goal induced utilization of functional strategies of coping and a better quality of life.

On analysis of the interviews conducted, about nine patients confirmed quantitative results and gave new research perspectives about representations, perceptions and beliefs in multiple sclerosis patients and quality of life and coping of spouse and nurses.

### **CARDIAC ACTIVITY DURING WAKING AND SLEEPING AND DISPOSITIONAL WORRY, -ANGER, -ANXIETY, AND DEPRESSION**

Brosschot, Jos, F., Pieper, Suzanne, The Netherlands; Thayer, Julian, F., USA

High cardiac activity has been found to be associated with dispositional depression, anxiety, hostility. Worry has been suggested to be a mechanism through which these dispositions lead to prolonged increases in heart rate (HR) and decreases in heart rate variability (HRV). This study tested the relationships between these factors and cardiac activity. Trait worry, -anger, -anxiety, and depression were measured in 52 high school teachers and HR and HRV were measured ambulatory during four days and subsequent nights.

Higher HR during sleep was related to higher worry scores. In contrast, higher anxiety and depression scores were related to lower HR during waking periods. There were no main effects on HRV. However, based on Thayer *et al.* (Biol. Psychiat., 1998), we hypothesized and found that depressed male subjects showed lower HRV whereas depressed female subjects tended to show higher HRV instead. These effects were restricted to waking periods.

The finding that dispositional worry, and not depression or anxiety, is associated with nocturnal HR, is consistent with the view that perseverative cognition (i.e. worry, rumination etc.) prolongs physiological activity, independent of other negative emotional factors. The negative correlations of HR with depression and anxiety may reflect a defeatist but also passive, accepting attitude characterizing nonclinical depression and anxiety in daily situations. The differences in HRV between depressive male and female subjects are discussed in terms of a higher neuro-physiological inhibitory ability in women as well as in female animals.

## DAILY EPISODES OF WORRYING AND STRESSORS INCREASE DAYTIME- AND NIGHTTIME CARDIAC ACTIVITY

Brosschot, Jos, F., Van Dijk, Eduard, The Netherlands; Thayer, Julian, F., USA

Prolonged physiological activation after stressors has been (re-) hypothesized as a crucial link in the stress–disease relationship. The present study tested whether waking- as well as sleep levels of cardiac activity (heart rate (HR) and heart rate variability (HRV)) are predicted by daytime stressors and worrying, as well as by long-term daily stressors and trait-levels of e.g. worrying, anxiety, and psychological defences.

In an ambulatory study sixty subjects from a general population were studied using diaries, ambulatory physiological equipment and questionnaires. Occurrence of worry or a stressor was asked over 60 min periods during one day, including several questions concerning emotions and worry-related cognitions. Sleep HR and HRV was assessed between one hour after going to bed to one hour before waking up.

Both daytime worry and stressors were associated with increased daytime HR ( $r=0.27$ , and  $r=0.28$ ;  $ps < 0.05$ ) and HRV ( $r=-0.19$ ,  $p < 0.10$  and  $r=-0.26$ ;  $p < 0.05$ ) and daytime stressors were associated with nighttime HR ( $r=0.24$ , all  $ps < 0.05$ ). These associations were stronger with more intense worries and stressors, and they were not accounted for by health-related behaviour (e.g. coffee, alcohol, smoking, exercise, time to bed, motility at night). Neither long-term stressors nor trait-level variables showed effects, with some exceptions, e.g. individuals who ‘defend’ by externalising rather than internalising their frustration (‘acting out, projection *versus* internalisation, reversal’) have higher HRs during day ( $r=0.45$ ,  $p < 0.01$ ) and night ( $r=0.27$ ,  $p < 0.05$ ).

The results suggest that prolonged waking- and sleep-time cardiac activity is influenced by stressors during the day before, and not by more distant stressors or stable tendencies to experiences stress (i.e. trait worry and -anxiety). Insight in the stress–disease relationship may be best served by assessing momentaneous occurring events and cognitions.

## A PROSPECTIVE EVALUATION OF THE THEORY OF PLANNED BEHAVIOUR AND TRANSTHEORETICAL MODEL OF CHANGE ON EXERCISE IN YOUNG PEOPLE

Callaghan, Patrick, Norman, Paul; UK

*Objective* The Theory of Planned Behaviour (TPB) and the Transtheoretical Model of Change (TTM) outline the proximal determinants of exercise. This study compared their predictive utility in relation to exercise among young Chinese people in Hong Kong.

*Design and Sample* A prospective study of 1067 high school pupils selected by stratified random sampling, 572 of who were followed up at 6 months.

*Measures* Measures of the TPB, the TTM, exercise behaviour and demographic data were obtained.

*Results* The TPB was a significant, but weak, predictor of exercise behaviour. Of the TPB variables, perceived behavioural control (PBC) was the strongest predictor of behaviour. However, past exercise was the strongest predictor of future exercise behaviour. The TTM variables were poor predictors of movement between stages of change. The TTM was a stronger predictor than the TPB of stage of change, whereas the TPB was a stronger predictor of exercise behaviour.



*Conclusions* The TPB and the TTM are relevant to understanding factors related to exercise in young Chinese people. The TPB is a significant, but weak, predictor of exercise behaviour. Cross-sectional support for the TTM is good, although longitudinal support is modest. PBC, intentions, self-efficacy and behavioural processes are strongest predictors of movement between stages.

### **EATING EDUCATION DURING EARLY CHILDHOOD: THE IMPORTANCE OF A PRIMARY PREVENTION IN EATING DISORDERS**

Carrozza, A., Castelli, E., Liaci, A., Poggiali, F.; Italy

*Aims* Eating disorders have become one of the most remarkable problem in our society, because of their threat to health and, in some case, to life itself.

Almost 10% of girls over thirteen, suffering from an eating disorder, seem to be at risk for life. Unfortunately today it is not rare to find out that children, attending primary school present a not-otherspecified eating disorder.

Educational programmes and prevention campaigns on eating disorders have just started among Italian primary and secondary schools. The aim of these programmes is to get students able to recognise and struggle against social factors that contribute to the development of an eating disorder (primary prevention), capable to support friends suffering from an eating disorder and guide them toward a professional help (secondary prevention) and also able to identify the components of an efficient treatment of eating disorders (tertiary prevention).

*Methods* This study describes a structured intervention made of an educational part on correct eating habits and of a primary prevention on eating disorders.

The intervention took place in Florence between January and May 2003. The sample composed 25 children, attending the last year of primary school.

Totally there were nine groups, 2 h time each.

#### *Aim*

- (1) Stimulating children, through play, to explore food with their senses Sharpening the perception of natural stimuli of hunger and satiety, getting chronobiological ritms (3 meals and 2 snacks).
- (2) Increasing the ability of food selection in the different meals in order to make a better choice of food everyday.
- (3) Becoming aware of the importance of a balanced diet, based on a healthful management food, instead of a strict control.

*Results* Teachers and children's parents led an observation on children's eating attitudes before and after the intervention.

Results and main risk factors found out are discussed.

### **DANCE PROFESSION: RISK FACTORS FOR EATING DISORDERS IN A SAMPLE OF PROFESSIONAL DANCERS**

Castelli, E., Frassi, N., Donalizio, M., Masella, G., Pruneti, C.; Italy

*Aims* Now-a-days, there is a strong belief in professional dancers correlating to eating disorders, such as for other sports, in which slimness becomes one of the most important required qualities. This study aims to check a real correlation between these realities, that can apparently be very clear but has statistically not been yet verified. Could the choice of a specific sport, be considered a risk factor for the onset of an eating disorder?

*Methods* Three sample groups of people were recruited; the first was made up of 32 professional dancers (PD), the second was composed of 30 patients diagnosed with anorexia nervosa (AN) diagnosed by the DSM IV criteria (American Psychiatric Association, 1994), and the third one composed of 30 students of a similar range of age (S).

The following tests were administered to all the subjects: 16-Personality Factors, (16-PF), Pisa Stress Questionnaire (PSQ), Symptom Questionnaire (SQ) and Pisa Survey for Eating Disorders (PSED), in order to investigate personality traits, life styles with a high risk of stress-related physical disorders, and actual symptoms such as anxiety, depression, somatic complaints, hostility, self-perception of body image and eating habits.

The mean values and standard deviations were calculated for every sample. Furthermore, analyses of variance (ANOVA) were carried out, in order to highlight any significant differences between the groups. In addition, thanks to a preliminary factorial analysis, Spearman's Rho was calculated, for those variables which were able to differentiate between the sample groups. Finally, linear regression was applied for those correlations which were most representatives for the relationships between the groups.

*Results* Potential analogies regarding personality traits, life style, somatic complaints and all the factors which could potentially increase the risk of an eating disorder are discussed.

#### **RELATIONSHIP BETWEEN SUICIDAL TENDENCIES AND ADJUSTMENT PROBLEMS AMONG ADOLESCENTS IN LITHUANIA**

Cepukiene, Viktorija, Pakrosnis, Rytis, Gostautas, Antanas; Lithuania

*Objective* Despite the increasing attention and financing suicide remains a problem in Lithuania. A large percentage of Lithuanian adolescents have suicidal thoughts. Nevertheless, there is lack of data about sex differences as well as the relationship among suicidal thoughts and psychosocial adjustment problems in adolescence, which aggravate the development of effective prevention programs. The aim of this study was to evaluate the relationship between suicidal thoughts and psychosocial adjustment among adolescents.

*Method* The data were collected using the "Standardized Interview for the Evaluation of Adolescents Problems" (Gostautas *et al.*, 2003), assessing problems in physical functioning, use of psychoactive substances, presence/absence of stressful events, school adjustment, relationships among family members and peers as well as behavior in conflict situations, self-esteem, cognitive functioning, emotions and mood, suicidal tendency. The expected sample of the study is 300 adolescents aged 12 to 18 years, as the study is still in progress.

*Results* The results of 80 adolescents show that suicidal thoughts are related to various psychosocial problems, such as sleep problems, conflicts with peers, low self-esteem, mood and emotional problems. The suicidal thoughts were related to different psychosocial problems depending on gender.

*Conclusion* Suicidal tendencies among adolescents are related to their psychosocial adjustment and differ according to gender.

#### **TEENAGE ALCOHOL PROJECT – METHODOLOGY OF AN INTERVENTION TO REDUCE ADOLESCENT PROBLEM-DRINKING**

Chalder, Melanie, Elgar, Frank, UK; Moore, Laurence, UK

*Objective* To test pupils' awareness of, and exposure to, a schools-based, peer-led intervention to reduce adolescent problem-drinking.

*Method* The study is designed as a cluster randomised controlled trial, with school as the unit of randomisation. There are three separate study arms – three schools have been randomly allocated to have the intervention delivered to pupils in Year 8; three more have been randomly allocated to have the intervention delivered to pupils in Year 9; and a further three schools have been randomly assigned to a control condition across both Years 8 and 9. The main outcomes are measured using a confidential, anonymised self-administered questionnaire in three data collection waves. Running contemporaneously is a process evaluation to explore the strengths and weaknesses of the prescribed intervention.

*Findings* Between the baseline and the final (10 month post-intervention) data sweeps, there was a ‘near significant’ change in the number of self-reported weekly units of alcohol consumed, depending on whether participants were in control or intervention. Schools –  $F(1, 450) = 3.36$ ,  $p = 0.060$ , power = 0.27.

*Conclusion* By promoting peer-led education based on the “diffusion of innovations” theory, this novel health promotion initiative trains locally influential opinion-formers to change their surrounding culture through the medium of informal social networking. Re-applying a model previously tested and validated in the domain of adult sexual health, the Teenage Alcohol Project demonstrates some success in changing the behaviour of young people of secondary school age, in terms of alcohol misuse.

### **CHANGING HEALTH-RELATED GOALS IN LIFE PROJECTS DURING THE TRANSITION TO ADULTHOOD**

Christova, Diana; Bulgaria

*Objectives* The study seeks to examine cultural transformation of health-related goals in life projects of university students in the context of socio-historical changes in the Bulgarian society.

*Method* The total of 164 Bulgarian university students of mean age 22.64 years ( $SD = 2.23$ ) participated in a sequential study, conducted in 4 points of historical change: 1984, 1987, 1992 and 1996. The Motivational Induction Method (Nuttin, 1980) is used. The responses of 20 unfinished sentences are content-analyzed on the base of the assumption that they reveal the motivational content of students’ life projects. The statistical analysis is carried out to examine the changes in hierarchical structure and salience of expressed motivational continents during the studied period of historical time.

*Results* The results show a dynamic process of transformation of cultural prototype of adulthood in which a new priority is given to self-actualization, self-determination and self-regulation. As a part of this process, a tendency is identified toward a progressive increase of the relative weight of the goals related to physical health improvement and psychological well-being. Meanwhile the avoidance of psychological discomfort peaks in the beginning of 1990s and then slightly decreases.

*Conclusions* The research reveals the role of culture and society for the change of life projects and the relevance of health-related goals.

### **SELF-EFFICACY, PERSONAL GOALS, AND SUBJECTIVE WELL-BEING**

Cieslak, Roman; Poland

Research on subjective well-being (SWB) is driven by the attempts to discover and explain its causes. There is a long-established literature on personality predictors of SWB. The most closely

associated with SWB are neuroticism, extraversion, and locus of control or related constructs, such as self-efficacy and mastery. Other studies have addressed the issue of the relationship between personal goals and SWB. The present study was designed to combine these perspectives. The aim of this investigation was to explore the relationships between self-efficacy, personal goals, and SWB.

The data were collected in the Polish General Social Survey on the representative national sample ( $N=1221$ ). Participants completed a questionnaire to measure SWB, self-efficacy, and personal – extrinsic and intrinsic – goals. SWB was defined as life satisfaction, frequency of positive and negative affects, and intensity of somatic complaints.

The results show that goal pursuit enhances SWB. The content of the goals (extrinsic or intrinsic strivings) is less important than the intensity of goal strivings. Self-efficacy is another predictor of SWB that moderates the goals–SWB relationship. Positive effects of goal pursuit on positive affect and life satisfaction is significantly stronger for those participants who are high in self-efficacy, whereas participants who are low in self-efficacy have more somatic symptoms if they strive for extrinsic or intrinsic goals.

### **WOMEN'S EXPERIENCES OF PRESSURE TO BE THIN: A PHENOMENOLOGICAL ANALYSIS**

Cole-Zakrzewski, Kylie, G., Hector, Mark, A.; USA

The purpose of this research was to understand and uncover themes in the experiences of women who had felt societal pressure to be thin. Participants were eleven women ranging in age from 23 to 51 years, who were recruited with the snowball Method. The research was phenomenological in nature and scope and involved open-ended interviews with each of the participants. A phenomenological research group conducted an analysis of the transcribed interviews and identified and documented themes and commonalities. Main themes of Others, Body Awareness, and Food were superimposed on the grounds of Time and The Struggle. Each main theme had sub-themes. For Others, the sub-themes were Relationships and Judgments/Perceptions. For Body Awareness the sub-themes were Clothes, Media, and Health. For Food, the sub-themes were Hunger and Control. The researcher created a thematic representation to pictorially display the findings. The participants verified the results of the analysis to ensure accuracy.

### **DEPRESSION AND CARDIOVASCULAR REHABILITATION OUTCOME IN MI PATIENTS: THE MEDIATION ROLE OF QUALITY OF COUPLE RELATIONSHIP**

Compare, Angelo, Molinari, Enrico; Italy

*Objective* The present study examined the potential mediation role of quality of couple relationship perceived by a patient on the relation between baseline depression and cardiovascular rehabilitation (CR) outcome.

*Methods* 223 male patients with myocardial infarction (MI) (age 50 years,  $SD$  4.98) were involved in CR program based on European guidelines were consecutively recruited for the study. Psychological baseline assessment were (1) Beck Depression Inventory (Beck *et al.*, 1961), (2) Experiences in Close Relationships (Brennan and Bosson, 1998), (3) Partner Relationship Inventory (Hoskins, 1988). CR outcome measure was METs (maximal attained) and was evaluated before and at the end of a (CR) program.

*Results* Survival Cox analysis pointed out as low quality of couple relationship empathized the negative influence of depression on METs outcome ( $RR=1.65$ ; 95% CI=1.25 and 2.17;  $p<0.001$ ). In detail low satisfaction emotional needs were linked with high-negative depression influence on METs outcome ( $RR=1.76$ ; 95% CI=1.22 and 2.09;  $p<0.001$ ). Structural equation model analysis (LISREL) that was conduct using high-depressed patient data pointed out the central role of emotional self-disclosure and perceived partner responsiveness into maintenance of depression symptoms – GFI (0.982), NFI (0.965), TLI (0.998), CFI (0.999).

*Conclusion* The results are discussed considering the empathy theoretic model of Reiss and Shaver (1987) and the implication for couple therapy for depressed patient (Jones and Asen, 2002) affected by MI.

### **PSYCHIATRIC EVENTS DURING INTERFERON THERAPY IN CHRONIC HEPATITIS C (CHC): RESULTS OF A PROSPECTIVE STUDY IN 98 PATIENTS**

Constant, Aymery, Castera, Laurent, France; Henry, Chantal, Couzigou, Patrice, Bruchon-Schweitzer, Marilou; France

*Objectives* Psychiatric side effects are common with interferon- $\alpha$  therapy, and responsible for treatment discontinuation in 10 to 20% of cases. The aim of this study was to characterize psychiatric events occurring during Chronic Hepatitis C (CHC) treatment, and to determine vulnerability factors associated with their occurrence.

*Methods* 98 CHC patients (51 males, mean age 42, b12 yrs) treated for the first time with interferon- $\alpha$  plus ribavirin for 24 to 48 weeks were systematically assessed by a trained psychologist, using the MINI-DSM-IV, the Montgomery Asberg Depression Rating Scale (MADRS), the State Trait Anxiety Inventory (STAI-Y), and the Brief Fatigue Inventory (BFI), at baseline, week 4, W12, W24, W48, and W72. In case of occurrence of a psychiatric event, they were referred to a psychiatrist.

*Results* Psychiatric events occurred in 38 patients (39%). They consisted of mood disorders (according to DSM-IV) in all cases with irritable hypomania in 22 cases (58%) and major depression with manic/hypomanic features (mixed states) in 16 cases (42%). Their occurrence was significantly associated with past drug use, and elevated anxiety and depression scores at baseline ( $p<0.05$ ). In multivariate regression analysis, trait anxiety was the main predictor of psychological distress and irritability during treatment ( $\beta=0.31$ ,  $p<0.001$ , and ( $\beta=0.32$ ,  $p<0.01$ , respectively), whereas physical symptoms were predicted by older age ( $\beta=0.28$ ,  $p<0.01$ ), family psychiatric history ( $\beta=0.22$ ,  $p<0.05$ ), and fatigue ( $\beta=0.21$ ,  $p<0.05$ ). A specific treatment was necessary in 25 cases (76%) allowing all patients to continue antiviral treatment.

*Conclusions* Mood disorders are common (39%) during interferon therapy for CHC, mainly occurring in vulnerable patients. These disorders often include irritability and manic/hypomanic features. Their early recognition and specific treatment improve adherence to antiviral therapy.

### **THE STRUCTURE OF PROPERTIES OF BEHAVIOURAL INTENTION AND THEIR CAPACITY TO MODERATE THE INTENTION-BEHAVIOUR RELATIONSHIP**

Cooke, Richard, Sheeran, Paschal; Ireland

*Objectives* To examine the factor structure of five properties of intentions (certainty, meta-accessibility, meta-stability, response latency and temporal stability), and to test the

impact of these properties, and past behaviour, as moderators of the intention–behaviour relationship.

*Methods*  $N = 139$  participants completed two questionnaires measuring intention, past behaviour and properties of intention, administered two weeks apart. Exercise behaviour was measured two weeks later. Principal components analysis was used to examine the factor structure of the intention properties. Hierarchical regression was used to investigate the impact of properties as moderator variables.

*Results* Principal components analysis converged on four factors: Temporal stability loaded on one factor, response latency loaded on another factor, meta-accessibility loaded on a third factor and, certainty, meta-stability comprised the final factor. The variables were combined into scales and employed as moderators of the intention–behaviour relationship. A series of hierarchical regressions demonstrated that intention stability and past behaviour both moderated the intention–behaviour relationship. Regressing behaviour on intentions, past behaviour, temporal stability, and the interactions between intention and each moderator, explained 64% of the variance in future behaviour, with significant betas for intention, past behaviour, the intention by intention stability interaction and the intention by past behaviour interaction.

*Conclusions* This study shows that the five intention properties examined are relatively independent concepts, which vary in their impact on the intention–behaviour relation. The study also highlights the importance of temporal stability as a moderator variable, and supports the view that temporal stability deserves greater employment in future research.

### **EXPLORING THE PROVISION OF SOCIAL SUPPORT WITHIN A COMPUTER-MEDIATED HUNTINGTON'S DISEASE SUPPORT NETWORK**

Coulson, Neil, Aubeeluck, Aimee, Buchanan, Heather, Semper, Heather, Rooney, Emma; UK

*Objectives* The unique constraints placed upon the Huntington's Disease [HD] carer, and the lack of time and social support identified by this group may make computer-mediated support groups a unique channel of social support for these individuals. The Objective of this study was to examine the nature of supportive communications within a computer-mediated support network for individuals affected by HD

*Methods* A modified version of Cutrona and Suhr's (1992) social support classification system was employed to content analyse 1314 messages posted during a 3 year study period (1997–2000).

*Results* Analyses indicated that much of the support was directed at the emotional and informational needs of the network members with esteem support and tangible assistance least frequently offered. In addition, a number of unique features of socially supportive communication were noted.

*Conclusions* The results of this study have implications for the extent to which social support classification systems can be extended to the computer-mediated environment. Furthermore, the results provide an insight into the types of mediated social support that are most often exchanged by members of a group serving individuals affected by HD. In addition, our data suggest that some forms of support used in this context are relatively unique. The results of this data will be of considerable interest to academics as well as health care professionals.

### **“SO THAT’S WHEN I THOUGHT TO MYSELF, ‘MY LIFE IS JUST HORRIBLE’”: EVERYDAY JUDGMENTS OF LIFE SATISFACTION**

Croft, Catherine, Gold, Ron; Australia

*Objectives* The study was designed to investigate life satisfaction (l.s.) judgments as they occur spontaneously in everyday life, rather than being constructed in response to a researcher’s question.

*Methods* A convenience sample of 50 adults from Melbourne, Australia, was employed. Half had at least some university education; the other half did not. In an in-depth, structured interview, participants were asked to recall – if they could do so – an occasion when they had spontaneously made a judgment about their l.s. The circumstances in which the judgment had been made and the thoughts that had entered into it were elicited.

*Results* Main findings included:

- (a) All participants were able to recall an occasion when they had spontaneously made a l.s. judgment.
- (b) Judgments that life was good and that life was bad were equally common.
- (c) Judgments invariably involved comparisons with various standards (e.g., what one had versus what one wanted, what one had *versus* what one deserved, what one had *versus* what one expected to have).
- (d) However, upward and downward social comparisons were relatively rare.
- (e) Judgments were commonly based on events relating to just one or two areas of life, rather than a review of many different areas.
- (f) The areas of life involved were invariably those impacting very directly on participants.
- (g) While the thoughts entering into the judgment generally went beyond consideration just of a specific situation, they usually did not encompass large sweeps of time.
- (h) There was very little to distinguish judgments of more- and less-educated participants.

*Conclusions* Findings are compared and contrasted with those typically obtained using the more standard approach of asking participants to rate their l.s.

### **THE EFFECTS OF RUMINATIVE THINKING ABOUT WORK ON SLEEP**

Cropley, Mark, Dijk, Derk-Jan, Stanley, Neil; UK

*Background* Sleep is one of the most important recovery mechanisms available to humans, allowing for recovery from daily strains, and therefore a prerequisite for health. Many workers complain that they are unable to get to sleep at night, and report poor sleep maintenance due to unwanted, ruminative thoughts and concerns about work-related issues. The present study investigated the effects of ruminative thinking on sleep, using self-reported diaries.

*Method* One-hundred and seven school teachers were asked to keep a diary record of their thoughts about work over a workday evening and were monitored hourly from 17.00 hrs until bedtime. Each individual also completed a diary assessment of their sleep patterns over the same night. Using information obtained from the diaries the sample was divided into high ruminators (those who thought about work issues a lot at bedtime) and low ruminators (those who thought about work issues little at bedtime) using tertile splits. Only individuals who did not work in the hour before bedtime were included in the analysis.

*Results* Logistic regression analysis revealed (after adjusting for age and gender), that high compared to low ruminators were: 3.5 time more likely to report 'difficulty falling asleep', 4.7 time more likely to report 'difficulty waking up', 5.7 times more likely to report 'difficulty getting back to sleep if awoken during the night', 6.8 times more likely to report 'restless sleep' and 3.4 times more likely to 'feel unrefreshed after awaking'. Relative to the low ruminators, high ruminators also reported that they had thought about work related issues – while trying to fall asleep ( $p < 0.001$ ), and in the morning before they got out of bed ( $p < 0.5$ ).

*Conclusion* Ruminating about work-related issues appears to be associated with self-reported sleep disturbance. It is important therefore that individuals learn to 'switch-off' from work during the evening in order to obtain good quality sleep.

### **FALLS AND FEAR OF FALLING IN INSTITUTIONALISED ELDERLY: A QUALITATIVE STUDY**

Cuttelod, Therese, Piot-Ziegler, Chantal; Switzerland

This study explores, through semi-structured interviews, how 25 institutionalised elderly ( $m = 85.8$  years,  $SD = 7.2$ ) talk about falls and their consequences. Qualitative analysis reveals that falls are perceived as a turning point in life and are one of the main reasons for entering an institution, along with fear of falling (FOF). Falls are considered to be unpredictable and unavoidable, their objective cause often unknown. Emotions related to the fall are mostly negative: fear, shame, humiliation, and helplessness. Nevertheless, falls can also have positive outcomes, such as being the centre of attention. Many fallers feel safer and less of a burden after entering the institution, and have a fatalistic or philosophical approach to falls. This can explain that although FOF is widely experienced, it is often considered as a reminder to caution and thus does not necessarily have a negative connotation.

Walking devices are considered as being interchangeable and necessary to maintain mobility, but are not sufficient to compensate for the loss of confidence that leads to a reduction of physical activity. The elderly underline the need to be accompanied in order to walk outside and explain that the institutions do not fully meet their expectations regarding this issue. They also mention work overload, stress and lack of time from professionals as an important barrier to remain physically active and to reduce the perceived risk of falls.

These findings help understand how elderly people experience falls in nursing homes, and open new perspectives on how to help them feel safer, and make life in an institution more adapted to their needs and expectations.

### **AFFECTIVE DISORDERS IMPACT ON QUALITY OF LIFE OF MULTIPLE SCLEROSIS PATIENTS**

D'Alisa, Simonetta, Baudo, Silvia, Mauro, Alessandro, Miscio, Giacinta; Italy

*Aims* In the present study we investigated which factors impact on the quality of life (QoL) of MS patients, administering different scales to assess the neurological the emotional status and the health-related QoL (HR-QoL) of the patients.

*Methods* Seventy-five (55 females, 20 males) MS inpatients referring to our Department were recruited.

Expanded Disability Status Scale (EDSS), describing the neurological status, was administered by a neurologist. Hospital Anxiety and Depression Scale (HADS/A and HADS/D) and SF-36 for the HR-QoL, were self-administered by the patients. A decision tree structured statistical analysis (CART) was applied to identify with variables provided a predictive



segregation of the data between different values of the classification variables: such variables were considered as predictor variables.

*Results* Considering the global SF-36 score as the dependent variable and age, gender, marital status, disease duration, EDSS, HADS/A and HADS/D as independent variables, the CART identified depression (HADS/D score) only, as the best predictor of QoL. The best model was a three terminal node tree. Depression explained a variance of about 45% for the global SF-36 score.

*Conclusions* In our sample of MS patients, only depression seemed to directly influence the QoL. Such finding is in agreement with previous studies reporting depression as the main factor impacting on HR-QoL of MS patients, and suggests that most aspects of HR-QoL are only weakly related to the traditional measures of neurological impairment. The strict correlation between depression and HR-QoL underlines the importance to consider affective disorders as a critical factor in the autoperception of the QoL in the MS patient, and their management a clinical priority.

### **ILLNESS PERCEPTION AND LEVELS OF ANXIETY AND DEPRESSION IN PATIENTS WITH CHRONIC DISEASE**

D'Alisa, S., Cauteruccio, M.A., Chiambretto, P.S., Beltrami, S.; Italy

Illness perception has been described as an important predictor of illness adaptation in health psychology literature and may affect adjustment to chronic disease. People with higher levels of negative affectivity have exaggerated perception of symptoms and interpret illness as more threatening.

Aim of the study is to explore the relationship between illness perception and the emotional status in 44 inpatients with chronic diseases: stroke ( $n = 14$ ), chronic daily headache (CDH) ( $n = 20$ ), and patients with hip prosthesis (HP) ( $n = 10$ ).

The patients completed the Illness Perception Questionnaire-Revised (Moss-Morris *et al.*, 2002) and the Hospital Anxiety and Depression Scale (Zigmond and Snaith, 1983).

Anxiety was significantly related with the timeline cyclical score ( $r = 0.53$ ,  $p < 0.001$ ) and the emotional representation ( $r = 0.67$ ,  $p < 0.0001$ ); depression was significantly related with the treatment control ( $r = 0.38$ ,  $p < 0.05$ ) and the emotional representation ( $r = 0.45$ ,  $p < 0.01$ ). Anxiety was related with all the psychological attribution of the disease, in particular stress ( $r = 0.55$ ,  $p < 0.0001$ ) and emotional state ( $r = 0.56$ ,  $p < 0.0001$ ); depression was not related to any specific causal attribution.

Stroke and CDH patients reported higher score in emotional representation compared with HP and the consequences of the disease were higher in stroke patients. CDH had significantly higher score of anxiety and 52% of them identified stress as the main cause of the disease. In the other class of patients no relevant causes were identified. No differences were found between groups in terms of depression.

In conclusion, the emotional distress seems to be significantly related to aspects of illness perception in patients with chronic diseases, independently on the genesis of the disease.

### **AN INTEGRATED STUDY OF THE ORGANIZATIONAL HEALTH: THE ORGANIZATIONAL CLIMATE AND THE ABQ SYSTEM AFFECTIVITY/SATISFACTION, BURNOUT/WELL-BEING, QUALITY OF THE SERVICE/PERFORMANCE**

D'Amato, Alessia, Giorgi, Gabriele, Majer, Vincenzo, Di Fabio, Annamaria; Italy

In literature there has been presented micro-models introduced in the climate for something, a theoretical and empirical support of the influence of climate on peculiar organizational outcomes.

We wanted to analyse with the following study whether organizational climate has a relevant and consistent impact on organizational outcomes in terms of job satisfaction, mental well-being and performance. We controlled also the mediation of occupational stress between preceding and consequential dimensions. The theoretical foundation of the study was the structural theory of Poole, Mcphee (1983) and Bastien *et al.* (1995), which composes a model of climate. Through an administration of a survey we tested a theoretical model in which climate has been considered between the precedents of organizational stress, individual well-being and customer satisfaction as the outcomes of the organizational behaviour. The model aims to clarify the role of organizational climate for the understanding and the prediction of the ABQ of the organizational behaviour: Affectivity–Satisfaction, Burnout/Well-being, Quality of the service performance. The articulated survey on object's constructs has been compiled by 406 employees in six departments in a public service organization. Different statistical procedures have been utilized to analyse the data and to control the hypothetical theories. The results show that model has an adequate fit and support the assumed relations and new proposal are suggested for future researches on object's themes.

### **PATIENT SATISFACTION, BOTH A DEPENDENT VARIABLE AND A PREDICTOR**

de Boer, Coby, Boersma, Sandra, N.; The Netherlands

*Background* Patient's opinions are considered highly important for both improvements in health care and outcomes like patients' adherence, health-related QOL, subjective health and goal attainment. Patient satisfaction can thus be considered as a dependent variable as well as a predictor. To measure patient satisfaction in detail a comprehensive questionnaire was developed (see poster abstract 1 of the same authors).

*Aim* The objective of this study is (1) to predict patient satisfaction, (2) to explore the relative importance of the different moderators and mediators of patient satisfaction and (3) look at patient satisfaction in relation to long(er) term outcomes like health-related quality of life and adherence.

*Method* In a cross-sectional design, the questionnaire was sent to a representative sample of 1125 patients of the Leiden Academic Medical Center (LUMC), 2 to 3 months after their hospitalization. The questionnaire consisted of three parts:

1. provider characteristics related to patient satisfaction (see poster abstract of the same authors),
  2. moderators/mediators in this relationship (e.g., IPQ, TMSI, chronic illness) and
  3. long-term outcomes of patient satisfaction (e.g., SF-12, Goal Facilitation Scale, adherence).
- Hierarchical regression analyses and path analyses will be conducted to examine the above-mentioned relations.

*Results* At the conference preliminary results were presented and implications for clinical practice were discussed.

### **PATIENT SATISFACTION AND QUALITY OF CARE**

de Boer, Coby, Boersma, Sandra, N.; The Netherlands

*Background* Patient's opinions are considered as a highly important source of information for improvements in health care. In 2003 a 'Core Questionnaire' was developed to offer insight into patients satisfaction with six aspects of care. Since 2003 it is in use in the eight academic hospitals in the Netherlands; other hospitals are interested.

*Aim* As this core questionnaire was designed to be a screening instrument it is short and does not offer sufficient insight into what specifically could be undertaken to improve patient satisfaction. This is why we developed and tested an extended questionnaire on the same six subjects (admission, nursing care, medical care, information, autonomy and discharge and aftercare).

*Method* When for the first time the core questionnaire was administered, the patients ( $N = 2847$ ) were invited to give additional comments on every subject. This resulted in 2385 statements. Subsequently the comments were categorized; there was good to excellent interobserver agreement ( $\kappa$  0.60–0.93). From the categorized comments questions were derived. The questionnaire was administered to a representative sample of clinical patients ( $N = 1125$ ). To investigate whether the newly developed items are in fact extensions of the aspects of care from the core questionnaire, correlational and confirmatory factor analysis are conducted.

*Results* At the conference the results of the evaluation of the questionnaire are presented.

### **THE IMPACT OF MEDICAL VARIABLES ON QUALITY OF LIFE AND PSYCHOLOGICAL DISTRESS IN CARDIAC PATIENTS**

De Gucht, Véronique, Gravely, Shannon, Heiser, Willem; The Netherlands

*Objective* The objective of the present study is to examine the contribution of a number of medical variables to health-related quality of life and psychological distress in cardiac patients, both at baseline (T1) and at 6 months follow-up (T2).

*Methods* The subject population consisted of patients under the age of 70, recruited after having been admitted to hospital because of a myocardial infarction (MI), a percutaneous transluminal coronary angioplasty (PTCA) or a coronary artery bypass grafting surgery (CABG). A total number of 171 patients participated in the study at baseline (T1). The response rate at follow-up (T2) was 71%. The medical variables studied were (a) reason for hospital admittance (MI, PTCA, CABG), (b) presence *vs.* absence of previous cardiac events, and (c) the (continued) presence of angina pectoris.

*Results* CABG patients were found to have worse physical quality of life at T1; this difference, however, disappeared at T2. The presence of previous cardiac events predicted worse total quality of life, and higher levels of depression and anxiety at T2. The continued presence of angina pectoris was predictive of worse emotional, physical, and total quality of life at T2. After controlling for quality of life and psychological distress at T1, angina pectoris was found to be a significant predictor of emotional, physical, and total quality of life, as well as depression at T2.

*Conclusions* Both angina and the presence of previous cardiac events are associated with quality of life and psychological distress, especially depression, at 6 months post-cardiac event. As previous studies have demonstrated that depression is significantly related to mortality in cardiac patients, it is important, both from a clinical and a research perspective, to pay closer attention to these variables.

### **WORK STRESS AND NEGATIVE AFFECTIVITY AS DETERMINANTS OF FATIGUE IN NURSES**

de Gucht, Véronique, Guzman, Michelle; The Netherlands

*Objective* The aim of the study is to (1) examine the contribution of job stress to fatigue in a population of nurses; (2) study whether nurses, scoring high on negative affectivity, have a tendency to

experience more job stress, which in turn may lead to fatigue; and, (3) examine whether negative affectivity has a moderator effect on the relationship between job stress and fatigue.

*Methods* A total number of 202 nurses, working in a university hospital, participated in the study. The Leiden Quality of Work Questionnaire was used to measure job stress. The Checklist Individual Strength was used to measure four dimensions of fatigue, namely, subjective fatigue, concentration, motivation, and activity level.

*Results* Low social support at work was associated with high subjective fatigue and lack of motivation. Low job control was related to lack of motivation, and, finally, both low job control and high work demands were associated with low activity level. Job control had a partial mediating effect on the relationship between negative affectivity and motivation, as well as activity level, whereas social support had a partial mediating effect on the relationship between negative affectivity on the one hand, subjective fatigue and motivation on the other hand. Finally, in nurses, scoring high on negative affectivity, high levels of job control led to high levels of subjective fatigue and to lack of motivation, whereas in nurses scoring low on negative affectivity, high levels of job control led to low levels of subjective fatigue and to better motivation. In nurses scoring high on negative affectivity, high levels of social support led to better motivation.

*Conclusions* The relationship between job stress and fatigue may be subject to changes due to interaction effects with personality factors, such as negative affectivity.

### **A BEHAVIOUR CHANGE INTERVENTION TARGETING HARD TO REACH GROUPS: PRELIMINARY RESULTS ASSESSING HEALTH GOALS AND GOAL-RELATED COGNITIONS**

de Meric, Natasha, Michie, Susan, Adshead, Fiona, Wilson, Clare; UK

*Background* To reduce health inequalities, the UK Government has set targets to improve health behaviours in these groups. To help meet these targets, a London primary care project has developed a theory-based behaviour change intervention. It is being delivered by a new kind of health practitioner, the Public Health Assistant (PHA), drawn from, and working in, the local community. Service users were recruited to the PHA service via community centres, mosques, doctors' surgeries etc.

The intervention is based on the Health Action Process Approach (HAPA), social cognitive theory and operant theory, and includes techniques of goal-setting, boosting self-efficacy, self-monitoring and action planning.

*Aim* To present baseline data addressing the following:

1. Is the service being accessed by hard to reach groups?
2. What are the health goals and goal-related cognitions of people using the service?

*Method* Service users completed a self-report questionnaire on first contact with the service, covering information about demographic characteristics and health behaviours (published measures), health goals and their cognitive antecedents (study specific measures, based on the HAPA).

*Results* Descriptive data are presented on:

1. Ethnicity, age, gender and socio-economic status
2. Health behaviours and behavioural goals
3. Goal efficacy, intention and planning.

*Conclusion* Understanding service users' demographics, health needs, health goals and goal-related cognitions has important implications for designing interventions.

## STAGES OF CHANGE IN FRUIT INTAKE: A LONGITUDINAL EXAMINATION OF STABILITY, STAGE TRANSITIONS AND TRANSITION PROFILES

De Vet, Emely, De Nooijer, Jascha, De Vries, Nanne, K., Brug, Johannes; The Netherlands

*Objective* The present study aimed to test the validity of the stages of change model for fruit consumption by exploring (1) stage stability and naturally occurring stage transitions, (2) distinctive patterns of stage transitions (transition profiles) and specific sequences within these patterns of stage transitions, and (3) differences among people in these patterns according to sex, age, level of education, ethnicity, and fruit intake.

*Methods* In a longitudinal observational study in 735 adults, fruit intake, stage of change, and demographic characteristics were assessed with electronic self-administered questionnaires six times within a four-month period with time intervals varying from several days to several weeks.

*Results* Precontemplation and maintenance were the most stable stages of change, although on average 20% of precontemplators progressed and 13% of maintainers regressed between two measurements. Preparation was the least stable, with equal percentages of respondents progressing as regressing between measurements. Longer time intervals showed lower stability, but frequent stage transitions also occurred in shorter time intervals. Most stage transitions were to adjacent stages, independent of the time interval, indicating that people move through the stages suggested by the Transtheoretical Model. Seven stage transition profiles were distinguished with specific stability and instability patterns. Differences in fruit intake, age, level of education, and ethnicity were found between transition profiles.

*Conclusions* In general, the stability rates and most frequent stage transitions support the Stages of Change Model. However, short-term stage instability and stage transition profiles not in accordance with the model were found. Therefore, using stage transition as an outcome measurement in evaluation of health promotion interventions as well as stage tailoring of interventions should be done with caution.

## YOUNG MEN, MASCULINITY AND HEALTH

de Visser, Richard; UK

Between adolescence and adulthood, boys are expected to become men, and the formation of a masculine identity is a major developmental task. Young men are active in this process – their ideas about masculinity shape their behaviour, and their behaviour shapes their conceptions of masculinity. In developing the masculine identity and testing their competence, many young men engage in health-compromising social behaviours. However, not all men engage in health-compromising behaviours, and not all “masculine” social behaviours are detrimental to health. This paper describes the results of a qualitative study of masculinity and health behaviour among men aged 18–20 living in London. The sample is stratified to incorporate men with different levels of socioeconomic opportunity and men with different ethnic/racial backgrounds. This will allow for an examination of how ‘classed’ and ‘raced’ masculine identities are related to various health-related social behaviour. The study examines how young men think and talk about masculinity, and the ways in which their conceptions of masculinity are related to a range of health-related social behaviours. The behaviours of interest include sport, alcohol and drug use, (dangerous) driving, and sexual behaviour. The data reveal that health-related social behaviour is an important resource for the construction of a masculine identity. Implications for health promotion are discussed.

## APPLICATIONS OF THE I-CHANGE MODEL FOR EXPLAINING HEALTH BEHAVIOUR

De Vries, Hein, Reubsact, Astrid, De Nooijer, Jascha; The Netherlands

*Objectives* To discuss the need for integrating social cognitive models and to analyse the importance of various components of an Integrated Model for explaining behavioural change (the successor of the ASE-Model), a model that integrates concepts of various social cognitive theories.

*Method* Data were collected in Dutch adults and adolescents about skincancer ( $N=500$ ), heredity ( $N=478$ ) and smoking cessation ( $N=753$ ). Subjects filled out a questionnaire to assess awareness, motivations and action plans. Several hypotheses of the I-Change Model are tested, to analyse impact of awareness factors, motivational factors and action plans (goals) by analysing whether awareness factors precede motivational factors (attitudes, social influences, self-efficacy), and to which extent action plans differ between persons motivated to change or not.

*Results* Significant differences were found with respect to persons motivated and unmotivated to change on concerning concepts related to awareness, motivation and plans. The results of regression analysis are reported as well.

*Conclusions* The I-Change Model, the successor of the ASE-Model, integrates various concepts from social cognitive models. The results partly support the various hypotheses and can be used to further tailor interventions. Recommendations for future research are also discussed as well.

## CULTURE, EMOTIONAL INHIBITION, AND SOMATIZATION

Deighton, Russell, Germany; Fernandez, Itziar, Spain; Deschamps, Jean-Claude, Switzerland; Paez, Darío, Spain; Traue, Harald, C., Germany

This study aims at investigating associations between culture variables and emotion knowledge (focusing on knowledge reflecting emotional inhibition and somatization) in a questionnaire administered to 5080 subjects from 29 countries.

The nation-level analysis investigated the association between various aspects of emotion knowledge on the one hand (including expressiveness, physical sensations, emotional inhibition, and somatization) and culture scales on the other hand, such as Hofstede's (1980) individualism–collectivism. The analysis of the culture scales revealed an unexpected inverse association between Hofstede's individualism and the study's own measures of individualistic attitudes. This was interpreted as being indicative of an especially strong new wave of individualism among students in traditionally collectivistic countries due to erosion of traditional values and the economic and social effects of globalization, a phenomenon described as “neoteric estrangement” (operationalized as high Hofstedian collectivism but high individualistic attitudes as measured by the study).

Neoteric estrangement was associated with emotion knowledge reports reflecting high emotional inhibition, low expressiveness, high somatization, and low reported stress (the last having been found to be associated with inhibited emotional processing in inter-individual studies). These results are discussed in terms of being evidence for the presence of more socially prescribed inhibition in traditionally collectivistic countries, and/or reflecting the idea that having an ambivalent relationship to the culture one lives in can induce emotional inhibition.

### **GENDER DIFFERENCES IN PATIENTS' PERCEPTION OF INFORMATION PRIOR TO HIP OR KNEE ARTHROPLASTY: A QUALITATIVE STUDY**

Demierre, Melanie, Castelao, Enrique, Piot-Ziegler, Chantal; Switzerland

This study explores how patients perceived preoperative information one month prior to knee or hip replacement surgery. Semistructured interviews were conducted with 24 patients (age  $m = 60.52$ ,  $s = 11.26$ ). Qualitative analysis showed important gender differences.

Physicians played a dominant role in their relationship with women who often had a feeling of inferiority. Even though information was often considered incomplete, women did not actively search for more information. They expressed ambivalence as if additional information would generate anxiety. Information had a strong emotional impact, and they were moved by possible negative events or complications. Women wanted to be considered as unique and the information given was not fitting their own situation. They were concerned with the prosthesis' representation and its incorporation into their body. Experience of other people with prosthesis was an important resource to answer their concerns. Lack of information generated anxiety, made them feel out of control, lead them to fatalism, or toward multiple medical consultations. They also had difficulties to foresee the future.

Men were more at ease in their relationship with their physician, who was considered an expert and a partner. Men wanted to be part of the decision process. They were more proactive in their search for information, and relied on more diversified sources of information. Men had precise and technical information regarding the prosthesis, its functioning and its physical integration to the body. They linked this technological-medical knowledge to their professional activity or mechanical experience. Men mentioned activities they expected to recover after surgery, and seemed more confident. They apprehended the upcoming surgery in a pragmatic and apparently unemotional way.

These findings open new perspectives in the management of preoperative information and call for a more tailored doctor-patient relationship.

### **EXPLAINING BINGE DRINKING USING THE THEORY OF PLANNED BEHAVIOUR**

Dempster, Martin, Marley, John, Newell, Geoff N.; Ireland

*Objectives* To examine the utility of the Theory of Planned Behaviour (in comparison to the Transtheoretical Model) in explaining binge drinking behaviour among adolescents, in order to determine whether or not this model should form the basis of effective interventions.

*Methods* Parental and self consent was obtained from 96 male pupils (age 15 or 16 years) in six schools. Questionnaires were administered to these pupils at two points in time (approximately one month apart). In the intervening period, pupils were given a health education intervention which encouraged them to reduce their binge drinking. The questionnaires contained questions about the amount of alcohol consumed during an average night spent drinking, the Readiness to Change Questionnaire and questions tapping into the constructs comprising the Theory of Planned Behaviour.

*Results* The Theory of Planned Behaviour explained 37% of the variance in behavioural intentions and 25% of the variance in binge drinking behaviour. The Transtheoretical Model explained up to 16% of the variance in binge drinking behaviour. Hierarchical regression showed that the Transtheoretical Model did not add significantly to the variance in binge drinking behaviour explained by the Theory of Planned Behaviour.

*Conclusions* Although there are measurement issues to be resolved concerning both the Transtheoretical Model and the Theory of Planned Behaviour, the current evidence suggests that interventions designed to reduce binge drinking among adolescents could be based on the Theory of Planned Behaviour.

### **A PHENOMENOLOGICAL ANALYSIS OF THERAPIST'S EXPERIENCE OF COUNTER-TRANSFERENCE: IMPLICATIONS FOR NURSES**

Denny, Ellen Senter, Hector, Mark, A.; USA

This study explores therapists' experiences of counter-transference by using a phenomenological hermeneutic Method to identify themes common across interviews with seven experienced, licensed therapists. The therapists practice in a university counseling center and private settings. Interviews with the therapists entailed one open-ended question: "Can you tell me about your experience of counter-transference?" The seven therapists who participated in the interviews had a range of 3–21 years in practice. A review of the literature on the counter-transference experience examines the previously identified categories and domains found in quantitative and qualitative research. The most commonly found descriptors of counter-transference were origins, triggers, and manifestations. Analysis of the interview data revealed a ground of The Therapeutic Relationship from which four themes emerged: (1) Defining Counter-Transference, (2) Education/Training, (3) The Counter-Transference Structure – Origins, Triggers, Manifestations, Management, and Effects, and (4) Benefits. The theme of The Counter-Transference Structure is similar to the themes of Origins, Triggers, and, Manifestations found in the literature review. Unique to the present study were the themes of Defining Counter-Transference, Education/Training, and Benefits. The presenter, who was trained as a nurse, will apply the concept of counter-transference to listening to patients in context.

### **THE ROLE OF DISTRESS IN SELF-REGULATORY HEALTH BEHAVIOUR**

DeRidder, Denise, Ouwehand; Carolijn; DeBruin, Egon, The Netherlands

*Objective* Self-regulation has been recognized as an important concept for understanding why and when people engage in health-protective behavior. Whereas the processes of goal-setting and goal-striving have been addressed in many studies, dealing with the inevitable frustrations that are part of self-regulation has been paid much less attention. The aim of this study is to address the role of dealing with distress in self-regulation.

*Method* In an experimental study ( $n = 100$  students who have expressed their intention to lose weight in the next three months) distress was manipulated through false feedback of possible failure to lose weight. Outcomes were distress (measured both by self-report and physiological indices) and proactive coping (acknowledgment of possible failure to attain one's goal, making plans, and identifying strategies to attain one's goal).

*Results* Subjects in the experimental condition reported more distress that subsequently decreased their efforts to engage in proactive coping.

*Conclusions* More attention should be paid to the role of distress in self-regulation. In particular, the role of coping strategies to cool down the emotions elicited by thinking about possible failure to attain one's goals should be examined in future studies.



### CONCEPTUAL AND EMPIRICAL ELEMENTS IN FAVOUR OF THE EXISTENCE OF A POSITIVE RELATIONSHIP BETWEEN COMPARATIVE OPTIMISM AND ENDANGERING BEHAVIOURS

Desrichard, Olivier; France

One study reported here was designed to test the relationship between comparative optimism and endangering behaviours. Comparative optimism (CO) is the tendency to believe that positive events are more likely for self than for others, and that negative events are more likely for others than for self. Results show sometimes a positive and sometimes a negative relationship between CO and risk-taking. A review of the literature leads us to propose that a negative relationship (i.e. more CO is associated with less risk-taking) is observed when CO and risk-taking are measured on related specific events, for example when a researcher measures CO for HIV and correlates it with intention to use condom. In contrast, a positive relationship (i.e. more CO is associated with more risk-taking) is expected when (1) a tendency for CO is calculated on various events and (2) this CO score is regressed on the tendency for the individual to take risk. To test this second hypothesis, a self-report questionnaire evaluated CO for various positive and negative events and frequencies of nine endangering behaviours. Participants included 82 young people (42 women) who completed the questionnaire alone and anonymously. We calculated a general score of risk-taking based on the reported frequencies of endangering behaviours ( $\alpha = 0.79$ ). Consistent with our hypothesis, a multiple regression analysis indicates that CO for negative events (but not CO for positive events) is significantly and positively related to the tendency of risk-taking. Discussion will focus on two conceptual implications of this study: the distinction between CO as a general tendency and CO as a specific comparative risk judgement, and the distinction between CO for positive events and CO for negative events.

### RUMORS AND MENTAL HEALTH IN THE CASE OF MINING SUBSIDENCE

Dodeler, Virginie, Tarquinio, Cyril, Demoulin, Sandrine; France

*Objective* This study aims at appraising to what extent mining subsidence can influence mental health. From a psychosocial point of view, home is a place of privacy, socialisation, physical and psychological security (Fischer, 1997). Different studies have shown that characteristics of built environment can affect human health, and particularly results in anxiety and depression (Stokols, 1992; Taylor *et al.*, 1997; Evans and Cohen, 1998).

*Method* Three groups of subjects were compared:

- a sample of “old residents” living in Cocheren (France) for more than 10 years ago and who undergo the effects of mining subsidence
- a sample of “new residents” living in Cocheren (France) for less than 5 years ago in recent houses and who undergo the effects of mining subsidence
- and a reference group.

Depression was assessed with the CES-D (Radloff, 1977), and anxiety with the STAI-Y (Spielberger *et al.*, 1983). Perception of rumors was grasped by a questionnaire of environmental evaluation, specific to the situation.

*Results* Results show that higher scores of anxiety and depression are observed in the group of “old residents”, who are victims of mining subsidence. Differences observed between “recent resident” and reference group are not significant.

Results show a relation between rumors and depression: the more people have heard rumors the more they feel depressed.

**GULLIBLE GUINEA PIG OR GIFT-GIVER: PUBLIC ATTITUDES TOWARDS PARTICIPATING IN A RANDOMISED CONTROL TRIAL FOR CARDIOVASCULAR DISEASE PREVENTION**

Eborall, Helen, England, Cunningham-Burley, Sarah, Fowkes, Gerry; Scotland

*Objective* This study aims to understand public attitudes towards participation in a randomised control trial (RCT) for the screening and prevention of cardiovascular disease in the healthy population.

*Methods* Participants were members of a healthy population (50–79 years) invited to participate in screening for asymptomatic atherosclerosis and to a subsequent RCT assessing the efficacy of aspirin in preventing cardiovascular events. In addition to trial participants, the study sample included those who were ineligible and those who had declined to participate in the trial. Semistructured qualitative interviews and focus groups were conducted and transcribed verbatim. Transcripts were analysed using a grounded theory approach.

*Results* Attitudes and beliefs varied both between participants and non-participants and within these groups, and revealed a wide range of influences on trial participation: A major role was played by perceptions of personal susceptibility to cardiovascular risk, which comprised prior health beliefs and interpretations of the screening test result. Attitudes towards the trial tablet were rooted in beliefs about aspirin, medication in general and preventive health practices.

When considering benefits and drawbacks of the trial, attitudes expressed ranged from personal gain or loss to altruistic attitudes. Misunderstandings were common regarding the purpose, concept and procedure of the RCT, the selection criteria and screening measure. Whilst there was some recognition of the need for the trial and its required randomisation process, preference for the active drug was overwhelming, and discontent focussed on the commitment and idea of being a 'guinea pig'.

*Conclusions* Qualitative research can complement results of large RCTs by improving the understanding of public attitudes towards participation in medical trials and the context within which decisions about participating are made. This further demonstrates the important contribution Health Psychology can make towards Public Health. Important ethical issues about research participation are raised particularly relating to informed consent over time.

**SITUATIONAL VERSUS INTERPERSONAL VARIABILITY IN FOOD CHOICE MOTIVES USING THE FOOD CHOICE QUESTIONNAIRE WITH DIFFERENT CONTEXT COMPONENTS OR MEASUREMENT SETTINGS**

Eertmans, Audrey, Victoir, An, Vansant, Greet, Van den Bergh, Omer; The Netherlands

*Aim* To distinguish situational from interpersonal variability in food choice motives, adopting two approaches suggested by social-cognitive literature to investigate situational effects on behavioural antecedents.

*Method* The Food Choice Questionnaire (FCQ) was used to measure the importance of 9 food choice motives. In Study 1, 98 individuals read 6 scripts describing choice situations (contexts) and filled in situation-specific FCQ-questionnaires. In Study 2 ( $n = 90$ ), both the context specified in the FCQ ("food choice at the diner" vs. "on a typical day") and the measurement setting (at the student diner vs. at home) were varied. Variance components in the 3-way data (Person  $\times$  Response  $\times$  Situation) were estimated with ANOVA. Person effects were further explored by regressing FCQ-scale ratings on demographic variables.

*Results* In both studies, Situation contributed little to food choice motives ( $R = 0.01$  resp.  $0.06$ ), compared to Person ( $R^2 = 0.15$ , resp.  $0.23$ ) or Response ( $R = 0.27$  resp.  $0.13$ ). The Situation effect in Study 2 was one of the setting (70%) rather than context manipulation (30%). In Study 1, women attributed more importance to Weight Control than men. Older participants found Weight Control and Natural Content more important, and Familiarity less important than younger ones. In Study 2, the same gender difference appeared on Weight Control. Other demographic effects varied according to setting. For example, women rated Ethical Concern as more important at home, but gave the same low ratings as men did when motives were measured at the diner.

*Conclusions* The results corroborate previous findings regarding gender and age differences in food choice motives. They also suggest that varying questions' context components may assess trait-like motives, while measurements in naturalistic settings may reveal inter- and intra-individual differences in situation-motives relations (states).

### **CONTROL-DEMAND OF WORK, PSYCHOLOGICAL WELL-BEING AND HEALTH BEHAVIOR AMONG YOUNG FINNISH EMPLOYEES**

Ek, Ellen, Remes, Jouko, Laitinen, Jaana, Tammelin, Tuija, Järvelin, Marjo-Riitta; Finland

*Background* The control/demand model by Karasek postulates that a combination of high psychological demands with low control at work leads to deteriorated psychological well-being and physical problems. The latter can be assumed to happen through unhealthy health behavior.

*Objective* The aim is to study the association between control/demand of work, psychological well-being and health behavior among young employees.

*Methods* The study population consisted of 2352 men and 2781 women. Subjects were members of the Northern Finland 1966 Birth Cohort, who participated in a field survey in 1997–1998. The measurements included in the questionnaires were: (1) control/demand of work, (2) psychological well-being and (3) health habits including physical inactivity, smoking, alcohol consumption and obesity. Health behavior at 14 years, work history by the age of 31 years and vocational education at 31 years were used as controlling variables.

*Results* The poorest psychological well-being was connected to low control and low demands at work (= passive work). Control/demand of work did not associate with health habits. In a logistic regression model including control/demand of work, psychological well-being, work history, vocational education and health behavior at 14 years, only poor psychological well-being associated significantly with having at least 3 unhealthy habits among women (men OR 1.75 (0.86–3.57), women OR 5.72 (1.79–18.29)).

*Conclusions* Our results suggest that, for young female employees, psychological well-being mediates the association between control/demand model and health behavior.

### **SEDENTARY BEHAVIOUR, PHYSICAL ACTIVITY AND WEIGHT PROBLEMS AMONG ADOLESCENTS IN WALES**

Elgar, Frank, J., Moore, Laurence, Roberts, Chris, Tudor-Smith, Chris; Wales

*Objectives* Studied the prevalence and stability of overweight and obesity in adolescents and the contributions of sedentary behaviour (e.g., watching television) and physical activity on body

mass and change in body mass. The study also examined the extent to which physical activity mediates relations between sedentary behaviour and body mass.

*Methods* In a four-year cohort study, body height and weight measurements and self-report data on sedentary behaviour, physical activity, and psychosocial adjustment were collected from 355 adolescents in Years 7 and 11 as part of the 1994 and 1998 Health Behaviour of School-Aged Children (HBSC) Study.

*Results* Body mass and weight conditions were moderately stable over the time lag. Regression analyses showed that sedentary behaviour in Year 7 predicted body mass in Year 11 while physical activity predicted change in body mass from Year 7 to 11. The influence of sedentary behaviour on body mass was not found to be mediated by physical activity. In Year 7, weight problems were related to getting bullied, bullying others, and feeling left out of things. Obesity was also related to snacking and skipping breakfast.

*Conclusions* Sedentary behaviour and physical activity in early adolescence influenced body mass in late adolescence, indicating that promoting a healthy diet and physical activity has long-term health benefits for young people.

#### **VALIDITY OF SELF-REPORTED HEIGHT AND WEIGHT, AND PREDICTORS OF BIAS IN ADOLESCENTS**

Elgar, Frank, J., Moore, Laurence, Roberts, Chris, Tudor-Smith, Chris; Wales

*Objectives* To assess the validity of self-reported height and weight, the accuracy of screening for overweight and obesity using these data, and the predictors of bias in self-reported height and weight.

*Method* Used the Health Behaviour in School-Aged Children (HBSC) survey to assess self-reported and measured height and weight in a community sample of 418 students in Year 11 from 21 secondary schools in Wales. Participants also provided self-report data on dieting and body perception.

*Results* Self-reported and measured height and weight were highly correlated but a bias of underreporting of body weight ( $M=0.52$  kg) contributed to underestimation of the prevalence of overweight and obesity. Based on self-report data, 13.9% of the sample was identified as overweight and 2.8% was identified as obese but measured data showed rates of 18.7 and 4.4%, respectively. Overweight and obese participants showed greater bias and variability in self-reported weight than normal/underweight participants. BMI and body dissatisfaction each predicted bias in self-reported weight.

*Conclusion* Self-report bias had significant consequences for the accuracy of a self-report screen for overweight and obesity. Actual and perceived body size each contribute to underreporting body weight. Given the growing need to monitor weight problems in young people, self-reports will likely remain an important health surveillance tool but accuracy checks of self-reported weight might provide better screens of weight problems.

#### **DEPRESSIVE SYMPTOMS AS PREDICTORS OF CAROTID ARTERIAL INTIMA MEDIA THICKNESS: THE CARDIOVASCULAR RISK IN YOUNG FINNS STUDY**

Elovainio, Marko, Pulkki, Laura, Kivimäki, Mika, Puttonen, Sampsa, Heponiemi, Tarja, Keltikangas-Järvinen, Liisa, Juonala, Markus, Viikari, Jorma, Raitakari, Olli; Finland

*Objectives* Depression and coronary heart disease are often comorbid conditions, but the mechanisms behind this link are largely unknown. We tested the hypothesis that an increase in depressive symptoms in healthy adults would be related with more prevalent preclinical atherosclerosis.

*Methods* We studied the association between depressive symptoms and carotid atherosclerosis in 779 young adults, as a part of the on-going population based Cardiovascular Risk in Young Finns Study. The participants responded to a revised version of Beck's Depression Inventory in 1997 and 2001. Carotid atherosclerosis was assessed by measuring the thickness of the common carotid artery intima-media complex with ultrasound in 2001, when the participants were aged between 33 and 39 years. Cardiovascular risk factors were measured in adolescence (1980), and in adulthood (2001).

*Results* In men ( $N = 55$ ), the increase in scores of depressive symptoms ( $p < 0.01$ ) were related to higher carotid artery intima-media thickness after adjustment for age and baseline depression scores. Additional adjustments for body mass index, low density lipoprotein cholesterol, systolic blood pressure, and smoking status assessed in adolescence and in adulthood, did not affect this relationship.

*Conclusions* We conclude that an increase in depressive symptoms during early adulthood years is associated with an increase in carotid intima-media thickness in men. Our findings suggest a pathophysiological link between depression and the development of atherosclerosis.

## **THE DELPHI-METHOD: SOME THEORETICAL, METHODOLOGICAL AND PRACTICAL ISSUES**

Engels, Tim, Lambrecht, Patrick, Andries, Caroline; Belgium

This presentation assesses a few theoretical, methodological and practical issues arising from the use of the Delphi method in health research. The Delphi-method is widely employed in health research. More precisely, the method is used to explore complex policy questions that are related to public health, health education and health psychology.

The issues discussed in this paper arise from a four-round Delphi survey that has been conducted to establish the characteristics of an empowerment programme. The Delphi panel ( $N = 65$ ) consisted of adolescents, parents, and professionals of different background. In the first three rounds the experts completed a self-report questionnaire. In the fourth round the experts discussed a resolution text.

The use of the Delphi method allowed for the integration of the different ideas and expectations of the experts. However, the survey that has been carried out, has clearly illustrated the limits of the involvement of all that are concerned. Firstly, the use of understandable language without losing the accuracy of formulation turned out to be difficult. The influence of experts' literacy capacity and 'closeness' to the subject should not be underestimated. Secondly, the length of the research period, i.e. nine months, influenced the research results substantially. Some experts were not able to participate in all rounds. Thirdly, there was a higher dropout rate among those experts who were no professionals working with prevention programmes.

These issues illustrate the context-dependent nature of results that are obtained through a Delphi survey. On the theoretical level, researchers should take these issues into account and evaluate their impact on the survey results. On the methodological level, the importance of the defining of the concept 'expert' should be taken into consideration. On the practical level, a Delphi survey should be well planned and phased.

### **NEW KNOWLEDGE ON SEX DIFFERENCES IN RISK FACTORS FOR CORONARY HEART DISEASE (CHD) AND WHAT CONSEQUENCES IT SHOULD HAVE**

Espnes, Geir Arild, Byrne, Don, Yap Jesmine; Norway

It has long been evident in the research literature in particularly biochemical and physiological literature that there are pronounced sex differences in risk factors for developing coronary heart disease. This is especially important since, despite the dramatic drop in CHD incidence among males over the past decade, it remains the number one killer in most Western societies and appears to be increasing in some non-Western societies. There is moreover, some epidemiological evidence, particularly from the USA, that the curve representing decrease in CHD incidence is now less steep for females than for males. Nevertheless, almost all knowledge of risk factors and the nature of advice given to women on how to live their lives to avoid developing CHD given by media, general practitioners and researchers stems from research on coronary risk factors in male populations. The public health significance of this issue makes it crucially important to examine and elucidate far more precisely the true nature of sex differences in coronary risk factors, and in particular which risk factors apply specially for women. The present paper seeks to address this deficiency by presenting an extensive review of the topic based on systematic searches of the PsychInfo, Medline and PubMed databases. Adequate research trials and reviews for 1970–2003 have been searched. Primary search terms have been coronary heart disease, angina, acute myocardial infarction, coronary vascular disease and coronary artery disease. In the first searches these terms have been paired with “psychological factors” – to get an overview, and later with the different psychological factors which has been connected to CHD. The paper critically summarises existing knowledge as presented in the available literature on risk factors where sex differences are found to be important, commencing with a short overview of the biochemical and physiological risk factor differences as background, and goes on to comprehensively examine sex differences in psychological and social risk factors and the impact on differences in CHD development. The paper concludes with recommendations for how this new information about sex and gender differences should be treated and how our knowledge may be improved by future research.

### **PERSONALITY, APPRAISAL AND STRESS: PERSON-ENVIRONMENT INTER-ACTIONS PREDICTING WELL-BEING AT WORK**

Exton, Carrie, Parkes, Katharine; UK

*Aim* Taking a transactional approach, the present study sought to examine the extent to which perceived work environments, and appraisals of demand, play a role personality–stressor–strain relationships.

*Methods* The data were obtained from a sample of trainee teachers, enrolled in a demanding one-year postgraduate programme ( $N = 139$ ). Survey methods were used to obtain dispositional measures (Neuroticism, Personal Control Beliefs and Interpersonal Control Beliefs), perceived work environment variables (stressor frequency, positive event frequency) and characteristic appraisals of demanding teaching situations. Low job satisfaction and psychological distress (GHQ-12) were measured as indicators of strain.

*Results* Two different models were specified and tested, using hierarchical linear regression analysis. The first, a “differential exposure-reactivity” model (Bolger and Zuckerman, 1995) was used to assess relationships between personality, perceived work environment, and the two strain outcomes. The theory underlying this model is that personality affects strain outcomes

through increased exposure to demanding environments (mediation), and/or through increased reactivity to those environments (moderation). A further “differential appraisal-reactivity” model was used to investigate relationships between personality, appraisals of demand, and strain outcomes. Again, this model was used to test for both mediation and moderation effects. Different patterns of results were observed for each of the strain outcomes. However, in each case, the analyses indicated evidence of significant direct and mediated effects, with limited evidence of moderation.

*Conclusions* The present study suggests two possible mechanisms through which personality could affect stress-related outcomes. Research currently in progress is investigating dynamic, real-time person-environment transactions using Experience Sampling Methods. This research has implications for the role(s) of personality in the stress process, and also highlights the need to examine outcome-specific effects.

### **IMPROVING RISK COMMUNICATION TO PROMOTE UNDERSTANDING OF RISK OF CORONARY HEART DISEASE**

Fair, Anna, Murray, Peter, UK; Pauwels, Pamela, The Netherlands; Cobain, Mark, UK

*Objectives* To investigate ways of enhancing CHD risk communication.

*Methods* Subjects were 880 males and females aged 30–70 years. There were 4 factors; risk time frame; peer group comparison; numerical expression of risk and visual expression of risk. Risk assessments were presented to participants in the form of hypothetical scenarios containing information appropriate for each age group, gender and experimental condition. The dependent variables included measures of emotional response and intention to change lifestyle.

*Results* Individuals presented with risk as a ratio were more likely than those presented with risk as a percentage to perceive their risk to be high (46.3 vs. 29.3%;  $p < 0.005$ ), be more worried (5.56 vs. 4.96\*;  $p < 0.01$ ), more disturbed (5.24 vs. 4.77\*;  $p < 0.05$ ) and report higher intention to change their lifestyle (6.15 vs. 5.74\*;  $p < 0.05$ ). Those who were presented with peer group information in addition to the hypothesised risk score were more likely than those presented without peer group information to report they were worried (5.57 vs. 4.95\*;  $p < 0.005$ ) and disturbed (5.37 vs. 4.65\*;  $p < 0.01$ ). There were significant interactions between age and peer group comparison and between gender and peer group comparison; the youngest age group and females were most heavily affected.

*Conclusion* This study identified principles that can be used to optimise presentation of CHD risk. Our findings suggest that risk is best expressed as a ratio and in young people it should be accompanied by peer group information. This strategy may be useful in communicating risk to those whose short term risk may appear to be low but who carry a high lifetime risk. Further studies are required to confirm these effects using real as opposed to hypothetical information. \*7-Point Likert scale.

### **GENDER DIFFERENCES IN PAIN EXPERIENCE PRIOR TO HIP OR KNEE REPLACEMENT WITH PROSTHESIS: A QUALITATIVE AND PHENOMENOLOGICAL STUDY**

Fasseur, Fabienne, Castelao, Enrique, Piot-Ziegler, Chantal; Switzerland

This study reports on the preoperative experience of 24 patients (age  $m = 60.52$ ,  $s = 11.26$ ) awaiting hip ( $N = 12$ ) or knee replacement ( $N = 12$ ). One month prior to surgery, all patients participated

in a semistructured interview exploring their health problem history. Qualitative analysis was performed and major semantic categories were extracted.

Preoperative pain was expressed through powerful symbolic or technical terms, and led to physical and psychological exhaustion. Although the decision to undergo surgery was associated to relief, it also induced ambivalence and anxiety. Gender differences were identified. For women, the emotional impact of pain influenced their emotional stability. Pain was described as overwhelming, causing a loss of energy. Women reported a lack of understanding from others that made pain unbearable. When pain was overtly expressed, physicians and relatives considered women as being depressed or complaining. Physicians were considered as dominant, and emotional aspects, although important, were difficult to communicate. Men reported a more participative, pragmatic attitude toward treatment of pain, and related with physicians as equal "partners."

Decrease in the quality of life was experienced through physical limitations and their consequences: dependency, social exclusion, and increasing development of avoidance strategies. Physical handicap was often mentioned by women, and was linked to the impossibility to face daily activities and to address their family duties, which lowered their self-esteem. Men underlined more often professional and physical activity restrictions (leisure, sports), but received more understanding from others.

These results bring about new challenges for professionals to develop an approach to pain more focused on the person, and a more understanding attitude, taking into account the physical and emotional needs of both genders.

#### **SELF-REPORT ANALYSIS AS AN EVALUATION TOOL OF PSYCHOTHERAPEUTIC TREATMENT: A PILOT STUDY ON A SAMPLE WITH EATING DISORDERS**

Ferretti, Francesca, Fiori, Elisa, Pruneti, Carlo; Italy

*Objectives* This pilot study represents an application of Content Analysis, by means of a specific software for texts analysis (T-LAB), effected on diaries of 7 patients with eating disorders (diagnosed as set forth in DSM IV), written during a psychotherapeutic treatment that lasted from 2 to 5 years. The subjects were asked to record freely thoughts, emotions, behaviours, significative events, between each session.

The aim of this research was to focus "key-words" in association with the main symptomatic features of eating disorders and to identify elements indicating change, verifying successive cognitive schemes modification.

*Methods* From a sample of 171789 most frequently words it has been possible to extrapolate and compare, for each subject, typical words that could characterize the beginning and the end of treatment; afterwards the texts have been subdivided according to years of therapy. Therefore the subsequent procedures have been applied: "Specificity Analysis", "Correspondence Analysis", "Cluster Analysis" and "Association Analysis". Respectively the statistics measures used were: "X<sup>2</sup> test" (in the Specificity Analysis) to explore the over-used words in the several textual parts, "Factors Analysis" (in the Correspondence Analysis) to underline similarities and differences in the linguistic style of the subjects, "Cluster Analysis" to create groups of terms mostly associated each other, "Cosine Coefficient" (in the Association Analysis) to observe the words meaning in a local coordinate system (for example "to eat").

*Conclusions* The results bolster the applicability and the potential of using sophisticated procedures of statistical analysis applied to diaries, and the importance of the role which could assume referring to multidimensional psychodiagnostics assessment. At a clinical level, computerized self-report analysis could be also a valid help to monitor the treatment course.



### **GENERAL PRACTITIONERS' VIEWS ON THEIR ROLE IN COLORECTAL CANCER SCREENING UPTAKE AND CURRENT PRACTICE: A CROSS-NATIONAL PERSPECTIVE**

Fichtinger, Andreas, Sparks, Paul; UK

*Aims* Colorectal cancer screening can assist in the prevention of the development of colorectal cancer (CRC) and reduce mortality risks. Although effective screening methods for CRC are available, screening rates remain low, even among 'increased risk' individuals with a family history (FH) of this disease. Since General Practitioners (GPs) play an important direct role in facilitating compliance with screening, the aim of this in-depth study was to explore (i) GPs' current practice patterns and (ii) specific facilitators of, or barriers to, colorectal cancer screening provision to people with a FH of CRC in two European countries.

*Methods* Semistructured interviews ( $N=20$ ) were conducted with GPs in England and in Austria. Data were analysed using in-depth thematic analysis, with a number of themes emerging from this process. This qualitative approach allowed for a detailed exploration of what GPs meant when asked about the various issues under investigation.

*Results* Most GPs believed that CRC is largely preventable and that available screening procedures are at least somewhat effective in reducing mortality among asymptomatic individuals with a family history of CRC. The most serious barriers to CRC screening reported were time constraints, lack of resources and people being not aware of the options. Furthermore, results from two countries shed some light on the influence of the Health care system on GPs' practice patterns (e.g. referral options, accessibility, availability, priority).

*Conclusion* This study is an important step forward in the understanding of the role GPs play in the risk management of people with a family history of CRC. Overall, the findings suggest that effective strategies to control CRC must include efforts to address GPs' barriers to, and facilitators of, screening recommendations, in addition to appealing to individuals with a family history of CRC.

### **LAY PERCEPTIONS OF SERIOUS ILLNESSES: AN ADAPTED VERSION OF THE IPQ-R FOR HEALTHY PEOPLE**

Figueiras, Maria João, Alves, Nuno; Portugal

*Objectives* The present study is undertaken to assess the illness perceptions of healthy people about AIDS, Tuberculosis and Skin Cancer, in order to develop an adapted version of the Illness Perception Questionnaire (IPQ-R) in a sample of Portuguese healthy individuals.

*Methods* Item selection was determined by principal components analyses, which verified the factorial structure of the questionnaire in a sample of 1113 healthy individuals, recruited at random from different working environments across the country. A pilot study conducted earlier provided some evidence of good internal reliability of the subscales and the retest reliability at 3 weeks. This adapted version of the IPQ-R for healthy individuals includes 26-items and shows good discriminant validity.

*Results* The results indicate that there is factorial structure of the IPQ-R for healthy individuals, which is similar to the structure of different patient groups. The factors showed a good internal reliability for each illness group ranging from 0.64 to 0.81. The cognitive dimensions appear to be separate from the emotional dimension. Also, these dimensions show significant correlations with attitudes towards the adoption of preventive behaviours

*Conclusion* Data from the principal component analyses suggests further support for the theoretically derived dimensions of illness representations. This adapted version of the IPQ-R for healthy individuals may be an important contribution to further stimulate research in health promotion.

### **RELATIONSHIPS BETWEEN PERSONALITY VARIABLES AND PSYCHOPHYSIOLOGICAL PATTERNS IN A COLLEGE STUDENTS' SAMPLE**

Fiori, Elisa, Vandelli, Federica, Pruneti, Carlo; Italy

*Objective* The central aim of this study is to understand and investigate the existence of a possible relationship between some specific psychophysiological patterns and particular personality configurations.

*Methods* Fifty college students underwent multidimensional evaluation, this being intended to evaluate both psychological and physiological variables. Through the psychophysiological profile (PPP), some physiological parameters, such as the frontal muscle electromyography (EMG), the galvanic skin response (GSR), the peripheral temperature (TH) and the heart rate (HR), were constantly measured and recorded for a 16-min period, which was divided into three phases: Baseline, Stress Presentation (Coloured Progressive Matrices 47, CPM 47) and Recovery. The students were afterwards asked to fill in some psycho diagnostic tests: 16 Personality Factors C-form (16PF-C), Pisa Stress Questionnaire (PSQ) and Symptom Questionnaire (SQ). Data analysis focused on: (a) the analysis of variance (ANOVA) and the Student's *t*-test, applied to highlight significant differences in the PPP consecutive phases trend; (b) the *rs* Spearman's rank correlation coefficient was calculated in order to find out possible correlations between the psychophysiological parameters measured through the PPP profile and the scores obtained by the psychological questionnaires.

*Results* The research implications of the findings are presented with special emphasis on the association between personality traits, life styles and specific neurovegetative activation profiles. Moreover, attention should be drawn to the importance of subjective perception and personality variables, that may modulate and modify physiological reactions.

*Conclusions* The PPP profile appears to be a useful tool for revealing the concordances between physiological patterns and trait/state psychological variables, therefore the study of physiological parameters should be intended as a fundamental part of multidimensional diagnostic evaluation.

### **THE EXPERIENCE OF ATTENDING THE TRAINING AND SUPPORT PROGRAMME: A QUALITATIVE CASE STUDY**

Fotiadou, Maria, Cullen Lesley, Barlow Julie; UK

*Objectives* The aim of this case study is to gain a better understanding of the experience of attending the Training and Support Programme (TSP) for parents of children with disabilities and chronic conditions.

*Methods* The TSP comprises 8 weekly 1 h sessions in which caregivers are instructed on gentle massage. The study was a qualitative case study. The participant was 45 yrs old, white/European, married, full-employed and a mother of a child with a disability. Data were collected through home record sheets of the massage therapy sessions and an interview a

year after the family finished the therapy training. Data were analysed by thematic content analyses.

*Results* The categories identified referred to the benefits of the TSP on mother and child's experience of the TSP and any benefits that they might gain from the programme. The sub-categories included items referring to child's anger, parent's increased confidence to help the child, positive outcomes on mother's psychological well-being and relationship with the child, and parent's positive outcomes in involvement in child's health treatment. The main reason of using the therapy at home was to prevent her son's condition from deteriorating and make him relax. The child showed improvements in both his condition and his temper. The mother reported that after the programme she felt more positive, confident and relaxed in helping her son feel calmer. She still uses massage one year after completing the TSP.

*Conclusions* Learning simple massage techniques in a supportive environment may assist parents caring for children with disabilities in a number of ways, such as feeling more confident and more positive. In addition, children may benefit from feeling more relaxed.

### **SELF-EFFICACY, ANXIETY AND DEPRESSION AMONG PARENTS OF CHILDREN WITH DISABILITIES**

Fotiadou, Maria, Cullen, Lesley, Barlow, Julie; UK

*Objectives* The aim of the study was to investigate carers' psychological well-being and perceived stress.

*Methods* The sample comprised 90 parents of children with a range of disabilities. Data were collected via self-administered questionnaires posted to carers. Areas investigated were anxious and depressed moods (measured by the HADS), satisfaction with life, generalised and parental self-efficacy and perceived stress.

*Results* Participants had a mean age of 37.41 ( $SD=7.31$ ). 88.5% were women. Mean scores (standard deviations) on study variables were: parental self-efficacy ( $M=37.46$ ,  $SD=13.84$ ), perceived stress ( $M=31.13$ ,  $SD=4.56$ ), anxious mood 9.85 ( $SD=4.67$ ), and depressed mood 7.70 ( $SD=4.35$ ), satisfaction with life 19.19 ( $SD=7.37$ ) and generalised self-efficacy 29.56 ( $SD=5.28$ ). 68% of the carers were found to be at risk of clinically anxious mood and 45% at risk of clinically depressed mood. Pearson correlations showed that, anxious and depressed mood were positively correlated with perceived stress and negatively correlated with satisfaction with life and generalised self-efficacy.

*Conclusion* Consistent with previous research, carers of children with disabilities experience high levels of stress and are at risk of clinical anxious and depressed moods. Health interventions are necessary to improve carers' psychological well-being and quality of life.

### **ADOLESCENTS HEALTH BELIEFS: HOW ARE THEY PROFITING FROM HEALTH EDUCATION IN SCHOOLS?**

Fradique, Fernando, Barros, Luísa; Portugal

*Objectives* This research with 267 adolescents (10–17 years old) attending schools nearby Lisbon, where health education programs have been provided, aims to gather a broader

understanding of adolescents health beliefs about identified health risks, their attitudes towards tobacco, alcohol and illegal drugs, and to draw some questions about the efficacy of these programs.

*Methods* We used a “Questionnaire of expectancies, perception of vulnerability and willingness to perform risk behaviours” (Gibbons *et al.*, 1998; adaptation Barros and Fradique, 2002). This instrument assesses beliefs about risk behaviours (alcohol, tobacco, drugs) – perception of immediate and long-term consequences, perception of vulnerability, identification of social norms, willingness to perform these behaviours in the future.

*Results* As a group, these youngsters show a tendency not to smoke, drink or use drugs, they reject strongly the idea of consuming these substances in the future, and tend to say they will avoid friends that invite them to consume. However, girls aged 14–17 years show less assurance in these decisions. Most subjects can list different negative consequences for these risk behaviours, but show a very superficial understanding of these.

*Conclusions* Results are discussed in terms of the specificity of health beliefs and behaviours during the different stages of adolescence, and their relevance to a possible reformulation of these health education programs.

### **PREDICTING DISTRESS AND RE-ATTENDANCE FOLLOWING RECEIPT OF AN “INADEQUATE” SMEAR RESULT: THE IMPORTANCE OF PRECISION IN MEASUREMENT**

French, David, P., Maissi, Esther, Marteau, Theresa, M., UK

*Objectives* To investigate the emotional and behavioural impact of receiving an “inadequate” cervical smear test result and to highlight the differences in results that can be obtained when using superficially similar measures that are often used interchangeably.

*Methods* Women who received either a normal test result ( $n=226$ ) or a first consecutive inadequate test result ( $n=180$ ) completed questionnaires within two weeks of receiving a test result, and again three months after the result.

*Results* The association between three pairs of superficially similar measures were: absolute or relative risk perception ( $r=0.39$ ), (b) state anxiety or distress ( $r=0.45$ ), and (b) self-reported or “objective” measures of re-attendance ( $r=0.64$ ). Compared to women with normal test results, women with inadequate test results were slightly more anxious ( $p=0.025$ ) but much more concerned about their smear test result ( $p<0.001$ ). They gave higher ratings of perceived risk of developing cervical cancer, relative to other women of their age ( $p=0.016$ ), but not of absolute perceived risk ( $p=0.225$ ). Both anxiety and concern in the inadequate test result group were predicted by being less satisfied with information about the test result (both  $p<0.001$ ). Anxiety was also predicted by perceived relative risk of developing cervical cancer ( $p<0.05$ ), whereas concern was further predicted by correctly perceiving the test result as being uninformative ( $p<0.05$ ). Anxiety ( $p=0.011$ ) was the sole predictor of actual cervical smear re-attendance, as recommended, whereas the sole predictor of self-reported re-attendance was relative risk perception ( $p=0.049$ ).

*Conclusions* Superficially similar measures can lead to marked differences in results and hence conclusions drawn. This highlights the need for precise reporting of measures and for greater specificity of theoretical predictions.

### **PREDICTING WALKING DISTANCE IN ELDERLY PATIENTS WITH CONGESTIVE HEART FAILURE: A TEST OF THE THEORY OF PLANNED BEHAVIOUR**

Gao, Chuan, Johnston, Derek, Johnston, Marie, Witham, Miles, McMurdo, Marion; UK

*Objectives* To determine the predictors of Intention and distance walked in a standardised 6-Minute-Walk-Test from the Theory of Planned Behaviour (TPB) in elderly patients with congestive heart failure.

*Methods* Stable CHF patients over 70 years old in NYHA Class II-III were recruited for a randomised controlled trial of exercise. A 12 item TPB questionnaire assessing attitude, subjective norm, perceived behavioural control and intention to "take gentle exercise for your heart condition" was administered before exercise training (T1) and again 12 weeks later (T2). A standardised 6-minute-walk-test was also carried out at T1 and T2

*Results* 82 patients; mean age = 81, Female = 36 (44%); Class II = 46 (56%). The internal consistency of the TPB measures was generally poor at T1, but more satisfactory at T2 (Cronbach's Alpha for attitudes, subjective norms (SN), perceived behaviour control (PBC) and intention at T1 were 0.23, 0.64, 0.51 and 0.85, respectively, at T2 were 0.68, 0.74, 0.57 and 0.82). Only Subjective Norm correlated reliably with Intention at T1, but all the TPB components correlated with Intention at T2. In a multiple regression of Intention on Attitude, SN and PBC were reliable independent predictors. The proximal predictors from the TPB, Intention and PBC did not predict distance walked at T1 but did at T2. T2 correlations with distance walked (Intention = 0.22, PBC = 0.39). In a multiple regression PBC was the only reliable predictor of distance walked. Intention and PBC at T1 did not predict distance walked at T2

*Conclusions* At T2, when the measures were more reliable, the components of the TBP predict Intention and PBC is a reliable predictor of distance walked. This supports the application of the TPB in this elderly disabled population.

### **THE MEDIATIONAL ROLE OF THE EMOTIONAL COMPETENCE IN BURNOUT**

Garrosa, E., Morante, M.E., Rodríguez-Muñoz, A., Gálvez, M.; Spain

The purpose of the present study was to examine the mediational role of the Emotional Competence between antecedents and risk of burnout, and between burnout and its symptoms. In order to reveal patterns of interaction, moderated hierarchical regression analyses were carried out. In this research, it is proposed that understanding the emotional elements involved in burnout expands the comprehension of the process of burnout and the way to ameliorate the incidence of burnout in organizations.

In last years, there has been an increasing emphasis on altering work environment to prevent the burnout. In the opposite way, different researches suggest the importance of that individual variables that may have influence in abating or promoting risk for burnout (Salanova, Schaufeli and Llorens, 2000). Our own view is that no comprehensive model of burnout would be satisfactory without including both individual and organizational factors (Garrosa, 2003). According to this view, the same perspective must guide the development of future preventions and interventions programs.

Data were collected from nursing students and professionals at the different hospitals in Madrid (Spain). A total of 473 nurses completed a self-report. Results of moderated hierarchical regression analyses indicate that there was evidence that high levels of emotional competence mitigated the effects of the burnout.

### **THE CONSTRUCT OF HARDY PERSONALITY AS A MODERATOR IN THE ENGAGEMENT PROCESS**

Garrosa, E., Moreno, B., Morante, M.E., Rodríguez-Muñoz, A.; Spain

The historical approach to the well-being at work has traditionally been from a pathological perspective, usually from a model of lacks (burnout, strain). However, in the last years, the researchers focus the studies towards a positive psychology model. In this case, the construct of engagement is researched. Different authors have found that the engagement is positive antithesis of burnout (Maslach and Golberg, 1998; Schaufeli and Enzmann, 1998). The burnout's syndrome is composed of three factors (emotional exhaustion, depersonalization, and lack of professional accomplishment) while engagement is formed, as well, by three factors structure (vigor, dedication, and absorption).

A moderation model was explored to determinate if hardy personality moderated the relationship between professional expectations and engagement process. A moderated hierarchical regression analyses among 473 nurses from different hospitals in Madrid (Spain) were executed. The analyses indicated the presence of moderating effects for the relation between professional expectations and engagement.

### **NURSES' HEALTH AND WELL-BEING: THE INFLUENCE OF WORK AND ORGANIZATIONAL CHARACTERISTICS**

Gelsema, Tanya, Akerboom, Simone, Doef vd, Margot, Maes, Stan; The Netherlands

*Objective* To examine the relationship between work characteristics, organizational characteristics, and the health and well-being of nurses.

*Methods* The research sample consisted of 894 registered nurses working in a large academic hospital in the Netherlands. The following outcomes were measured by means of a questionnaire: job satisfaction, emotional exhaustion, psychological distress, and somatic complaints. The influence of organizational- and specific work characteristics was examined by means of hierarchical regression.

*Results* Regression analyses revealed different patterns of organizational and work characteristics for different outcomes. The percentage explained variance in the outcomes ranged from 14% in psychological distress to 45% in job satisfaction. Organizational characteristics were directly and indirectly (mediated by work characteristics) related to the outcome measures. A model concerning the way these organizational characteristics, work characteristics, and outcomes relate is presented. Practical consequences of this study are discussed. The present study indicates that interventions to prevent job stress in the nursing profession should be directed to the work environment as well as to organizational characteristics.

### **KNOWLEDGE OF NURSING PERSONNEL WORKING IN PSYCHIATRIC WARDS OF ISFAHAN UNIVERSITY HOSPITALS ABOUT PSYCHOTROPIC DRUGS**

Ghazavi, Zahra, Mehrabi, Tayebbeh; Iran

*Introduction* One of the most important duties of the nurses is to know well about drugs. That is also so important to know about medication side effects.

*Methods* In this research 45 nurses well qualified to enter the study were selected by convenient sampling method and the data were gathered by valid and reliable questionnaires inquiring

demographic characteristics of the personnel, personnel's knowledge on the name of drugs, side effects and related nursing interventions to decrease side effects.

*Results* The findings showed that 49% of the personnel were at an average level of knowledge, 31% were at weak level and only 20% were at an appropriate level of knowledge.

Regarding the association between the level of knowledge and demographic characteristics, there was only a significant association between the knowledge level and the degree of nursing education which proved nurses with bachelor's degree to have more knowledge.

*Discussion* Regarding the findings proving a low percentage of nursing personnel to have appropriate level of knowledge, the necessity of enhancing nurses' knowledge concerning drugs information is absolutely recommended.

### **DISEASE COGNITIONS, ADHERENCE AND QUALITY OF LIFE IN PATIENTS SUFFERING FROM CHRONIC OBSTRUCTIVE PULMONARY DISEASE**

Giardini, Anna, Pierobon, Antonia, Callegari, Simona, Majani, Giuseppina, Callegari, Giovanna; Italy

*Objectives* The Chronic Obstructive Pulmonary Disease (COPD) self-management at home requires the patients to adhere to prescriptions, which may be too complex or articulated. Aim of our work was to evaluate cognitions, adherence and Quality of Life in COPD patients.

*Methods* 45 COPD inpatients, consecutively enrolled in our Clinic, were administered the Adherence Schedule in Chronic Obstructive Lung Disease (ASiCOLD) and the St. George Respiratory Questionnaire. The ASiCOLD, build in our Psychology Unit, evaluates the cognitive, behavioural and emotional aspects which may influence the COPD home self-management. The St. George Respiratory Questionnaire assesses patients' Quality of Life.

*Results* As to the ASiCOLD, out of the 45 interviewed (aged  $67.3 \pm 7.6$  years, 31 males and 14 females), 77.8% considered important to exercise daily, but only 40.0% thought to be able to perform regularly at home physical activities; 73.3% considered important for their health care to take the prescribed medicines and 84.4% thought to be able to adhere to drug treatment; 57.8% considered important to respect the dietary regimen and 57.8% thought to be able to eat properly at home. Concerning the disease knowledge, 25.0% reported to have sufficient knowledge whereas 26.7% did not. Moreover 37.8% declared to find it difficult to accept the disease and 25.0% did not accept the behavioural limitations due to illness. Finally, 60.0% reported that family members did help in disease management.

Patients' QoL scores, assessed by means of the St. George, resulted low in all the domains (total score:  $52.1 \pm 21.1$ ; symptoms:  $49.3 \pm 27.0$ , impact:  $45.2 \pm 24.9$ , activity:  $66.1 \pm 23.3$ ; score range 0–100).

*Conclusions* These data provide useful information for the multidisciplinary management of COPD patients since they enlight the necessity of psychoeducational programmes in order to enhance patients abilities and behavioural resources, which are the fundamental basement for treatment adherence.

### **THE DISEASE IMPACT ON CAREGIVER QUESTIONNAIRE: ASSESSING THE CHILD RESPIRATORY ALLERGY IMPACT ON PARENTS' QUALITY OF LIFE**

Giardini, Anna, Majani, Giuseppina, Pierobon Antonia, Baiardini, Ilaria, La Grutta, Stefania, Marseglia Gian Luigi; Italy

*Objectives* Rhinitis and asthma impact on patients' Quality of Life (QoL) has been widely studied, however allergic diseases may affect also the caregivers. Clinical experience suggests that children's allergic asthma and rhinitis may have different impact on family members, due to the different disease severity and clinical aspects.

Aim of our work was to evaluate, through an observational multicenter study, the impact of childrens' respiratory allergy on parents' QoL, assessed by means of a new generic questionnaire recently validated on the Italian population: the Disease Impact On Caregiver (DIOC).

*Methods* 119 caregivers of allergic children (75 asthmatics and 44 rhinitics) were consecutively enrolled and administered the DIOC. For each DIOC item the caregiver was requested to assess, on a 10 cm horizontal visual analogue scale, the child disease impact on 31 aspects of his/her own daily life (which subsequently are grouped in four factors). Each score ranges from 0 (no negative impact) to 100 (maximum negative impact).

*Results* Compared to rhinitis, children's asthma had a statistically significant worse impact on many aspects of the caregivers' life (16 items out of the 31 assessed, among which: resistance to stress, mood, emotional stability, amount of spare time and leisure activities). The worse impact of asthma versus rhinitis was confirmed in the following factors: Performance ( $24.0 \pm 18.2$  vs.  $11.5 \pm 17.8$ ), Personal gratification ( $26.3 \pm 20.5$  vs.  $12.1 \pm 16.5$ ) and Psychophysical endurance ( $35.0 \pm 24.8$  vs.  $18.8 \pm 21.7$ ). In the socio-emotional domain no differences emerged.

*Conclusions* Compared to parents of rhinitics, parents of asthmatic children refer to be more compromised in daily life. The DIOC could enable the clinicians to monitor the illness and the therapy impacts on families, thus contributing to build a bridge connecting the individual and the social dimensions of health care.

## **DO SUBSTANCE ABUSERS SELF-MEDICATE THEIR PSYCHOLOGICAL SYMPTOMS? PRELIMINARY EVIDENCE OF AN UNDERLYING TAXONOMY**

Ginestet, Cedric, E., Dar, Karim, Cassidy, Tony, Domah, Trilock; UK

*Objectives* This study aimed to test empirically the self-medication hypothesis. A compelling body of evidence already substantiates the significant proportion of psychological comorbidity among substance abusers. Yet, the exact patterns of association between the use of certain psychoactive substance and the depiction of certain psychological syndromes remain unclear. The study at hand endeavoured to test whether or not these co-morbidity patterns are underpinned by a latent taxonomy.

*Design* A cross-sectional consecutive and purposive sample of 400 clinically diagnosed polysubstance abusers was administered a set of self-reported diagnostic instruments on the day of discharge from a two-weeks' detoxification treatment.

*Methods* The questionnaire package includes items related to the participants' demographics and substance abuse severity using the Massachusetts' Substance Abuse Management System. Additionally, two other self-reported diagnostic instruments in line with the diagnostic criteria referred to by the Diagnostic and Statistical Manual of mental disorders, 4th edition (DSM-IV-TR) were selected. Firstly, the Brief Symptom Inventory (BSI) gauging symptoms relevant to the Axes I (i.e. Clinical Disorders) and II (i.e. Personality Disorders) of the DSM-IV-TR was included. Secondly, the Social Readjustment Scale (SRS), which pertains to the Axis IV (i.e. Psychosocial and Environmental Problems) was also administered.

*Analysis* Taxometric procedures (HITMAX-MAXCOV) were implemented in order to test for the existence of underlying taxa in the sample of interest according to psychopathological and subjective life-events indicators. The study is yet to be fully completed. Therefore, only initial results are revealed and analysed.



*Discussion* The incomplete status of the research project can only yield tentative conclusions. However, the initial findings are suggesting the possible existence of an underlying taxonomy of comorbidity patterns among substance abusers, which would provide further evidence to the self-medication hypothesis. These results can have critical repercussions in terms of treatment provision and the screening of substance abusers.

### **WORKPLACE BULLYING, WORKPLACE DYNAMICS, WELL-BEING: INTERACTIONS IN ORGANIZATIONAL HEALTH**

Giorgi, Gabriele, Majer, Vincenzo, D'Amato, Alessia, Listanti Claudia; Italy

The growth of academic literature on workplace bullying in the last decade so clearly highlights the emergence of bullying at work as a new and substantial problem with which organizations ought to consider. From the evidence in the literature, it is clear that bullying at work impacts negatively on the psychological and physical well-being of those who have experienced it. There are also negative consequences for those who witness acts perceived to be bullying such as negative feelings towards the organization, turnover and absenteeism, and there are substantial costs for the organization.

The aim of this paper is to summarize literature explaining workplace bullying. The emphasis is on the role played by dynamics and processes in the work environment. In order to better understand the logic behind workplace bullying, an integrated model distinguishing between categories of organizational perceptions contributing factors and individual perceptions is put forward. The emerging areas are communication, job, hostilities/critics, overtime, intellectual efficiency, job perceptions, psychophysical conditions, and mood.

The emerging correlations between the construct of mobbing and other dimensions related to well-being and organizational health are also investigated

The database of the research came from a work of organizational diagnosis realized by industrial and public firms.

The employees of the firms have been invited to compile an articulated survey about the constructs on object's themes. Proper statistical analysis has been taken.

From the survey interesting results come out and new proposal are suggested about possible developments on researches on organizational health.

### **VALIDATION OF A LOCUS OF CONTROL SCALE FOR CHILDREN WITH ASTHMA**

Glazebrook, C., McPherson, A., Smith, P., Ruggins, N., Smyth, A.; UK

*Objectives* To develop and validate a brief, easily completed questionnaire to assess asthma-specific locus of control in children.

*Methods* In phase 1 the 10 item uni-dimensional Children's Asthma Locus of Control Scale (CALOC) was developed as a measure of internal locus of control suitable for a UK population. It has a simple tick/cross format with 2 practice items. The CALOC was piloted with 19 children with asthma (mean age 9.3, sd 3.2) attending a paediatric out-patients clinic. Children completed the CALOC and the CHLC. The CALOC was administered again one week later. In phase 2 the CALOC was administered to 100 children aged 7–14 years (mean age 9.8, SD 2.4) prior to randomisation to an interactive, multimedia, asthma education program designed to improve children's asthma self-management skills. The CALOC was administered again at 6 months follow-up.

*Results* Scores for CALOC and the generic CHLC were moderately correlated 0.547 ( $p = 0.015$ ), indicating concurrent validity. Test-retest reliability was excellent (ICC = 0.896, 95% CI: 0.731, 0.960) and internal consistency was acceptable (Cronbach's alpha = 0.69). In phase 2, as predicted, higher internality on the CALOC correlated with older age ( $p < 0.001$ ), higher verbal IQ ( $p = 0.02$ ) and better asthma knowledge scores ( $p < 0.001$ ) at baseline. A significant interaction was found between intervention and change in CALOC scores over time ( $F = 7.9$ ,  $p = 0.006$ ). Children receiving the intervention showed increased internality at follow-up compared to children receiving only the information booklet, supporting the scale's criterion validity.

*Conclusions* The CALOC is a brief, valid and reliable measure of locus of control and is therefore a potentially useful tool to evaluate the effectiveness of asthma education programmes and to facilitate individualised health interventions for children with asthma.

### **HELPING CHILDREN WITH CYSTIC FIBROSIS COMMUNICATE SYMPTOMS USING A PICTURE RATING SCALE**

Glazebrook, Cristine, Almeida, Beverley; Henley, Matthew, Smyth, Alan, UK

*Aims* This study aimed to establish the reliability and validity of the Cystic Fibrosis Picture Scale (CFPS), a symptom rating scale for children with cystic fibrosis. It was hypothesised that total ratings on symptoms on the CFPS would be positively correlated with the doctors' clinical rating score and with the child's lung function.

*Methods* Participants were 61 consecutive attenders, aged 4–17 years, at a cystic fibrosis clinic (response rate = 85%). Each child and accompanying parent in this cross-sectional study completed the CFPS, which rated the children's cough, appetite, breathlessness, energy, well-being and sputum colour using a three point picture scale for each item. A standardised clinical assessment and a measure of forced expiratory volume in 1 s (FEV1) were obtained for each child.

*Results* Children with higher scores on the CFPS, indicating worse symptoms, had poorer clinical assessment scores ( $r = 0.5$ ,  $p < 0.001$ ) and poorer lung function ( $r = -0.29$ ,  $p = 0.03$ ). There was a reduced but significant agreement between CFPS ratings and clinical assessment in the youngest age group (4–6 years) but a strong agreement between scale ratings and FEV1 ( $r = -0.75$ ,  $p = 0.02$ ). The scale had good internal consistency (Cronbach's alpha = 0.71) and there was reasonable agreement between the child and parent ratings (ICC = 0.55).

*Conclusion* The CFPS is an acceptable, valid and reliable measure of clinical status in children with cystic fibrosis. As a child-friendly, self-rating tool it has potential to provide useful information about treatment response and can serve as an important focus for shared communication between the health professional and the child.

### **BRIDGING THE INTENTION-BEHAVIOUR "GAP": THE ROLE OF MORAL NORM**

Godin, Gaston, Canada; Conner, Mark, Sheeran, Paschal, UK

*Objectives* This research examined whether intentions based on moral norm better predict behaviour compared to intentions based on attitudes.

*Methods* Six data sets predicting behaviours in the health domain (smoking, driving over speed limit, applying universal precautions, exercising) were analysed. The moderator hypothesis was tested by means of moderated regression analysis as recommended by Baron and Kenny (1986).

*Results* Results indicated that participants whose intentions were predominantly based on moral norm were more likely to perform behaviours than were participants whose intentions were predominantly based on attitude. Simple slopes (beta) for intention by moral normatively vs. attitudinally control groups were respectively 0.36\*\*\* vs. 0.19 (study 1), 0.61\*\*\* vs. 0.18 (study 2); 0.54\*\*\* vs. 0.26 (study 3); 0.37\*\* vs. 0.17 (study 4), and 0.55\*\*\* vs. 0.47\*\*\* (study 5). However, moral normative control only affected the intention-behaviour relation when participants construed the behaviour in moral terms; simple slopes (beta) for intention (study 6) were 0.67 ( $p < 0.004$ ) when participants perceived the behaviour as a moral issue and 0.22 ( $p > 0.20$ ) when participants perceived the behaviour otherwise.

*Conclusions* The findings suggest that the theory of planned behaviour should clearly acknowledge the importance of internalised norms and self-expectations in the development of one's motivation to adopt a given behaviour.

### **M.O.B.I.L.I.S. – AN INTERDISCIPLINARY PROGRAMME FOR THE TREATMENT OF OBESITY**

Goehner, Wiebke, Fuchs, Reinhard; Germany

The long-term treatment of obesity (BMI 30–40) can only be managed by modification of peoples' eating habits and activity behaviour. Most overweight people are aware of this fact; moreover, they are very much motivated to change their lifestyle. However, they lack concrete strategies for changing their behaviour for good.

This problem was taken into account in the development of M.O.B.I.L.I.S., an interdisciplinary intervention programme for the management of obesity. Patients are offered not only a physical activity programme (twice a week, indoor as well as every day life activities) and detailed information about a healthy diet; but they also undergo a one-year psychological treatment (16 group sessions, 90-min each). The group sessions aim to lead to the acquisition of self-regulation skills that are relevant to the building and maintenance of a health-promoting life-style. For the first time, the emphasis of the intervention lies in the development and scrutiny of personal goal and implementation intentions as well as the intensive management of their maintenance by shielding them from competing "temptations". Further, contents of the group sessions are barrier management, enhancement of self-efficacy, social support, time and stress management, and relapse prevention.

Subjects in the ongoing study are 34 overweight people (BMI 30–40), with one associated risk factor, but no severe medical complaints (e.g., CHD). The contents of the psychological programme as well as results on medical data and subjects' psychological development are presented.

### **“DEPRESSION AND ANXIETY IN CANCER PATIENTS: RELIABILITY AND VALIDITY OF THE HOSPITAL ANXIETY AND DEPRESSION SCALE IN A SAMPLE OF GREEK CANCER PATIENTS”**

Golemati, Christina, Greece; Marks, David, UK; Pavlidou, Athanasia, Greece

It is well known how depression and anxiety are common in cancer patients as it is a stressful disease. The existence of those disorders should be recognised early in order to improve the quality of life for oncology patients, to design implementations and to prevent unpleasant consequences (Hughes, 1991; Barraclough, 1999; White and Macleod, 2002). Hospital Anxiety and Depression scale (Zigmond and Snaith, 1983) has been widely used to screen depression and anxiety in a variety of populations and most commonly in cancer patient. The aim of the study is to examine the psychometric properties of the Greek version of the scale (Georgoudis and Oldham,

2001). A sample of cancer patients ( $N=81$ ) receiving chemotherapy was used, located in 'Aghios Savvas' hospital a public oncology clinic in Athens, Greece. Age of patients ranged between 18 and 6 years and mean age was 57.07 years. Of the participants, 36 were male and 45 were female. Demographic data such as diagnosis and time since first diagnosis were asked. The results showed Cronbach's alpha for the total scale to be satisfactory ( $\alpha = 0.75$ ). For the depression subscale it was found  $\alpha = 0.76$  and for the anxiety subscale  $\alpha = 0.59$ . Factor analysis for the total scale revealed two main factors and three smaller ones. Factor analysis was performed with various ways and as a result the two-construct structure is supported in this study. The Greek HAD scale has proved effective as a screening tool and is recommended to use in order to monitor depression and anxiety. Further research with the Greek version should be carried out with other populations in particular with mentally ill so as to establish the screening potential of the scale. Also, research in combination with other scales like coping and quality of life in large samples of various populations is suggested in order to expand its use in clinical settings in Greece.

### CHANGES IN JUNIOR SCHOOL CHILDREN: ADDICTIVE BEHAVIOR IN ONE-YEAR FOLLOW-UP SURVEY

Gostautas, Antanas, Pilkauskienė, Ina, Zardeckaitė-Matulaitienė, Kristina; Lithuania

WHO studies (HBSC, ESPAD) carried out in Lithuania in 1998, 1999 showed increased tendency in school children for smoking, usage of ethanol and other drugs hence increasing their risk for future diseases.

*Objective* of this study is to evaluate changes of addictive behavior in junior school children in all schools of Kaunas region with 80 000 inhabitants in the period of 2002–2003 year.

*Methodology* As a baseline for this survey we used data of Lithuania GYTS-2001 and two additional consequent surveys using GYTS instrument for 2963 school children from grade 7 through grade 9 in 2002 and 2003. Additional items were used to check up prevalence of ethanol usage and other drugs.

*Results* Prevalence of ever smokers boys decreased from 82.3 to 78.3% ( $p < 0.01$ ), number of current smokers decreased from 42.7 to 35.9% ( $p < 0.001$ ). Prevalence of smoking within girls' group did not change. Prevalence of usage of other tobacco product than cigarettes within boys group increased from 11.8 to 14.7% ( $p < 0.05$ ). Trials to use ethanol decreased from 78.7 to 76.2% among boys ( $p < 0.05$ ) and from 68.7 to 62.0% among girls ( $p < 0.001$ ). Trials to use other drugs increased from 0.87 to 1.6% among boys ( $p < 0.06$ ) and from 0.27 to 1.1 % among girls ( $p < 0.01$ ).

The positive changes in smoking behavior may be explained by continuous preventive measures delivered for primary school children in Kaunas region.

*Conclusion* Smoking prevalence and usage of ethanol among boys and girls from grades 7 to 9 have a tendency to decrease. Number of users of other tobacco products than cigarettes and other drugs increased from 2002 through 2003.

### SELF-INFLICTING BEHAVIOUR CHANGES DURING THE SCHOOL YEARS

Gostautas, Antanas, Seibokaite, Laura; Lithuania

It is generally accepted that self-inflicting behaviour such as suicidal behaviour, smoking, usage of ethanol and other drugs are mentioned as related to mortality.

*Objective* The objective of this survey is to disclose changes of self-inflicting behaviours among boys and girls from grade 5 through grade 12.

*Methods* Self-reported questionnaire was used for 1570 girls and 1324 boys in all schools of regional city in Lithuania in 2003.

*Results* Different patterns of suicidal behaviour (ideation, planning and attempts to commit suicide) were found among boys and girls. It was no statistically significant tendency in increasing of school children suicidal ideation from grade 5 through grade 12. Planning and attempts to commit suicide are increasing in school years among girls ( $p < 0.001$ ), but not among boys. Trials of smoking within this period from grade 5 through grade 12 increased from 12.6% of boys and 0.6% of girls to 37.1% and 30.3%. Trials to use ethanol increased as follows: for boys from 25.6% to the 65.8%, for girls from 9.1 to 61.2%. Trials to use other drugs increased from 0 to 25.8% for girls and from 8.8 to 49.4% for boys.

*Conclusion* During the school years from grade 5 through grade 12, the risk of future suicides expressed by suicidal ideation, planning and attempts does not increase among boys, but planning and attempts of suicide significantly increase among girls. The risk of future mortality expressed by usage of nicotine, ethanol and other drugs significantly increases more for boys than for girls.

## **COPING, VIGOR AND BURNOUT: IMPLICATIONS FOR HEALTHY FUNCTIONING**

Greenglass, Esther, Stokes, Pamela, Fiksenbaum, Lisa; Canada

Research indicates that work stress and burnout have deleterious effects on health. To the extent that individuals experience job burnout, they lack energy, often feeling depressed and they suffer from lack of involvement in their work. Research to date suggests that the way individuals cope with stress may affect levels of stress and burnout. In contrast to reactive coping, which is an effort to deal with a past stressful encounter, proactive coping involves behavior before stress occurs and includes processes through which people anticipate potential stressors and act in advance to prevent them. It focuses on accumulating resources and setting goals for improvement, efforts that contribute positively to a sense of professional efficacy.

Research suggests that proactive coping should be associated with the perception of greater challenge and work engagement, in particular, vigor. The present study examines the relationship among proactive coping, burnout and vigor in 339 employed participants who responded to an Internet survey. It was hypothesized that vigor should mediate the effects of proactive coping on burnout. Greater proactive coping should lead to higher levels of vigor and this is seen as counteracting burnout, particularly, emotional exhaustion and cynicism. Implications of the results are discussed for improving psychological health and well-being in the workplace.

## **EMOTIONAL AND COGNITIVE CHANGES FOLLOWING CAROTID ENDARTERECTOMY**

Gremigni, Paola, Sciarroni, Laura, Ricci Bitti, Pio, E., Pedrini, Luciano; Italy

*Background* Carotid endarterectomy (CEA) is the main stay of treatment for atherosclerotic carotid artery disease. Patients with carotid artery stenosis show a neuropsychological syndrome with deterioration of cognitive function and poor psychological well-being. Some studies examined neuropsychological function before and after CEA to control for practice effects, but results were controversial.

*Objective* To investigate changes in both emotional and cognitive functions following CEA.

*Methods* Sixty patients undergoing elective carotid endarterectomy for symptomatic and asymptomatic carotid artery stenosis were enrolled in a prospective study to evaluate the incidence of change in postoperative cognitive function and perceived emotional well-being.

Psychological dimensions were measured preoperatively and at 8 days postoperatively using a standardized battery of tests. Twenty patients completed the same measures also at 3 month follow-up. Measures included: the Mini-Mental State Examination (MMSE) to evaluate the cognitive function, the Zung Depression Scale (ZDS) to assess depressive symptoms, and the SF-12 to measure perceived mental health status (MCS) and physical health status (PCS).

*Results* After controlling for age, sex, education and clinical condition, ANOVA for repeated measures indicated that the following dimensions improved significantly 8 days following CEA: depression (ZDS:  $F=6,60$ ,  $p \leq 0.01$ ), cognitive function (MMSE:  $F=6,80$   $p \leq 0.01$ ), and perceived mental health (MCS:  $F=6,22$ ,  $p \leq 0.01$ ), while perceived physical health (PCS) remained stable. Furthermore, perceived mental and physical health improved significantly by 3 months (MCS:  $F=7,11$ ,  $p \leq 0.01$ ; PCS:  $F=5,49$ ,  $p \leq 0.03$ ).

*Conclusions* Psychometric evaluation of patients undergoing carotid endarterectomy for significant carotid artery stenosis demonstrates improvements in both emotional state and cognitive performance following the surgery. Results of this study are promising and indicate that CEA may offer more than reduced stroke risk to these patients.

## EMOTIONAL FRAGILITY PREDICTS PERCEIVED WELL-BEING IN PSYCHIATRIC PATIENTS

Gremigni, Paola, Chiarini, Alessandra, Ricci Bitti, Pio, E.; Italy

*Background* Psychological dimensions (i.e. low self-esteem) frequently accompany psychiatric disorders and also play some role in quality of life for psychiatric patients. Emotional fragility (EF) is a personality trait consisting of the tendency to experience feelings of discomfort, self-inadequacy, vulnerability, irritability, emotional instability, and self-blame. Very few studies address the role of EF for psychiatric patients.

*Objective* The objective of this study was to investigate the relationship between EF and perceived well-being in psychiatric patients.

*Methods* 70 in-patients of a psychiatric clinic consented to participate in the study. All of them were women, mean aged  $51 \pm 14$  years, diagnosed, according to DSM IV criteria, as follows: 38 mood disorders (10 unipolar depression, 12 reactive depression, 16 major depression), 5 anxiety disorders, 14 schizophrenia/psychotic disorders, and 12 substance-related disorders. All patients completed the Emotional Fragility Scale (EFs) and the Cognitive Behavioural Assessment-B Scale to measure perceived well-being, stress, and negative mood state.

*Results* The results of the present study demonstrate that all psychiatric patients suffer from lowered perceived well-being. Furthermore, the degree to which well-being was lowered differed among various diagnostic groups: it was lowest in patients with depressive disorders and substance abuse ( $p < 0.03$ ). Also, there is evidence of the predictive role of EF on symptoms of lowered well-being. After controlling for age, psychiatric diagnosis, and pharmacological treatment, EF predicted 28%\* of poor well-being, 29%\* of high perceived stress and 24%\* of negative mood state, using multiple regression models ( $*p < 0.0001$ ).

*Conclusions* We conclude that there is an effect of Emotional Fragility on lowering the perceived well-being of psychiatric patients and this effect is more pronounced with certain

psychiatric disorders, such as major depression and substance abuse. The results of this study may have implications for specific psychological interventions to integrate pharmacological treatment.

### **DILEMMAS ASSOCIATED WITH TURNER SYNDROME**

Greyling, A.J.; South Africa

Turner Syndrome (TS) in girls is found worldwide and crosses geographical, ethnic and cultural barriers. This genetic disorder is caused by sex chromosome abnormalities and is present in 1:2000 live female births. It leads to ovarian dysgenesis, short stature and a variant of other physical characteristics.

The objectives of the research are to look at how TS impacts on the relationship structures of adolescents with TS. This paper aims to focus on the impact of TS on different levels in the life of the TS individual.

During adolescence a variety of physical, emotional and cognitive changes take place that influence the way adolescents think about the world and themselves. In particular adolescents girls compare themselves to the ideal as portrayed in glossy magazines and the popular media. They tend to become very critical of themselves and their own perceived shortcomings. According to modern literature, adolescence is a time of emotional upheaval and unpredictable behavior. This difficult and trying period is exacerbated for girls with TS because of medical, physical and social problems.

Furthermore, TS seems to be associated with some level of learning problems, which is highlighted by the studies conducted by Skuse *et al.* (1997) who contented that up to 40% of school going adolescents with TS have special educational needs. Scholastic achievements definitely also play a role in the acceptance of the self which have a significant influence on relationship structures and the development of the personality profile.

*Method* On the basis of an empirical investigation aimed at assessing the effects of the sex chromosome anomalies, as found in TS, on the relationship structures and personality profiles of female adolescents, it became apparent from the interviews and standardized questionnaire responses that a substantial number of TS individuals experience their short stature and the lack of knowledge relating to TS as the main barriers in being taken serious by peers, adults and members of the opposite sex. For the same reasons they often experience problems in finding employment later in life.

*Results* An analysis of the empirical research led to the emergence of significant patterns that formed the basis for the findings of this empirical investigation into specific dilemmas experienced by adolescents with Turner Syndrome.

*Conclusion* Recommendations regarding support and guidance to individuals and their families are given.

### **THE INFLUENCE OF PSYCHOSOCIAL VARIABLES AND DISEASE SEVERITY IN PATIENTS WITH CHRONIC ILLNESS: A ONE-YEAR FOLLOW-UP**

Groarke, AnnMarie Curtis, Ruth, Coughlan, R.; Ireland

This study examined the extent to which psychosocial variables predict adjustment in patients with rheumatoid arthritis. Participants were recruited at an outpatient clinic. Data were available for 52 of the sample at one-year follow-up. Clinical disease status and psychological functioning

were assessed at both timepoints. Findings from correlational and hierarchical regression analyses reveal a number of statistically significant relationships ( $p < 0.01$ ) between stress and emotional adjustment. Partial correlations showed that while social support did not mediate the relationship between psychological stress and adjustment, the use of venting emotions as a coping strategy was a mediator of the association between stress and negative affect. Results demonstrated that disease status predicted illness related functioning but did not predict emotional or social adjustment. Perceived stress was a better predictor than disease of concurrent positive and negative emotionality with explained variance ranging from 14 to 55%. Coping also predicted variance on these affective domains (10–19%). In longitudinal analyses, perceived stress accounted for variability in negative affect one year later and coping predicted positive affect over this time. Level of social support explained variance on social activity in cross-sectional and longitudinal analysis (10–14%). Results suggest that a cognitive behavioural intervention to facilitate patient adjustment could usefully include management of stress and its appraisal, the fostering of adaptive coping strategies and utilization of social support resources. It is concluded that improving patient adjustment to rheumatoid arthritis has implications for medical care seeking.

#### **WHAT DOES THE SENSE OF COHERENCE SCALE MEASURE? VALIDITY OF THE ANTONOVSKY'S ORIENTATION TO LIFE QUESTIONNAIRE**

Gruszczynska, Ewa; Poland

The Antonovsky's theory of salutogenesis and sense of coherence (SOC) gained significant empirical support. The majority of these data were collected by the Orientation to Life Questionnaire. However, theoretical validity of this scale is uncertain. The study was aimed at exploring this issue. The participants were 139 healthy adults. To investigate the convergent and discriminant validity of the SOC questionnaire its relations with the measures of the five other widely studied traits in health psychology – optimism, generalized self-efficacy, anxiety, neuroticism and depression – were examined. The results of exploratory and confirmatory factor analyses demonstrated that a single factor accounted for the dependence among measures of the 6 traits. Thus, it suggests that all these measures can be markers of the same higher order construct. As the strongest associations were observed between SOC and both, anxiety and neuroticism, the redundancy of these three measures should be regarded as extremely probable. Although 26% of the nonerror unique variance of the SOC questionnaire remained unexplained by the single factor model, it is still questionable, whether it indeed reflects the Antonovsky's theoretical construct.

#### **GENDER DIFFERENCES IN PERCEIVING QUALITY OF LIFE AS MEDICAL ENDPOINT**

Guethlin, Corina, Walach, Harald; Germany

*Objectives* Gender differences in perceiving symptoms of illness and in the perception of health-related quality of life (HRQOL) is a well-known and often cited fact. These differences should occur independently from the time point of measurement (i.e. before or after treatment), and thus the improvement (or worsening) of HRQOL over the course of treatment has not been studied extensively. However, ANOVA has shown gender differences in the improvement



of HRQOL after therapy in our study sample. The objective of the poster will be the structural equation modelling for pre- and post-treatment structures of perceived HRQOL as measured by the SF-36, given separately for both genders.

*Methods* About 2000 men and women were measured with the SF-36 before and after acupuncture treatment. Structural equation modelling (SEQ) was performed, assuming pathways from pre-treatment physical health and pre-treatment mental health status to the respective health statuses post-treatment.

*Results* SEQ shows different factor loadings for the paths from latent underlying physical and mental health components to sub-scales pre-treatment, and different  $r$  (explaining variance) for the post-treatment physical and mental health components. For example physical health pre-treatment explains 72% of the post-treatment variance in physical health components in women, but 83% in men. Modification indices further indicate that error variances of the physical functioning sub-scales for both points in time are strongly correlated in women, but not that much in men.

*Conclusions* The perception of HRQOL differs between men and women, and differs from pre- to post-treatment measurement with respect to gender. Confounding and modifying variables of these results need further examination.

## PERCEPTION OF DIABETES: THE TURKISH CASE

Gulbanu, Guvenc-Isyker, Dilek Onkal; Turkey

*Background* Growing epidemiological and physiological evidence points out the primary prevention of Type II diabetes through diet and exercise. It is an important issue because diabetes is a costly illness both in human and monetary terms. Accordingly, one of the fundamental tasks of researchers is to improve healthy individual's understanding of the relation of behavioral and social factors to diabetes and how they may affect these factors. This goal can only be achieved by understanding individuals' perceptions of diabetes.

*Aim* To understand healthy individuals' perceptions of Type II diabetes and to improve risk communication about the illness.

*Method* As a starting point of the research, a scale on "perceptions of diabetes" was developed. Accordingly, 51 items were generated by a group of psychology and decision sciences researchers. This scale was administered to 153 university students. The research has not been completed yet. Further work will involve administration of the self-constructed scale along with anxiety and coping scales to assess criterion-related validity. Finally, the results will be used for improved communication of risks about diabetes in Turkey.

*Results* Analysis of the data indicated a two-factor solution with 18 items (internal consistencies for factor 1 and factor 2 are 0.852 and 0.776, respectively). The factors were labeled as "anxiety" and "coping."

*Conclusions* The findings of the preliminary study about the construction of a scale on perception of diabetes shows that anxiety and coping are important determinants in individuals' perceptions of diabetes. Furthermore, respondents are not well informed about the prevention of diabetes through diet and exercise. These findings indicate the need for a risk communication study to present people with complete and relevant information about the illness. It is important to note that risk communication messages should both stimulate risk perceptions and promote coping ability with the illness.

## IMPACT OF OPTIMISM ON DEPRESSION AND ANXIETY IN CANCER PATIENTS: A FOLLOW-UP STUDY

Gustavsson-Lilius, Mila, Julkunen, Juhani, Hietanen Päivi; Finland

*Objectives* Aim of this study was to investigate how optimism is related to depression and anxiety at time of cancer diagnosis and during follow-up. It was hypothesized that optimistic patients have lower levels of distress at all stages. Symptoms of distress were expected to decrease more in optimistic as compared to pessimistic patients during the follow-up.

*Methods* The subjects were 247 female and 122 male cancer patients. Optimism (LOT-R), depression (BDQ-14) and anxiety (state anxiety subscale from EMAS) were assessed 2–3 months after cancer diagnosis. Eight and 14 months post diagnosis depression and anxiety were measured repeatedly.

*Results* There were no significant gender differences in mean levels of optimism, depression or anxiety. Optimists had significantly lower levels of depression and anxiety during all times as compared to pessimists. Expected time effect was found in anxiety but not in depression. Instead, ANOVAs revealed a significant time by optimism interaction in depression. In optimists level of depression remained constant at all stages. In contrast pessimists' high level of depression was decreased after baseline. Hierarchical regression analysis indicated that optimism was significantly associated with the decrease of distress.

*Conclusions* These results support previous findings according to which optimism protects against distress in traumatic life events such as cancer. Also the second hypothesis was partly supported indicating that optimism predicted more favorable change in symptoms of distress. However, a strong floor effect in depression may have limited the results. In clinical practice special attention should be given to pessimistic patients because of their elevated levels of distress especially at time of diagnosis.

## ASSESSMENT OF MATERNAL REPRODUCTIVE MORBIDITY AMONG FEMALE PHYSICIANS IN HUNGARY

Gyorffy, Zsuzsa, Adam, Szilvia, Kopp, Maria; Hungary

*Background* High prevalence of work-related stress has been associated with miscarriage, premature birth, and low birth weight. However, reproductive health of female physicians has been scarcely researched in Hungary.

*Aim* To explore the prevalence and risk factors of maternal reproductive morbidity among female physicians in Hungary.

*Methods* Data were collected from 298 female physicians using questionnaires. 970 female white collar workers from a representative nationwide survey (Hungarostudy, 2002) served as controls.

*Results* The prevalence of miscarriage, high-risk pregnancy, and therapeutic termination of pregnancy among female physicians was around twice as high compared to those in the normative population (24.1 vs. 12.4%, 27.1 vs. 12.3%, and 35.3 vs. 23.4%, respectively). Using correlation analyses, we found a significant relationship between therapeutic termination of pregnancy and the frequency of night duty ( $p=0.028$ ) as well as the number of board certifications ( $p=0.016$ ). In addition, high prevalence of miscarriage significantly correlated with long working hours ( $>8$  h/d) at the time of pregnancy ( $p=0.05$ ) and with the prevalence of role conflict ( $p=0.0136$ ,  $OR=1.749$ ,  $CI=0.875-3.494$ ).

*Conclusion* We found a significantly higher prevalence of maternal reproductive morbidity among female physicians compared to that in the control population. We have identified potential work-related risk factors including the frequency of night duty, long working hours, multiple board certifications, and perceived role conflict, which may serve as stressor predictors of maternal reproductive morbidity among female physicians in Hungary.

### **THE INFLUENCE OF PERCEIVED LOCI OF CONTROL AND CAUSALITY IN THE THEORY OF PLANNED BEHAVIOR IN A LEISURE-TIME EXERCISE CONTEXT**

Hagger, Martin, Armitage, Christopher; UK

*Objectives* The present study aimed to examine the contribution of generalized locus of control and perceived locus of causality to intentions to participate in leisure-time physical activity in adolescents. A mediational model was proposed that included constructs from three theoretical approaches: locus of control (Connell, 1985), self-determination theory (SDT; Deci and Ryan, 1985), and the theory of planned behaviour (TPB; Ajzen, 1985).

*Methods* Adolescent school children ( $N=1190$ ; 574 girls, 616 boys) completed measures of locus of control from internal, powerful others and unknown sources, intrinsic motives, introjected regulation, and external regulation from SDT, and intentions, attitudes, subjective norms, and perceived behavioral control from the TPB.

*Results* Data were analyzed using structural equation modeling. A reasonably fitting model ( $CFI=0.935$ ,  $RMSEA=0.040$ ) testing study hypotheses revealed that the effects of generalized locus of control on attitudes, subjective norms, and intentions to participate in physical activity were mediated by intrinsic motives from SDT.

*Conclusions* Present findings provide evidence in support of a motivational sequence in which general locus of control influences situation-specific attitudes, subjective norms, and intentions mediated by the context-specific motives from SDT. This suggest that there are both proximal and distal antecedents of physical activity intentions, which must be accounted for in health psychology interventions.

### **INCREASING WOMEN'S INTENTIONS TO STOP SMOKING FOLLOWING AN ABNORMAL CERVICAL SMEAR TEST RESULT: THE ROLE OF COHERENCE**

Hall, Sue, Bishop, Amanda, J., Marteau, Theresa, M.; UK

*Objectives* The aim of this study is to assess the impact upon intentions to stop smoking of two leaflets informing women receiving abnormal cervical smear test results of the link between smoking and cervical cancer. A further aim is to assess the role of having a coherent explanation of the link between smoking and cervical cancer in mediating the impact of this information.

*Methods* 330 women smokers who received an abnormal smear test result were randomly allocated to one of three groups: (1) sent a leaflet about the threat of cervical cancer from smoking and the benefits to cervical health in stopping, containing a detailed explanation of how smoking harms the cervix; (2) sent the same leaflet but without the detailed explanation; (3) no leaflet. Questionnaires were completed one month later.

*Results* Women sent the leaflet with the detailed explanation had higher intentions to stop smoking compared with those not sent a leaflet. This effect was mediated by perceived coherence of the link between smoking and cervical cancer.

*Conclusions* Explaining the link between smoking and cervical cancer increases intentions to stop smoking in women receiving abnormal cervical smear test results. In keeping with earlier studies, these results confirm the importance of a coherent explanation in motivating behaviour change. Further work is needed to explore whether or not coherence has an equally important role in response to other health threats.

### **UNDERSTANDING WHY THEORY-BASED HEALTH BEHAVIOUR INTERVENTIONS WORK (OR NOT): A CAUSAL MODELLING APPROACH**

Hardeman, Wendy, Sutton, Stephen, Michie, Susan, Kinmonth, Ann Louise; UK

*Objectives* Few intervention studies using health-related self-regulation use theories to specify the behavioural determinants subsequently targeted by relevant behaviour change techniques, and to inform fidelity and outcome measures. The objective was to develop a causal modelling approach to developing and evaluating theory-based interventions for randomised controlled trial evaluation.

*Methods* Causal models link determinants of behaviour through physiological and biochemical variables to health outcomes. They specify techniques to change (determinants of) behaviour, and also measures for each level of the model. The approach was developed in two RCTs of interventions to prevent Type 2 diabetes in a high-risk group (ProActive,  $N=365$ , 30–50 years) and its consequences in people with newly diagnosed diabetes (ADDITION Plus,  $N=500$ , 40–69 years). Systematic reviews, consultations, and pilot studies informed the causal models.

*Results* Psychological theory and evidence informed selection of (a) behavioural determinants (intervention targets), which were derived from the Theory of Planned Behaviour and Leventhal's Self-regulation Model, (b) techniques, among others based on self-regulation principles (e.g., goal setting), and (c) psychological measures. Fidelity measures include training sessions, intervention protocols, and reliable coding frames to assess use of theory-based techniques among a random sample of participants. Epidemiological evidence informed choice of target groups, target behaviours and health outcomes, and associated measures (e.g., objectively assessed energy expenditure, modelled diabetes risk). The two studies will be used to illustrate the inter-relationships between choice of theory and techniques, and measures of fidelity and outcomes.

*Conclusions* The causal modelling approach provides a rational framework for development of theory-based health interventions, linked to implementation and outcome measures. Challenges encountered included choice of criteria to guide theory selection, and the gap between theory and practicalities of intervention delivery.

### **SELF-AFFIRMATION AND THE DEFENSIVE PROCESSING OF THREATENING HEALTH-RISK INFORMATION**

Harris, Peter, Napper, Lucy; UK

There is evidence that people offered the opportunity to affirm an important aspect of their identity tend to respond less defensively to threats. We report two studies that examine the impact of such self-affirmation on the processing of health-risk information.

*Objectives* Study 1 tested whether the effects of self-affirmation were specific to the targeted health risk and whether they persisted up to one month later. Study 2 was designed to shed light on the differences self-affirmation makes to the ways in which people process threatening material.

*Methods* Participants were female students for whom the risk message (on the links between alcohol and breast cancer) was genuine, novel and relevant. Participants (both studies) were randomly assigned to self-affirmation or control groups before reading the message. In study 1, low and high alcohol consuming participants ( $N = 74$ ) completed three-waves of measures of key cognitive and affective variables. In study 2, high-risk participants ( $N = 30$ ) described their thoughts as they read the information. These were subsequently content analysed.

*Results* Study 1: self-affirming reduced defensive processing in the higher risk group, producing changes that were maintained up to one month later. Differences relative to their non-affirmed counterparts included higher personal and average risk perceptions for breast cancer from alcohol, greater belief in this link, and more worry about and intention to reduce their alcohol consumption. The effects did not generalise to other related diseases. Study 2 revealed qualitative differences in the thoughts articulated by self-affirmed and non-affirmed participants.

*Conclusion* Study 1 showed that the effects of self-affirming are specific and durable; both studies indicate that, among other things, self-affirming affects whether people interpret the message as personally relevant. The findings have both theoretical and applied relevance to health psychologists interested in persuasion.

## **DEPRESSIVE SYMPTOMS, EDUCATION AND MORTALITY IN A 10-YEAR POPULATION BASED FOLLOW-UP STUDY**

Haukkala, Ari, Laatikainen, Tiina, Uutela, Antti; Finland

*Objectives* The aim of this study is to examine whether depressive symptoms are related to mortality and whether they moderate the educational mortality differences.

*Methods* The subjects were participants of two similar FINRISK cardiovascular risk factor studies in Finland including 3938 males and 4419 females. First, done in 1992, include age-group 25–64 years, with follow-up of 10 years up to 2002. Similar survey was done in 1995 but including subjects aged 25–74 years old. Data from the covering national mortality register till 2002 was linked to the FINRISK data, when there were 169 subjects who had died. Depressive symptoms were assessed with Beck Depression Inventory in both assessments with questionnaire.

*Results* Higher depressive symptoms predicted mortality after adjusting for age, education and gender. Depressive symptoms did not have significant interaction term either with gender or education.

## **PARENTING A CHILD WITH ACQUIRED BRAIN INJURY: A QUALITATIVE STUDY**

Heary, Caroline, Hogan, Diane, Smyth, Colm; Ireland

A large scale qualitative study was carried out to explore the experiences of children and their families following an acquired brain injury. The current article will report on the impact of a

child's acquired brain injury on the lives of parents and on the parent-child relationship. A national random sample of families who attended a national rehabilitation facility was chosen to take part in this study. A qualitative approach was used to explore the experiences of parents, children with acquired brain injury, siblings and professionals. One hundred and sixteen individuals participated in the study. This article will primarily focus on the interviews with 30 parents. Thematic analysis was used to identify the data that emerged from the semi-structured interviews. The results revealed that parents underwent an intense emotional experience both in the immediate aftermath and in the long-term following their child's brain injury. Many parents experienced significant role changes following their child's injury. They frequently became consumed with the intensive care-giving which their child required and often felt abandoned and alone. Significant restrictions were often placed on the lives of parents due to the care needs of their child. Some parents perceived that the time and input which their child with acquired brain injury required, resulted in the neglect of their other children. The current study highlights the need to recognize acquired brain injury as a family affair and highlights the support needs of the primary caregivers of children with acquired brain injury.

### **THE EXPERIENCE OF HEALING SOMEONE THROUGH SPIRITUAL MEANS**

Hector, Mark, A., Denny, Ellen Senter, Chan, I. Wen, Nelson, Debra; USA

This study examined the descriptions of ten research participants. Researchers asked the participants to describe how they were involved in the healing of someone else of an injury, illness or disease. All the participants were members of religious denominations that regularly practice healing through spiritual means (e.g., Christian Science). Two participants were from Germany, one was from Norway and seven were from the US. The researchers gave each participant only one open-ended request: "Please describe in detail a time that you were involved in the healing of someone else." Other than encouraging the research participants to continue their descriptions, the interviewers provided no suggestions or leads. A phenomenological/hermeneutic research group analyzed transcripts of the interviews. Themes and sub-themes emerged which describe how spiritual healers make meaning (sense) of the experience of healing. Some of the main themes are: The Other's Problem (e.g., heart attack, eye injury), Turning to God, The Healer is Changed, Intensity of the Healer, Confidence of the Healer, and Time (e.g., "Lost track of time," "Healing was instantaneous.>"). The presenters will provide excerpts from the transcripts to illustrate each theme and subtheme. The presentation will conclude with a discussion of the advantages of this research methodology for studying the phenomenon of spiritual healing.

### **WALT WHITMAN'S "THE WOUND DRESSER" RECONSIDERED: LISTENING TO PATIENTS TODAY**

Hector, Mark, A., Hector, Judith, H., Thomas, Sandra, P., Pollio, Howard, R.; USA

In "The Wound Dresser" poem, Walt Whitman describes his experiences of caring for wounded and sick soldiers during the American Civil War (1861-1865). As a 43-year old man, Whitman went from New York city to the battlefields and then to hospitals in the Washington, DC area where he learned to nurse the sick and wounded young men of the war. Walt Whitman lived at the same time as Florence Nightingale (1820-1910) and Clara Barton (1821-1912), both of whom made significant contributions to the development of nursing as a profession. Uniquely, Whitman was one of the first to write powerfully both prose and poetry about his experiences with nursing. Some of his newspaper articles and letters on nursing are out of print and not

well known. In *Listening to Patients: A Phenomenological Approach to Nursing Research and Practice*, Thomas and Pollio (2002) apply the philosophy of phenomenology (Husserl, Heidegger, Merleau-Ponty and Gadamer) to the work of the hospital nurse. Thomas and Pollio emphasize that nurses can have a profound influence by listening to and understanding ill and injured patients and how they make sense of their experiences. Hector (2003) has described how phenomenological counselors ask clients to describe their problematical experiences (e.g., being depressed) and, thereby, help clients understand and gain control of their problems. In this article, we contend that Whitman was a phenomenologist in that he carefully tried to understand the experiences of the sick and wounded soldiers. Part of the article focuses on "The Wound Dresser," a musical setting composed by John Adams (Nixon in China) based on the poem of Walt Whitman of the same name. In this composition for orchestra and baritone soloist, Adams was interested in expressing ideas of resonance and consonance. These ideas are beautiful metaphors for the nurse-patient and counselor-client relationships. Part of the article presentation will involve reading portions of Whitman's poem used as the lyrics of the John Adams musical composition.

### **FACTORS AFFECTING LIFE SATISFACTION AMONG FINNISH SENIOR CITIZENS**

Heinonen, Heikki, Absetz, Pilvikki, Mäkelä, Tiina, Valve, Raisa, Uutela, Antti, Aro, Arja; Finland

*Objective* The aim of this study is to analyse the impact of quality of life (QOL) dimensions on perceived life satisfaction.

*Methods* This study is a baseline assessment of Ikihyvä Päijät-Häme Project, a comprehensive health promotion programme within a hospital district (including 14 municipalities) in Finland. The study population includes a representative cohort of people born in the years 1926–1930 ( $n = 786$ ). A mailed survey questionnaire was used. Satisfaction with current life was measured with a single item. Dimensions of QOL included: perceived physical, functional (Activities of Daily Living scale), social (MOS-social support survey), and economical well-being (perceived satisfaction with income), and feelings of security. Background factors included education, marital status, and income level. The effects of the domains of QOL on perceived life satisfaction were analyzed using hierarchical regression analysis. The analyses were conducted separately for men and women.

*Results* The most important correlates of current life satisfaction were feelings of security, followed by perceived health status. These primary correlates were the same among both genders. In the regression model involving men, social support also proved significant. Among women, economical situation was a significant correlate of life satisfaction. The three most frequently experienced causes of insecurity were "deterioration of memory," "to become institutionalized" and "to become dependent on others help."

*Conclusions* In summary fear to loose control over once life was shown to be one of the main factors in producing insecurity and thus dilution of QOL. In order to enhance QOL among senior citizens instruments enhancing autonomy in spite of limitations of physical cababilities should be developed.

### **SOCIOECONOMIC CIRCUMSTANCES AND OPTIMISM**

Heinonen, Kati, Finland; Räikkönen, Katri, Finland; Matthews, Karen, USA; Scheier, Michael, USA; Keltikangas-Järvinen, Liisa, Finland

*Objectives* Socioeconomic circumstances may have direct impact on health (e.g., through inadequate housing and sanitation) or work indirectly via behavioral and psychosocial characteristics that are deleterious to health. One of the psychological resources consistently shown to be related to health outcomes is dispositional optimism. However its distribution according to socioeconomic circumstances is not well known.

*Methods* We studied Finnish children and adolescents, who participated in the Cardiovascular Risk in Young Finns-study at the baseline of the study in 1980 and 21-years later in 2001. At the baseline of the study participants' parents reported the family's socioeconomic circumstances (i.e., educational level, occupational status, income, and unemployment status), and at the 21-year follow-up participants self-reported own socioeconomic circumstances and their dispositional optimism-pessimism.

*Results* Results indicate that there is a relationship between optimism-pessimism and socioeconomic circumstances.

*Conclusions* The present study emphasizes that optimism should be studied in a context of socioeconomic circumstances.

### **THE ROLE OF SOCIAL SUPPORT AND FAMILY FUNCTIONING ON WOMEN'S PERCEIVED QUALITY OF LIFE AND HEALTH**

Helmes, Almut, Germany; Bowen, Deborah, USA

*Aims* Women often report that their quality of life and health depends on how they feel in their social environment. Perceptions of this social environment seem to play more of a role than the actual social situation. The purpose of the study was to investigate how social support and family functioning influence women's perceived quality of life and health status.

*Methods* We approached a random sample of female patients of a primary care physician's network in Washington State. After a brief telephone interview to determine eligibility, women received a self-administered questionnaire by mail including the SF36 (Ware and Sherbourne, 1992), the FACES II (Olsen and Tiesel, 1992) and the MOS social support scale (Sherbourne and Stewart, 1991).  $N = 340$  women returned the survey.

*Results* Linear regression analysis showed that the subscale emotional social support was the only significant predictor for perceived quality of life (Beta = 0.367,  $p < 0.001$ ). The same subscale was the only predictor for the general health score (Beta = 0.209,  $p < 0.001$ ). For the mental health score social interaction and the family type were significant predictors (Beta = 0.282,  $p < 0.001$ ; Beta = 0.151,  $p = 0.010$ ).

*Conclusions* Emotional social support and social interaction as well as the family type play an important role in women's perception of quality of life and health. Tangible and affectionate social support and the family cohesion and adaptability seem to have no influence on these outcome variables. Based on these findings we should encourage women to strengthen their social support system within and outside the family.

### **PRIMARY MENTAL HEALTH PREVENTION THROUGH THE INCREASE OF SUBJECTIVE WELL-BEING USING PSYCHOTHERAPEUTIC COMMON FACTORS: A PROJECT SKETCH AND PRELIMINARY RESULTS**

Hendres, Daniela; Romania

The positive psychology movement underlies the priority of prevention by building strengths that buffers against clinical disorder (Seligman, 2000, Lampropoulos, 2001), and the integrative



tendencies in psychotherapy claim for a better consideration of the common factors (e.g. support, learning, and action factors) largely responsible for psychotherapeutic improvements (Lambert and Bergin, 1994). In most cases psychotherapy provides learning about own self opportunities: new insights and perspectives for one beliefs, exercises stimulating self-discovery, training skills, specific guided learning (Bohart, 2000). It is worth discerning if learning would be equally useful as buffering strengths provide outside the psychotherapeutic space (eg., by psychology learning through courses, seminars, and trainings).

Subjects were psychology students in their 1st year of college, not yet involved in learning psychology process (male 7, female 61), and in their 4th and last year, near graduation (male 10, female 83). It has been introduced in the regression analyses the subjective well-being (DV), measured by Oxford Happiness Questionnaire (OHQ) (Hills and Argyle, 2002) and Satisfaction With Life Scale (SWL) (Diener *et al.*, 1985). As predictors (IV), it was used age, self-efficacy (SE) (Jerusalem and Schwarzer, 1992), and optimism (LOT) (Scheier and Carver, 1985). Being qualitative, the independent variable year of study, was replaced in the regression analysis with age. They are highly correlated with each other ( $r = 0.45, p < 0.00$ ).

Results show that age does predict the well-being as it follows: for SWL,  $R^2 = 0.25, p < 0.001$  and for OHI,  $R^2 = 0.16, p < 0.03$ . Also good predictors of well-being are self-efficacy and optimism. In further research presented as project, will be worth controlling for variables, as life experience gaining with age, or increase of own general level of knowledge.

#### **HOSTILITY AS RELATED TO AFFECTIVE RATINGS OF PICTURES AND TO STATE AFFECTS DURING TASK-INDUCED STRESS**

Heponiemi, Tarja, Ravaja, Niklas, Elovainio, Marko, Keltikangas-Järvinen, Liisa; Finland

We examined the relationship between hostility and (a) affective ratings of pictures and (b) state affects evoked by task-induced stress in 95 randomly selected healthy men and women aged 22–37 years. Pictures used were from the International Affective Picture System (IAPS). Stressors used were a startle task, a mental arithmetic task, and a choice-deadline reaction time task. The circumplex model of affect was used to structure the self-reported state affects. We found that hostility was associated with displeasure, high arousal, and low dominance ratings of IAPS pictures. In addition, hostility was related to Unpleasant affect and Unactivated unpleasant affect during the experiment, and subscale paranoia was related to Activated unpleasant affect. Our findings suggest that subjects scoring high on hostility are prone to negative emotional reactions.

#### **EFFECTS OF ASSESSMENT PROCEDURE ON LEVELS OF OPTIMISTIC BIAS**

Hevey, David, Ireland; French, David, P., Sutton, Stephen, Kinmonth, Ann Louise, Marteau, Theresa, M., UK

*Introduction* Assessment of risk perception in the literature has reported the presence of optimistic bias in relation to one's personal risk. However, given the differences in methodologies used to assess risk, the manner in which the questions regarding risk are asked may systematically influence the results obtained. The present study examined the effects of the risk assessment process in terms of the order of questions, the polarity of the scaling responses (unipolar or bipolar) and the scale response options (7 point or 101 points).

*Method* The study manipulates the order of assessing risk levels (4 levels), the number of response options used (2) and the polarity of the ratings (2) to produce a  $4 \times 2 \times 2$  factorial between subjects design. 322 members of the UK general public completed questionnaires.

*Results* No main effects or interactions for question order, response options or polarity of ratings were detected for the indirect method. For the direct method, a significant interaction between response options and polarity of ratings was found with the bipolar 7 point scales producing the highest levels of optimistic bias.

*Conclusion* The study failed to detect significant main effects of contextual factors on ratings of optimistic bias. The interaction between polarity and response options is considered in relation to recent research on contextual effects on rating scales.

### **MANAGING A SEXUAL RELATIONSHIP IN THE CONTEXT OF 'NOT WANTING IT': EXPERIENCES FROM WOMEN WHO HAVE LOST SEXUAL DESIRE**

Hinchliff, Sharron, Gott, Merryn; UK

*Objective* Research indicates that sexual problems affect a large number of women in the UK and that they can have a negative impact on well-being and quality of life. One of the most common sexual problems for UK women is loss of desire, however few studies have explored how women manage a sexual relationship whilst experiencing loss of desire.

*Method* Ten women (aged 33–58 years) experiencing loss of sexual desire were recruited from a psychosexual clinic in Sheffield, UK. To allow for a sensitive exploration of sexual health issues and to ensure that the perspectives of the participants emerged, in-depth interviews were conducted. Data was analysed thematically within a material-discursive framework.

*Results* Participants reported that, as a direct result of their sexual problem, relationship discord was common. All described feeling pressure from their partners to engage in penetrative sex and using avoidance tactics, including 'shying away' from any form of intimacy (i.e. cuddling) in order to avoid 'leading their partners on'. However, a small number of participants did engage in sexual activity, including penetrative sex, even though they had no desire to. Such 'coping strategies' were employed to minimise friction in the relationship. Participants, and for the most their partners, gained a new perspective on how to manage their situation as a result of treatment, which included feeling empowered to say no to sex and viewing the problem as one belonging to the couple and not the individual woman.

*Conclusion* Listening to the voices of women who have lost sexual desire will usefully inform clinical understanding, particularly regarding impact on relationships and thus emotional well-being: aspects that the participants felt were often overlooked by health care professionals.

### **JOB STRAIN AND EARLY ATHEROSCLEROSIS: THE CARDIOVASCULAR RISK IN YOUNG FINNS STUDY**

Hintsanen, Mirka, Elovainio, Marko, Pulkki, Laura, Kivimäki, Mika, Raitakari, Olli, Keltikangas-Järvinen, Liisa; Finland

*Objectives* The objective of the current study was to examine the association of job strain with early atherosclerosis in young adult population under age 40.

*Methods* The participants were derived from the ongoing prospective "Cardiovascular Risk in Young Finns" study (CRYF) beginning in 1980. In the present sample, in 2001, there were a total of 2104 healthy men and women participating in the study. The subjects of the present analyses were 24–39 year old. Job strain was defined by a joint effect of two work characteristics: demand

and control. Ultrasound measures of carotid intima-media thickness (IMT), that is considered to be one of the most sensitive markers for the earliest stages of atherosclerosis, were used. The association between IMT and job strain was evaluated using multiple linear regressions.

*Results* In men, job strain was significantly associated with IMT when adjusted for age. Adjusting for social support and for traditional risk factors of cardiovascular diseases did not attenuate this relationship. In women job strain was not a significant predictor of IMT.

*Conclusions* Together with previous studies these results suggest that work characteristics have a role in development of early atherosclerosis.

### **ARE TECHNIQUES USED IN COGNITIVE BEHAVIOR THERAPY APPLICABLE TO INTERVENTIONS BASED ON THE THEORY OF PLANNED BEHAVIOR?**

Hobbis, Imogen, Sutton, Stephen; UK

Historically, models and interventions within the domains of clinical and health psychology have remained predominantly distinct. However, as increasingly research in both fields is focusing on the development of interventions for similar health-behavior related conditions, encouraging assimilation between the two areas seems warranted.

The Theory of Planned Behavior (TPB) is widely used in health psychology research to identify the predictors of health behaviors, and more recently, to inform behavior change interventions. Although the TPB predicts intentions and, to some degree behaviours, specific guidance is not included on how to intervene to promote behavior change. This has limited the success of the model in promoting health behavior change. Other social cognition models, for example Social Cognitive Theory (SCT), have been more successful in supporting behavior change, using primarily behavioral techniques. This suggests techniques routinely used with people with psychological difficulties may be applied to support behavior change in wider contexts. It is proposed that Cognitive Behavior Therapy (CBT), with its focus on the use of cognitive as well as behavioral techniques to support change, may provide the necessary strategies to promote and enhance behavior change in interventions informed by the TPB.

The TPB and CBT are derived from different theoretical starting points, which may have implications for the application of techniques used in CBT to TPB-based interventions. Whether the underlying frameworks of the TPB and CBT share enough commonalities for CBT to be usefully applied to TPB-informed interventions will be discussed. Techniques used within CBT potentially suitable for this purpose will be explored, as will be the issue of the cost-effectiveness of incorporating the individual, patient-focused CBT approach into what have been historically large-scale, population based TPB interventions.

### **THE EXPERIENCE OF FRIENDSHIP FOR YOUNG ADULTS SEVERELY BURNED AS CHILDREN: A PHENOMENOLOGICAL INVESTIGATION**

Holm, Suzanne, Hector, Mark, A.; USA

The goal of this study was to understand the meaning of friendship to young adults who survived severe childhood burn injuries, as generated through the lived experiences of the young adults. The study is a phenomenological exploration of the subjective experience of friendship as described by ten young adults who survived severe pediatric burn injuries. The researcher

conducted in-depth, nondirective interviews, then transcribed them verbatim and analyzed them using a phenomenological research methodology. Interpretive analysis revealed the following five interrelated themes of the experience of friendship: (a) How Society Looks At Me, (b) How I Deal With It, (c) They Understand or They Don't Understand, (d) Making Friends, and (e) Friends. These themes were contextualized within the frame of two experiential grounds: (a) Who I Am and (b) Changes over Time. The ground of Who I Am reflected the participants' sense of personal identity and permeated every aspect of the friendship experience they described. It included the participants' statements about themselves as different or not different from the people around them and their rich descriptions of personal journeys through growth and change toward integration of their scars into their identities. The ground of Changes over Time represented the temporal context in which the experience of friendship occurred for these participants and became apparent through their many references to change.

### **EXPRESSIVE WRITING AND SOCIAL LIFE**

Horn, Andrea, B., Pössel, Patrick, Hautzinger, Martin, Traue, Harald; Germany

Expressive writing as introduced by Pennebaker has been widely been found to have positive effects on physical and mental health in different populations. The discussion goes on what the underlying mechanisms may be. Purpose of this study was to explore particularly the social aspects of the assumed mechanisms.

One hundred and ninety adolescents took part in an prevention program named JES! including expressive writing. The non-treated control group consisted of 150 adolescents. Dependent variables were beside negative affect and absence days the social network size and satisfaction with and frequency of the perceived social support. Adolescents involved in the expressive writing were also asked about their need to talk with others about the experience they wrote about and how much they actually talked about it.

Results reveal that the expressive writing group showed less negative affect and absence days in the 3- and 6-months follow-up than the control group. There was as well a group difference regarding social network size and satisfaction. The need to talk about and the reported disclosure of the experience to others before the writing showed no significant effect on the dependent variables except social network size, neither did the amount of people talked with. The difference between the need to talk and the reported amount of disclosure also had an significant effect on network size but not on social support satisfaction.

The results could be interpreted as an hint that putting stressful experiences into words might have an effect on social life. The hypotheses that especially those who did not talk with others about the experience would benefit more was not confirmed. This could be interpreted that expressive writing may be less effective because of its disruptive effects on inhibitive aspects than due to fostering protective social aspects like social support.

### **EARLY PROGRAMMING OF HYPOTHALAMIC-PITUITARY-ADRENAL AXIS FUNCTION**

Hovi, Petteri; Finland

*Introduction* In experimental animals, increased fetal glucocorticoid exposure results in smaller offspring with elevated blood pressure in adulthood. Most studies on adult humans whose birth records are available have shown an association between small size at birth and hyperactive adult

hypothalamic-pituitary-adrenal axis (HPAA). This has been proposed to be a key mechanism linking small size at birth with adult cardiovascular disease, although different studies show a degree of inconsistency suggesting a more complex overall picture.

*Methods and Results* We have studied 421 men and women born at term in Helsinki, Finland, now aged 65–76 years. The subjects come from the Helsinki cohort comprising 15 846 individuals born between 1924 and 1944 with measurements at birth and in childhood available. We have found that the relationship between size at birth and adult HPAA function is dependent on the duration of pregnancy. In subjects born between 37th and 39th weeks' gestation, small size at birth was associated with high adulthood fasting cortisol concentration. Surprisingly, in subjects born after 40 weeks' gestation, the relationship was reversed: individuals born small had low fasting cortisol (1). To extend these findings, we studied 151 women from this cohort with overnight low-dose (0.25 mg) dexamethasone suppression test. The finding was similar: lower values in 65–76-year old women born small after 40 weeks' gestation but no relationship with birth weight in those born before (2).

*Speculation About Potential Mechanisms* A key regulator of human parturition is corticotrophin-releasing hormone (CRH), secreted in abundance by the placenta. In contrast to their effects in the hypothalamus, glucocorticoids increase placental CRH synthesis. CRH stimulating again fetal cortisol synthesis, creating a positive feedback loop that subsequently leads to delivery. Preterm delivery is associated with increased CRH expression in the placental and fetal membranes. Therefore, one might speculate that the group of subjects who were born small at below average gestational age could be the result of premature activation of the maternal/fetal HPAA and perhaps susceptible to adult hypercortisolism and increased cardiovascular risk. Conversely, the group of subjects born small at above-average gestational age could be hypothesised to be more susceptible to hypocortisolism and its consequences in adulthood.

## **PREDICTORS OF SMOKING CESSATION AND RELAPSE IN DUTCH ADULTS**

Hoving, Cisca, Mudde, Aart, de Vries, Hein; The Netherlands

*Objectives* To investigate predictors of smoking cessation and relapse in Dutch adults.

*Method* Smokers were invited by pharmacy staff to fill in a written questionnaire about smoking behaviour and cessation. Two follow-ups by telephone (respectively 3 and 12 months after baseline) were also conducted. The theoretical basis of this questionnaire was formed by the ASE-model. Demographic determinants as well as attitude, modelling (social influence), self-efficacy and intention to quit were assessed.

*Results* Significant differences were found concerning attitude and self-efficacy between smokers who had started smoking after a quit attempt (relapsers) and smokers who had not (non-relapsers), but not concerning modelling (social influence). Relapsers expressed less negative emotions when picturing themselves relapsing than non-relapsers. However, respondents who relapsed within 3 months after quitting felt significantly less sure they would not smoke if they gained weight or craved to smoke. Logistic regression revealed different baseline variables as significant predictors for smoking cessation and relapse for different moments in time.

*Conclusions* Relapsers seem to underestimate the difficulty of durable cessation. In order to prevent relapse, health interventions should include a relapse prevention component to provide smokers who want to quit with skills to stay clear from smoking.

**SHORT-TERM EFFECTS OF COMPUTER-GENERATED, TAILORED SMOKING CESSATION IN DUTCH COMMUNITY PHARMACIES: AN EFFECTIVENESS STUDY**

Hoving, E.F., Termote, M.C.I., de Vries, H.; The Netherlands

Advice from health professionals is an effective intervention to help people quit smoking. However, lack of time, money and resources are the main obstructions for them to assist smokers on a large scale. Effective interventions that are relatively low in costs and require hardly any extra time would be more easily implemented in the daily routine of a health professional. In this light, computer-generated tailored letters are a promising medium. The hypothesis of this study was that a single tailored letter would lead to more quitters among smokers prepared to quit than no intervention. Respondents were recruited through 65 Dutch community pharmacies.

Results of the follow-up, three months after the baseline measurement will be presented, as well as in-depth analysis of motivational differences among smoking groups.

The results of the program for the total population of smokers ( $n = 954$ ) reveal several findings. Point prevalence rates were 10.5 and 6.9% for the experimental and control group respectively, 7.7 and 4.9% when intention to treat analyses were used. These differences between experimental and control group were not significant. However, among smokers prepared to quit point prevalence rates were 17.4 and 8.9% ( $p < 0.05$ ) for the experimental and control group, 13.5 and 6.7% ( $p < 0.05$ ) when intention to treat analyses were used. The in-depth analyses suggest that smokers who have no or only vague plans to quit (immotives) scored significantly lower on positive outcome expectations than precontemplators, contemplators and smokers prepared to quit. Smokers prepared to quit could be distinguished from the other groups by their higher self-efficacy scores. In conclusion, this study supports the potential of computer-tailored programmes. It also indicates that smokers in their earlier stages may profit most from information on the advantages of quitting while smokers prepared to quit may profit most from self-efficacy enhancing information.

**A META-ANALYSIS OF RANDOMIZED CONTROLLED WEIGHT REDUCTION TRIALS IN PATIENTS WITH DIABETES MELLITUS OR IMPAIRED GLUCOSE TOLERANCE**

Huisman, Sasja; The Netherlands

*Aims* To examine the effects and characteristics of different weight reduction interventions aimed at improving diabetes management and glycaemic control.

*Methods* In this meta-analysis 19 randomized controlled weight reduction interventions were included. All studies were published between 1990 and 2004, were non-pharmacological and non-surgical, and were aimed at reducing weight in patients with diabetes or impaired glucose tolerance. Intervention characteristics and effects of the different interventions on changes in weight (kg) were compared.

*Results* Results of this comparison and intervention characteristics will be discussed.

**PARENTING PRACTICES, ADOLESCENT SMOKING COGNITIONS AND BEHAVIOR**

Huver, R.M.E., de Vries, H., Engels; The Netherlands

*Objectives* This study attempted to explain the effects of parenting practices on adolescent smoking cognitions and behaviors by showing mediating effects of smoking-related cognitions.

*Methods* Data were gathered in 1998 and 2000 among 2328 and 2428 Dutch high school students in the control condition of the European Smoking prevention Framework Approach (ESFA). Parenting practices were measured by reactions to smoking, house rules, and frequency and content of communication about smoking. Smoking cognitions were determined by attitudes, perceived social influences, and self-efficacy. In addition, intention to smoke was measured. Regression analyses were carried out.

*Results* Effects of most practices on cognitions were significant. While some practices were associated with less smoking (house rules for smoking in the hall, corridor, staircases etc., in the living room, outside; communication about the health risks of smoking, the health risks of breathing in smoke, addictive qualities of smoking, attention for smoking in school), others were related to higher chances of smoking (rewards for not smoking; frequency of communication about smoking; communication about being allowed to smoke, price of cigarettes, friends smoking). Furthermore, effects of parenting on smoking decreased after cognitions and intention were included in the model. This was clearer for older adolescents and these effects were not observed in the longitudinal analyses.

*Conclusions* Parenting practices influence adolescent smoking cognitions and behavior. Some practices operate through cognitions, which is more pronounced in older adolescents, while others affect behavior directly. Counter productive effects of parenting practices and the few effects in the longitudinal analyses indicate that the order in which parents and adolescents influence each other should be examined more closely.

## **THE RELATIONSHIP BETWEEN NEGATIVE MOOD, SUICIDALITY, ILLNESS AND SUBSTANCE USE IN ADOLESCENTS AT RISK**

Hüsler, Gebhard; Switzerland

*Objectives* Illness is rarely considered a “risk factor” in adolescence. This study tests illness, suicidality and substance use as outcome measures in a path analysis of 1028 Swiss adolescents (in younger (11–15) and older (16–20) boys and younger (11–15 and older (16–20) girls) in secondary prevention programs.

*Methods* The participants of this study are integrated in a larger national secondary preventive intervention study in Switzerland for adolescents at risk. The programs target youths aged 11–20 years who face situations, which place them at risk for school drop-out, substance use or deviant behavior.

*Result* Negative mood was a powerful predictor of both illness and suicidality, directly and of consumption, indirectly, through suicidality. While age differences were apparent, gender differences were most striking. For boys, negative mood led most frequently to suicidality and thence to consumption (younger boys 0.52 and 0.32; older boys 0.61 and 0.63). For girls, negative mood was slightly more likely to lead to illness (0.48, younger girls and 0.53 older girls) than to suicidality (–0.44 and 0.39) and thence to consumption (0.27 and 0.04 ns). Further, good parental relationships protected girls against suicidality (–0.14 and –0.31) and consumption (–0.25 and –0.40). A good relationship with the parental was a strong protective factor for younger boys against consumption (–0.43), but served no protective factor for older boys, or against suicidality. Finally, consumption was slightly related to illness except among older boys.

*Conclusion* The model showed that negative mood (depression and anxiety) predicted two distinct paths. One path led from negative mood to suicidality and from there to substance use. The other path led directly from negative mood to illness. Traditional protective factors (good family

relations, secure identity) protected against the negative mood–suicide–substance path, but not against the negative mood–illness path.

### **SERVING QUITTERS: EVALUATION OF NATIONAL QUIT LINE IN FINLAND**

Iivonen, Hanna, Patja, Kristiina; Finland

*Material and Methods* Smoking cessation Quit line was introduced in Finland in April 2002. First evaluation surveys sample consists of data collected from callers from April 2002 to May 2003 by the cessation counsellors with 38 173 call trials and 3045 cessation calls. Items included e.g. nicotine dependence level, number of quit attempts and motivation to quit. Questionnaire was based on national monitoring study by the National Public Health Institute providing opportunity to compare callers to the general population. Callers were classified as daily smokers (78.1%), occasional smokers (1.7%), recent quitters (9.3%) or supporters (1%). Uncompleted data rate was 9.9%.

*Results* Six out of the ten callers were men (age range 9–82 years). Among daily smokers 75% had high or very high nicotine dependence level. Among occasional smokers 37.8% of men and 30.5% of women had never tried to quit smoking. 22.6% of callers was a minor and of whom 52.9% had quit attempts.

*Conclusion* Quit line reached well its target group – smokers that have never tried to quit, but were willing. Persons under 18 formed an important and new group for smoking cessation Quit line. Number of Quit line was printed on cigarette packages in September 2002 and lead to increase in young callers. Anonymous and cost free service seems to fit for youth and older male smokers. More research is needed for targeting new groups for services like pregnant women and heavily dependent smokers.

### **CONSCIENTIOUSNESS AND SELF-DETERMINATION OF SAFER SEXUAL BEHAVIOUR**

Ingledeu, David, K.; UK

*Objectives* Previous research has found that conscientious individuals tend to behave in a healthier manner, and has hinted that this may in part be because they are more self-determined in their motivation. The purpose of the present study was to test the hypothesis that, among sexually active young adults, conscientiousness individuals would show less risky behaviour, and that this effect would be mediated by more self-determined motivation for safer behaviour.

*Methods* The participants were 293 adults, mean age 19 years, 54% female. They completed questionnaire measures of personality (five-factor), sexual behaviour (whether they had any experience of sexual intercourse, and, if they had, an index of how risky their subsequent sexual behaviour had been), and self-determination for safer sex (amotivation, autonomous motivation, and controlled motivation). Data were analysed using multiple regression analyses, controlling for age, testing for the mediating role of motivation, and allowing for gender as a possible moderating variable, with an alpha level of 0.01.

*Results* Of the sample, 72% had some experience of sexual intercourse. Among these, higher conscientiousness predicted less amotivation and more autonomous motivation for safer sex. Higher autonomous motivation predicted less risky behaviour. Higher conscientiousness



predicted less risky behaviour, but only when the motivational variables were excluded from the regression equation.

*Conclusions* These findings are consistent with the effect of conscientious on behaviour being mediated by self-determined motivation. This is of potential interest to health promotion practice, especially if further research can identify the strategies that conscientious individuals use to generate and sustain this form of motivation.

### **CLINICAL-PSYCHOLOGICAL AND PSYCHOPHYSIOLOGICAL ASSESSMENT IN WOMEN WITH OBESITY AND POLYCYSTIC OVARY SYNDROME (PCOS)**

Isoppo, C., Fiori, E., Valeriano, R., Pucci, E., Pruneti, C.; Italy

*Background* Obesity is a spreading clinical picture, a risk factor for morbidity and mortality, leading to metabolic and vascular diseases. PCOS is the most common hormonal disturbance among pre-menopausal women and the main cause of oligo-amenorrhea, infertility and hirsutism (73%). Obesity and PCOS are recognized to provoke profound distress in affected women.

*Objective* The aim of this study is to evaluate and compare psychological, behavioural and psychophysiological factors in women with obesity and PCOS, and the possible relationship between these factors and stressful-related behaviours.

*Materials and Methods* 21 obese females (mean BMI =  $38.74 \pm 5.21$ ; mean age =  $34.29 \pm 14.98$ ) and 28 normal weight PCOS females (mean age =  $24.61 \pm 8.71$ ), after a complete clinical and hormonal work-up, underwent a psycho-diagnostic evaluation by means of the following tests: Minnesota Multiphasic Personality Inventory-2 (MMPI-2), Symptom Questionnaire (SQ), Pisa Stress Questionnaire (PSQ) and Psychophysiological Stress Profile (PPP) recording electromyography of frontal muscle (EMG), galvanic skin response (GSR), peripheral temperature (THE) and heart rate (HR).

*Results* By means of Mann-Whitney test, obese patients showed significantly higher irritability, social introversion, anger-hostility, typical expression of Type "A" personality than MMPI-2 PCOS ( $S_i = p < 0.05$ ,  $A_{sp} = p < 0.01$ ,  $T_{pa} = p < 0.01$ ,  $Mc-R = p < 0.05$ ). There were no significant differences in depression, anxiety, somatization and cognitive symptoms: SQ and PSQ mean scores were, indeed, much more than over-threshold in both groups. All patients showed elevated levels in baseline HR: besides, PCOS subjects, during stress administration, displayed a physiological overreaction ( $t = 2.474$ ;  $p < 0.05$ ) than obese subjects, according to personality profile and "unbalanced" life style.

*Conclusions* The results could demonstrate a compromised quality of life, psychological distress and psychophysiological disorder in PCOS and obese women, confirming that the complex management of these patients should require a multidimensional diagnostic evaluation and, in addition to pharmacological and aesthetic measures, an adequate psychological assessment and consequently psychotherapeutic interventions.

### **PERCEPTION OF SHORT-TERM PROGNOSTIC RISKS IS RELATED TO PSYCHOLOGICAL WELL-BEING IN MULTIPLE SCLEROSIS: OR ISN'T IT?**

Janssens, Cecile, Hintzen, Rogier, Passchier, Jan; The Netherlands

*Objectives* The aim of the study was to investigate the relationship between perception of prognostic risk and anxiety, depression and disease-related distress in patients with multiple sclerosis (MS).

*Methods* Perception of risk, anxiety, depression and disease-related distress were assessed in 101 recently-diagnosed MS patients at baseline, 1-year and 2-year follow-up. Perception of risk was asked for the 2-year, 10-year and lifetime risk of wheelchair dependence, a known and frequent consequence of MS. Perceptions of absolute and comparative risk were assessed using visual analogue scales (VAS), and the Hospital Anxiety and Depression Scale and Impact of Event Scale (intrusion and avoidance of MS-related thoughts and feelings) were used to assess psychological outcomes. All analyses were adjusted for disability status, time since diagnosis, time since first symptoms, age and sex.

*Results* According to the perceived absolute risks, higher perceptions of the 2-year and 10-year risk of wheelchair dependence were consistently associated with higher levels of anxiety, depression, intrusion and avoidance, while perception of the lifetime risk was only significantly related to intrusion. When the perceived comparative risk were used, perceptions of risks were only related to intrusion, but not to anxiety, depression and avoidance.

*Conclusions* The relationship between perceived risk and psychological well-being differed considerably with the choice of assessment.

#### **PATIENTS' AND RELATIVES' PSYCHOLOGICAL VARIABLES RELATED TO THE COURSE OF INFLAMMATORY BOWEL DISEASE**

Jaureguizar, Joana, Espina, Alberto; Spain

*Aims* The aim of this study was to analyse the clinical and environmental factors related to the course of Inflammatory Bowel Disease (IBD) (Crohn's Disease and Ulcerative Colitis).

*Methods* The patients ( $n=61$ ) completed the Beck Depression Inventory and the Self-Rating Anxiety Scale. Relatives' ( $n=70$ ) Expressed Emotion was measured, as well as their social support, stressful life events and anxiety and depressive symptoms. Throughout the 12 month follow-up pharmacological treatment, stressful life events and the number of relapses based on clinical criterion were also assessed.

*Results* In the Crohn's Disease group, relapse predictor variables were divided into five groups as follows: (a) variables related to the clinical history of the disease, (b) patients' anxiety and depressive symptoms, (c) Expressed Emotion, (d) relatives' anxiety, depression and social support, (e) stressful life events. Results revealed that the probability to relapse was higher in those patients with more admissions to hospital, more days of hospitalisation, higher scores in anxiety and depression scales, and finally, in those who lived with mothers or wives who were high in Expressed Emotion, who scored high in anxiety and depression scales, low in the social support scale and had lived many stressful life events during the follow-up. Among all the variables studied in the present research, only the mothers' and wives' Expressed Emotion showed to be predictor of relapses in Ulcerative Colitis patients, having this variable as a protective effect.

*Conclusion* These Results suggest that, besides clinical and psychological variables, familiar factors exert an important effect on the course of IBD. These findings could be of great interest for future interventions similar to those carried out in schizophrenic patients and their families.

#### **USING HEALTH PSYCHOLOGY MODELS IN PREDICTING EVIDENCE-BASED PRACTICE: USE OF X-RAYS BY DOCTORS AND DENTISTS (THE PRIME PROJECT)**

Johnston, Marie, Shirran, Liz, Thomas, Ruth, Bonetti, Debbie, Eccles, Martin, Maclenan, Graeme, UK; Grimshaw, Jeremy, Canada; Pitts, Nigel, Steen, Nick, UK

*Objectives* This poster describes results from surveys conducted as part of the PRIME project that aims to develop a scientific rationale for the choice of interventions to translate research findings into clinical practice. The surveys test the power of theoretical constructs drawn from seven theoretical frameworks (Theory of Planned Behaviour, Social Cognitive Theory, operant conditioning, implementation intentions, Leventhal's Self Regulation Model, Weinstein's Precaution Adoption Process and a simple knowledge-attitude-behaviour model) to predict evidence-based clinical practice amongst general practitioners and dentists.

*Methods* Two postal questionnaires assessing cognitions about using X-rays (using material from interviews) were mailed: one to general medical practitioners (GMPs) in England and Scotland regarding lumbar spine X-rays and one to general dental practitioners (GDPs) on the use of dental X-rays.

*Results* 285 GMPs in England and Scotland and 224 GDPs completed questionnaires. Data will be presented on the prediction of behavioural intention within each theoretical framework.

*Conclusions* Research on the implementation of evidence-based practice has not been informed to data by a theoretical framework. The empirical work reported here contributes to the selection of an appropriate framework. Further, conducting studies with GMPs (in Scotland and England) and GDPs (in Scotland) allows us to investigate whether these frameworks are consistent across professional groups and settings. This project will also allow us to explore the use of self-reported behaviour as compared to an objective measure of clinical practice. Overall, using these models will help to develop appropriate interventions to enhance the use of research findings in clinical practice.

### **VARIATIONS IN EFFORT-REWARD IMBALANCE RELATES TO STRESS OVER A NURSING SHIFT AND ARE MODERATED BY HABITUAL EFFORT REWARD IMBALANCE**

Johnston, Derek, W., Jones, Martyn, Scotland; Beedie, Alexis, England

*Objectives* People high in Effort-Reward Imbalance (ERI) (Siegrist, 1996) are more stressed, distressed and have more mental and physical disease. We sought to determine using computerised ecological momentary assessment (EMA), if variations in ERI within an individual across a work period is related to stress and if this was moderated by habitual ERI.

*Methods* Thirty-six nurses completed individual computerised behavioural diaries measuring stress, effort, reward, and desire for control every 90 min over a single shift. The diaries were based on the Diary of Ambulatory Behavioural States (DABS) (Kamarck *et al.*, 1998). The nurses also completed a standard retrospective questionnaire evaluating Effort-Reward Imbalance (Siegrist, 1996). The results were analysed using multilevel modelling.

*Results* Repeated measures of ERI and stress covaried as predicted. While higher habitual ERI was related to increased stress at most levels of field ERI, this effect disappeared when ERI was very high on the field measures. Desire for more control, the field proxy for Siegrist's concept of overcommitment, also covaried with stress across a work period. This effect added to the ERI/stress relationship.

*Conclusions* An imbalance between effort and reward, assessed repeatedly by ambulatory diary is associated with increased emotional stress in trained nurses, as is the desire for more control of the work situation. Participants who describe themselves as usually experiencing an imbalance of effort and reward were more stressed in the field except in periods of high imbalance when the current situation appears to be the main determinant of stress. Ambulatory diaries are a powerful

and flexible way of assessing work-related stress and its possible determinants in real healthcare settings.

### **EXERCISE MAINTENANCE: WHAT DIFFERENTIATES PERSISTENT FROM LAPSED EXERCISERS?**

Jones, Fiona, Conner, Mark, Harris, Peter, Armitage, Christopher, Jackson J., Cath; UK

*Objectives* Models of health behaviour have been successful at identifying variables which predict the initiation of physical exercise. However, less research has looked at what differentiates those who succeed in maintaining physical exercise from those who lapse. The aim of the present study is to look at the predictors of both initiation and maintenance of exercise behaviour by tracking students.

*Methods* Students ( $n = 407$ ) completed questionnaires shortly after starting university. Measures included variables derived from the Theory of Planned Behaviour, measures of previous exercise behaviour, anticipated regret, exercise identity, risk/optimism and exercise motivation. They were followed up after 6 months and one year. On the basis of data collected across time, they were classified as consistent exercisers ( $n = 30$ ), consistent low/non-exercisers ( $n = 40$ ), exercise improvers (who increased over time,  $n = 30$ ) and lapsed ( $n = 25$ ).

*Results* Analyses indicate that while the TPB variables measured at time 1 differentiate between consistent exercisers and non-exercisers, there was little to differentiate those who exercised consistently from those who exercised at one time point but subsequently lapsed. However, those in the latter group did score significantly lower on a measure of moral norms and scored lower on a measure of exercise identity.

*Conclusion* TPB variables have been shown to be relevant to exercise initiation but other variables may be more relevant to maintenance. This study suggests a focus on variables relevant to building a strong identity as an exerciser that may be useful.

### **DISTRESSED PERSONALITY (TYPE D), COGNITIVE APPRAISAL AND COPING WITH STRESS**

Juczynski, Zygfryd, Oginska-Bulik, Nina; Poland

The study was designed to analyse the relationship between type D personality, cognitive appraisal and coping with stress.

*Objectives* The sample consists of 120 subjects of both gender, included 3 groups (40 cardiovascular, 40 cancer patients and 40 healthy subjects). The mean age was 53.6.

*Methods* The following techniques were used in the study: Type D-scale (Ogińska-Bulik and Juczynski), Cognitive Appraisal Questionnaire (Wrześniewski *et al.*) and the Coping Orientation to Problems Experienced (COPE – Carver *et al.*).

*Results* Frequency of occurrence of Type D was higher in clinical groups (the highest in cardiovascular patients) compared healthy subjects. The results, obtained from structural modeling, revealed that type D personality (which consists of two dimensions: negative affectivity and social inhibition) have direct impact on cognitive appraisal loaded with harm/loss, threat and challenge and also on coping with stress, negative on active and positive on passive strategies.

*Conclusions* Cognitive appraisal does not have direct impact on coping strategies.

## **COPING AND PHYSICAL FITNESS AFTER MYOCARDIAL INFARCTION**

Julkunen, Juhani, Saarinen, T., Sala, R., Idäänpään-Heikkilä, U.; Finland

This study investigates how coping styles relate to physical fitness during the first year after myocardial infarction (MI). Hypotheses were that optimistic coping style would predict to better functional capacity while a pessimistic coping style labeled as “Resignation” would predict to poor fitness during the follow-up. Subjects were 302 MI patients (82% men, aged under 60 years) who were followed-up for three and twelve months after MI. Coping styles were assessed at baseline, and at both follow-up points using the Coping with Illness scale. Physical fitness was measured with maximal, symptom limited exercise test. Complete data at twelve months were available for 210 (70%) subjects. Multiple hierarchical regression models were used to establish predictors of follow-up physical fitness.

*Results* showed that women displayed more pessimistic coping at baseline as well as at three months. Resignation at three months correlated significantly with the exercise test result at twelve months: for women  $r = -0.34$  ( $p = 0.016$ ), and for men  $r = -0.23$  ( $p = 0.001$ ). Resignation remained a significant predictor of fitness for men even after controlling for age, severity of MI, diabetes, and smoking status ( $\beta = -0.18$ ,  $p = 0.013$ ). Results support the hypothesised positive role of optimistic persistence in regaining good physical fitness after MI. It is concluded that support of realistic optimism is an important element in cardiac rehabilitation.

## **SENSE OF COHERENCE AND DISTRESS IN CANCER PATIENTS AND IN THEIR SPOUSES**

Julkunen, Juhani, Gustavsson-Lilius, M., Hietanen, P.; Finland

*Objectives* To investigate how sense of coherence (SOC) associated with symptoms of anxiety and depression in cancer patients and in their spouses. Hypotheses were that strong SOC predicts low levels of distress, and furthermore, that strong SOC of the partner predicts low levels of distress in spouse/patient, respectively.

*Methods* The subjects were 89 female and 67 male cancer patients with their partners. SOC and baseline distress were measured 2–3 months after diagnosis, and repeatedly six months later. SOC was measured with a 12-item version of the scale by Antonovsky. Anxiety was assessed with the state anxiety sub-scale from EMAS by Endler; depression was measured with a short form of Beck’s depression inventory. Multiple hierarchical regression models were used to establish predictors of follow-up distress.

*Results* Patients and spouses, or men and women, did not differ in mean levels of distress. In the role of spouse, however, women showed more anxiety and depression as compared to male spouses. Both SOC and measures of distress showed significant positive patient–spouse correlations. Regression analyses showed that SOC significantly predicted follow-up distress both in patients and spouses. In contrast to our hypothesis, only a person’s own SOC had a significant impact on distress.

*Conclusions* Results support Antonovsky’s salutogenetic theory of SOC, which seems to have a protective impact on development of distress both in cancer patients as well as in their spouses. Despite some significant patient-spouse zero-order correlations, we could not find

evidence of cross-over impact of partner characteristics on distress. In clinical practice, special attention should be given to wives of cancer patients because of their elevated levels of distress.

### **ADOLESCENT PREGNANCY IN PORTUGAL OVER THE YEARS 1946–2002: A CHANGING REALITY IN A CHANGING SOCIETY**

Justo, João; Portugal

*Aims* To study the evolution of adolescent pregnancy (AP) in Portugal during the years 1946–2002, in terms of its incidence as adolescent fertility (AF): (a) within national fertility (NF); (b) within the number of female teenagers; (c) among girls between 10 and 14 years of age (YA) and, (d) among girls between 15 and 19 YA.

*Methods* Data about pregnancy incidence were collected from National Institute for Statistics publications, for years between 1946 and 2002 on any facts related to pregnancy (live-births, dead foetuses, inside and out of wedlock). Data were organized by year and maternal age (all ages for NF; less than 20 YA for AF; between 10 and 14 YA for younger AF and, between 15 and 19 YA for older AF. Percentual incidences were calculated for (a)–(d).

*Results* The evolution of incidence (a) seems to parallel social evolution in Portugal between 1946 and 2002 (increasing slowly between 1946 and 1965; faster between 1965 and 1973; even faster between 1974 and 1977; stabilizing at high levels between 1978 and 1984, and decreasing steeply between 1985 and 2002).

The evolution of incidence (b) shows that reduction of AP begun as soon as 1977, and since 1991 returned to values similar to those of between 1946 and 1956. Incidence (c) is particularly different from (b) because, after 1980, when continuous reductions were expected, percentages tended to stabilize and start to rise again from 1995 until 2000. On the contrary, the evolution of incidence (d) is much similar to incidence (b).

*Conclusions* The evolution of AP in Portugal seems to be related to sociopolitical changes in the last decades. The evolution of pregnancy among younger teenagers seems to be different from that observed among older teenagers, demanding new public health policies to prevent the occurrence of precocious maternity.

### **BELIEFS ABOUT MEDICINE AMONG PHARMACY EMPLOYEES**

Jörgensen, Tove, Andersson, Karolina, Söderberg, Ann-Charlotte; Sweden

*Objectives* To explore beliefs about medicines among different categories of pharmacy employees in Sweden.

*Methods* The Beliefs about medicines questionnaire (BMQ) measures both general and specific beliefs. The first part comprise general statements about medicines and the other part consists of statements concerning medication prescribed for personal use. The statements in BMQ-General concerns perceptions of medications as being harmful (Harm), potential benefits of medication (Benefit) and if medications are being over-prescribed by doctors (Overuse).

The BMQ-General was distributed, together with some background questions, to approximately 300 employees at community pharmacies in Göteborg, Sweden. The response frequency was 99%.

The questions were analysed in the three subparts; Harm, Benefit and Overuse.

*Results* The majority of the respondents were women and more than half were aged 45 years or older. About 10% were pharmacists, 53% dispensing pharmacists, one third were pharmacy technicians and 4% others. More than half of the respondents had worked in a pharmacy for 20 years or more. Concerning present use of medications, 51% were using prescription drugs, 60% over-the-counter medication and 14% herbal medications.

The personnel who indicated 'other' profession regarded medications as more harmful compared to the three categories with pharmacy training. Those who had been working for more than 30 years in a pharmacy regarded medications as less harmful compared to those who had worked fewer years in a pharmacy.

Present users of prescription drugs regarded medications as less harmful compared to non-users of prescription drugs.

*Conclusions* Pharmacy employees have quite similar views on the potential harms and benefits of medication. These views may be different compared to those of the clients, which must be acknowledged in the strive for an appropriate drug therapy and patient adherence.

### **RELATIONSHIP BETWEEN FAMILY FUNCTIONING AND GENERAL HEALTH**

Kadivar, Parvin, Janani, Kataun; Iran

The present research was conducted to study the relationship between family functioning and general health. Using multiple sampling method 460 third grader (204 females and 202 males) were selected as the sample. The family functioning (Bloom, 1985) and General Health Questionnaire (GHQ) were used to measure the variables. Data were analyzed using multiple regression coefficient and Pearson correlation methods. Analysis of the data showed that in general there is a positive statistical significant relationship between family functioning and general health. Among the family functioning variables, there was a positive significant relationship between family cohesion and general health. There was also a positive significant relationship between family expressiveness and general health.

### **SLEEP DISTURBANCES AS PREDICTORS OF BACK DISORDERS LEADING TO HOSPITALIZATION: A 28-YEAR FOLLOW-UP OF INDUSTRIAL EMPLOYEES**

Kaila-Kangas, Leena, Kivimäki, Mika, Riihimäki, Hilikka, Luukkonen, Ritva, Kirjonen, Juhani, Leino-Arjas, Päivi; Finland

*Aim* To examine the relationship between sleep disturbances and back morbidity leading to hospital care.

*Methods* A cohort of metal industry employees ( $n = 902$ ) was studied for life style, work history and health in 1973 by questionnaire and interview. Sleep disorders were categorized as one type (occurrence at least sometimes of either difficulties in falling asleep or awakenings at night, or nightmares), both types, or none (never or seldom of either type of disorder). Information on hospital admissions for back disorders from the Finnish Hospital Discharge Register in 1973–2000 was linked to the survey data. Cox proportional hazards regression was used to estimate the time between the assessment of risk factors and the first hospital admission for back disorders during the follow-up (75 cases).

*Results* In a model including sleeping disorders at baseline and the potential confounders (demographic factors, other distress symptoms, history of strenuous physical work, shift work, lifestyle factors, back-related and other chronic diseases, back pain and other musculoskeletal pain and psychosocial factors at work), those who had experienced one type of sleep disorder had a 2.1 fold risk (95% CI 1.12–3.87) of back-related hospitalization. The subjects who had experienced both types of sleep disturbances had a 2.3 fold risk (1.10–4.70) compared with those who had not experienced these conditions.

*Conclusions* Sleep disturbances predicted hospitalization for a back disorder. The mechanism of the association warrants further study.

## WHAT IS MEANT BY EARLY PROGRAMMING OF ADULT HEALTH?

Kajantie, Eero; Finland

Traditionally, the etiology of adult cardiovascular disease is divided into genetic factors, present environment and, in particular with regard to psychological characteristics, circumstances during childhood. In most cases, however, such factors explain only a minor proportion of the disease risk.

During the recent decade, over 100 epidemiological studies in different populations have shown an association between low birthweight in subjects born at term and increased risk of adult cardiovascular disease. These epidemiological findings together with related experimental work have brought up the concept of programming – a process whereby a stimulus or insult, at a sensitive or ‘critical’ period of development, has lasting or lifelong significance. For health psychologists, the idea of early effects is obviously not new. The novelty lies within the recognition of long-term biologically measurable effects of defined pregnancy conditions, which range from frank medical disorders such as pre-eclampsia to relatively minor variations in maternal nutrition.

*Mechanisms of Programming* The mechanisms of programming are still poorly understood. Putative ones include lifelong alterations in organ size and function, the different key endocrine systems, and perhaps behaviour and personality. From the point of view of health psychology, the most consistent data available to date considers programming of hypothalamic–pituitary–adrenal axis (HPAA) which is a key candidate to mediate the link between small size at birth and adult cardiovascular disease. Intriguing novel findings relate to a broader context: there is emerging evidence suggesting that conditions during the fetal life may have a significant impact on an individual’s temperament and personality. The speakers of this session will enlighten different aspects of this emerging field of ‘joined-up’ science between medicine, biology and psychology.

## GENDER ISSUES IN SAFETY AND HEALTH AT WORK

Kauppinen, Kaisa, Kumpulainen, Riitta, Finland; Houtman, Irene, The Netherlands; Copsey, Sarah, Spain

*Objectives* The aim is to give an overview of gender differences in safety and health at work and how they arise, and provide information about what this means for prevention and how a gender-sensitive approach can be adopted.

*Methods* The methods consist of literature survey, meta-analysis and expert interviews. Two case studies are conducted on Finnish and Dutch national occupational safety and health journals to see how well gender issues are covered.



*Results* Because of strong occupational gender segregation in the EU labour market, there are significant gender differences in occupational safety and health exposures and outcomes. Men are more likely to report heart diseases, hearing problems as well as breathing and lung problems. Women are more likely to report stress and mental health problems, infectious diseases and skin problems. Women are more exposed to intimidation and sexual harassment at work.

*Conclusions* The report highlights the dual importance of considering gender in risk prevention and including occupational safety and health in gender equality employment activities. Cooperation between these two policy areas is crucial, from the European level, down to the workplace, to promote wellness at work for both women and men.

### **SELF-REPORTED HEALTH, SOCIO-ECONOMIC STATUS, AND INEQUALITIES IN HEALTH**

Kebza, Vladimír, Šolcová, Iva; Czech Republic

*Objectives* The data concerning socioeconomic inequalities in health, presented at the previous EHPS Conference in Lisbon, is compared results with the new results from the two-year follow-up survey.

*Methods* A representative sample of Czech adult population obtained by random quota sampling completed (by structured interview) data on self-reported health, income, and level of education in conjunction with Czech national statistical data on sick leave, unemployment, and income in respective districts of the Czech Republic.

*Results* The presented data demonstrates the relationship between all mentioned variables: self-reported health, educational level, income, sick leave, and unemployment. There is a strong association of subjectively perceived health status and education: respondents with a lower grade of education (elementary, apprenticeship) have an obvious tendency to evaluate their health status as poorer than respondents with a higher educational level (secondary, university). Income, unemployment, and sick leave varies in different districts of the Czech Republic: the poorer districts report a higher morbidity and higher unemployment rate. From the authors' point of view, the specific Czech kind of socioeconomic inequality in health is still the close relationship between the sick leave rate and income: the higher the income, the lower the sick leave rate. The similarities and differences between the 2001 and 2003 data will be demonstrated.

*Conclusions* The transformation of the Czech society, as well as of other societies of Central and East European countries, is associated with a lot of problems. One of the most important is the problem of socioeconomic inequalities in health and its psychological reflection. Self-reported health and actual health problems may also influence respondents' views and attitudes to inequalities in health. Both research and policy strategies in these countries, mostly the new EU members, have to be focused on closing this gap.

The study is supported by a grant No. 406/03/1168 of the Grant Agency of the Czech Republic.

### **SUFFERING FROM STRESS: LAY REPRESENTATIONS OF WORKPLACE STRESS AND ITS RELATIONSHIP WITH HEALTH**

Kinman, Gail; UK

*Objectives* This study examines lay representations of work stress and health.

*Method* Semi-structured interviews are conducted with 45 adults from a range of occupations. Data is subjected to thematic content analysis.

*Results* Lay representations of occupational stress encompass a wide range of personal, environmental, and societal factors. A different (and arguably more complex) range of definitions of stress and the ways in which it impacts on health was found than has been reported in previous studies. Particular emphasis was placed on socio-cultural determinants of work stress which contrasts with dominant individualistic and essentialist perspectives. Opinions of a causal link between work stress and illness were commonplace. Minor "psychosomatic" problems were more frequently highlighted, however, than more serious disorders. The relationship between stress and illness was not generally thought to be one of cause and effect: potential moderators of the stress-illness relationship were frequently mentioned. Interviewees perceived the causes of workplace stress to be predominantly organisational but, paradoxically, emphasised the efficacy of stress management techniques where the burden of responsibility is placed on the employee.

*Conclusions* 'Suffering from stress' has become a common euphemism for a multitude of demands experienced at work and a wide range of health symptoms. Lay representations of workplace stress are somewhat different from the ways in which stress is conceptualized and utilized by professional health care workers. Previous research suggests that lay theories of stress influence how individuals interpret symptoms, and they also strongly predict health behaviours. In order to gain further understanding of the relationship between work and well-being it is important to obtain insight into the lay person's implicit, informal and 'non-scientific' representations of stress as well as more explicit, formal and 'scientific' explanations.

#### **WORK-TO-FAMILY CONFLICT AND ITS RELATIONSHIP WITH WELL-BEING: A ONE-YEAR LONGITUDINAL STUDY**

Kinnunen, Ulla, Finland; Geurts, Sabine, The Netherlands; Mauno, Saija, Finland

The present study produces new knowledge about gender differences with respect to work-to-family conflict and its longitudinal relations with indicators of satisfaction and well-being. The study examined the longitudinal relations between work-to-family conflict and self-reported satisfaction and well-being in the domains of work (job satisfaction), family (marital satisfaction, parental distress) as well as overall (psychological and physical symptoms). Data were obtained from a random sample of Finnish men ( $n=208$ ) and women ( $n=218$ ) who were employed and had either a partner or/and children. A survey was conducted at two points in time, in 1999 (Time 1), and one year later, in 2000 (Time 2). The results revealed that, among women, work-to-family conflict perceived at Time 1 predicted significantly job dissatisfaction, parental distress as well as psychological symptoms at Time 2. However, among men, a low level of satisfaction or well-being at Time 1 (marital dissatisfaction, parental distress, psychological and physical symptoms) functioned as a precursor of work-to-family conflict perceived at Time 2. In addition, the experience of work-to-family conflict turned out to be relatively stable for both genders over the time period of one year. It is likely that work-to-family conflict will continue to affect employees, and should be a central focus for organizations.

#### **RESOURCE PATTERNS FOR RETURN TO WORK AFTER A PSYCHOLOGICAL ASSESSMENT**

Kivistö, Sirku, Kallio, Eila, Hukkanen, Sisko; Finland

The purpose of the study is to find typical resource patterns among the employees sent to the psychological assessment due to lowered ability to work. What kind of coping strategies do

those clients have who judge their situation not as a consequence of work-related factors, while about 40% of the clients in psychological assessment in the Finnish Institute of Occupational Health judge their problematic situation as heavily work-related.

The material consists of the collected interview data of 157 employees at work or on temporary sick leave. They were asked about how they see that first the job features and second the work climate is interacting in the worsening fitness to work. About one fifth of the clients judged that the job content did not cause health-related problems. Half of them told that the work community features did not harm them. What is their "secret" to maintain a fairly good balance of work and health?

In the poster presentation the typical patterns of the good situation in the return to work after the assessment despite the current health problems are described.

### **"I'LL HELP YOU COPE:" DYADIC COPING AND SOCIAL SUPPORT**

Knoll, Nina; Germany

Findings from research on prosocial behavior suggest that the similarity (e.g., in attitudes or outward appearance) between help provider and recipient is crucial in predicting the provision of help. This research tested the role of congruency of situational appraisals in predicting support provision among student dyads facing a potentially stressful situation. As alternative hypotheses, self-ratings and partner ratings of situational appraisals were also tested as predictors of support provision. Eighty-six medical students (paired in 43 dyads; 74.5% women) taking a written exam in medical psychology participated in the study. Self- and partner-rated appraisals were assessed at 4 days (t1), 2 days (t2), and 1 day (t3) prior to the exam. Provision of emotional and instrumental support was measured at t2 and t3. Data point to appraisal congruency as a more important predictor for the provision of support than partner ratings or self-ratings of situational appraisals alone. Student dyads sharing similar appraisals of the pre-exam situation were more likely to provide each other with instrumental or emotional support in preparation for the exam. Results extend evidence on the importance of similarities within a potential support dyad for the provision of support. Congruency on situation-dependent appraisals seems to make a difference concerning the offer of support in stressful times. These results also extend traditional conceptions of coping by focusing on dyads rather than the individual. Implications of the results for theoretical conceptions of coping are discussed.

### **APPLICATION AND TEST OF THE I-CHANGE MODEL**

Knops, Resie, de Vries, Hein, de Vries, Nanne; The Netherlands

The aim of this study is to analyze the determinants of (non-) attendance to the Dutch cervical cancer-screening program.

Attendees and nonattendees of the screening program in 2001 ( $n = 200$ ), aged 30–60 years, were selected from a larger sample of women residing in Limburg. Attendance was defined as receipt of a Pap smear in 2001. A computer-assisted telephonic survey based on the I-Change Model was used to collect data on determinants of (non) participation. Differences between attendees and nonattendees were analyzed.

Attendees estimated their chance of getting cervical cancer significantly higher than nonattendees. Nonattendees experienced significantly more affective disadvantages of screening. They were more insecure and afraid of smear taking, expected to experience more feelings of shame during smear taking, and were more insecure and anxious about the result. Attendees perceived significantly more positive social influence, had more role models, talked more often with others

about screening, and perceived a more positive norm. Taking the initiative to schedule an appointment was a barrier for nonattendees to participate in the screening program. Weighing pros and cons of screening leads more often to ambivalence in nonattendees than in attendees.

In order to motivate Dutch women to participate in the screening program they need to be convinced that the advantages of screening outweigh the disadvantages. Especially affective disadvantages need to be targeted. From the other proximal factors, perceived social norms need to be upgraded and the level of self-efficacy should be raised. In addition, awareness of the risk of cervical cancer and the potentials of screening need to be optimized and misconceptions minimized. To improve the I-Change Model, further research is recommended to explore the relationship between ego-depletion and self-efficacy and between ambivalence and intention.

### **DIFFERENCES BETWEEN HSES AND LSES WOMEN IN CERVICAL CANCER SCREENING: AN APPLICATION OF THE I-CHANGE MODEL**

Knops, Resie, de Vries, Hein; The Netherlands

The aim of this study is to analyze the differences in determinants of (non-) attendance between women of high and low socioeconomic status to the Dutch cervical cancer-screening program.

Attendees and nonattendees of the screening program in 2001 ( $n=200$ ), aged 30–60 years, were selected from a larger sample of women residing in Limburg. A computer-assisted telephonic survey based on the I-Change Model was used to collect data on determinants of (non) participation. Differences between women of high and low socioeconomic status were analyzed. High status (HSES) was defined as college/university graduate with private health insurance. Women covered by National Health Insurance and no more than lower vocational education were defined as low status (LSES).

HSES women knew significantly more about inclusion criteria for screening, potentials of screening and need for screening. No differences in risk perception were found. LSES-women experienced significantly more affective disadvantages of screening. They were more insecure of smear taking, expected to experience more feelings of shame and embarrassment during smear taking and were more insecure and anxious about the result. HSES-women felt more at ease in the doctor's office and experienced more personal attention when visiting for screening. HSES and LSES women did not differ on the other proximal factors of social influence and self-efficacy. Weighing pros and cons of screening lead only to ambivalence in LSES women. The latest smears were taken less time ago for HSES compared to LSES women.

In order to motivate LSES women to participate in the screening program they need to be convinced that the advantages of screening outweigh the disadvantages. Especially affective disadvantages need to be targeted. To facilitate this process misconceptions need to be minimized and knowledge of potentials of screening improved.

### **THE INVITATIONAL STANCE AND THE PERSONAL AND PROFESSIONAL HEALTH OF TEACHERS**

Kok, Jacobus, Van der Merwe, Martyn; South Africa

The personal and professional health of teachers in the RSA are under pressure due to work overload, low salaries, numerous changes, lack of training, parental demands, ineffective school management, lack of support and timely decisions by the Department of Education as well as student disciplinary problems. This situation impacts on their mental and physical health, their stress levels, the meanings they attach to their lives and on their vocational satisfaction.

Teachers who are trying to further their education by studying for an honours degree in education could opt for the course "Invitational Education". The invitational stance, in a nutshell, is based on the self-concept theory and the perceptual tradition. It assumes that everybody is valuable, able, responsible and unique and should be treated accordingly; that education is a cooperative process; that everybody has untapped potential; that everyone should be trained to treat him/herself personally and professionally invitingly; that every aspect of an organization could be inviting or disinviting: people, places, policies, programmes and procedures.

An empirical study employing quantitative and qualitative methodology rendered the positive impact the invitational stance has on the personal and professional well-being of the group of teachers who took this course in 2003. The poster will present the findings, conclusions as well as the benefits this stance could have for persons in other people-focussed professions.

### **EMOTIONAL DETERMINANTS OF PERSONALITY IN PATIENTS AFTER MYOCARDIAL INFARCTION**

Kowalska, Monika, Leszczynska, Kinga, Stepnowska, Monika, Tylka, Jan, Poland; Wojcicka, Mariola, Poland

Significant coefficients of psychical state proved to be: neuroticism and also intensity of

Aim of the study is an assessment of the connection between personality level of depression and quality of life in patients after myocardial infarction.

*Material and Methods* Our study consists of 32 patients after myocardial infarction, treated and rehabilitated in the National Institute of Cardiology, Warsaw.

*Methods* In the study used are:

EPQ-R – Eysenck

BDS – (Beck Depression Scale)

SF-36 – (Quality of Life Questionnaire)

*Results* There are only two significant statistical correlates in our study – the first one between the level of depression and neuroticism  $r=0.56$  ( $p=0.001$ ); the second one between the level of quality of life and depression  $r=0.37$  ( $p=0.05$ ).

*Conclusion* Subjective estimation (of quality of life in patients with CHD is considerably determined by psychical state degree of depressing symptoms.

### **A SMOKING CESSATION INTERVENTION BASED ON SELF-REGULATION THEORY AND WEB/MOBILE PHONE TECHNOLOGY**

Kraft, Pål; Norway

*Objective* Three months after a quit attempt, 80% of untreated smokers have relapsed back into daily smoking (Hughes *et al.*, 2004). Even among smokers who use different modes of treatment, a majority relapse within 3 months. Research seems to indicate that effective smoking cessation interventions have to combine an intensive behavioural intervention with the use of pharmaceutical treatment (e.g. NRT). Additionally, it seems appropriate to consider smoking cessation to be a self-regulation process, and hence an intervention programme should include active ingredients which may help prevent the well-known mechanisms of self-regulation failure. A smoking cessation intervention is constructed on these insights. The aim of the intervention is to assist motivated smokers in quitting. The programme is delivered by means of the use of

interactive and integrated modern technology, namely the web (Internet) and the mobile phone (sms/ivr). Thus the programme combined a psycho-educative approach with a self-regulatory one.

*Methods* One hundred and eleven quitters filled in a (web-based) pre-intervention questionnaire assessing amongst other variables smoking and quit history, FTND, pre-cessation self-efficacy, pros and cons of smoking, self-regulation skills, etc. Data were also collected throughout the quit attempt. Smoking/nonsmoking during the quit attempt was reported by means of the mobile phone (response to ivr) on a daily basis for 8 weeks, twice a week between week 8 and 10, and then weekly until week 12.

*Results* After 12 weeks 67% (point prevalence) of the quitters were still smoke-free (60% when all nonresponders were treated as smokers. Forty three percent of the quitters used NRT during the quit attempt. A high proportion of smokers had reported slips during the quit period, but were motivated (as part of the programme) to continue their quit attempt. Further results on the mechanisms of the programme and the predictive role of pre-intervention variables will be presented.

*Conclusion* An intensive smoking cessation programme based on the self-regulation theory and using modern interactive technology, seems to be a very promising methodology for smokers who try to quit smoking.

### **CHILDREN'S QUALITY OF LIFE: A NEW MEASURE AND FINDINGS IN CHILDREN WITH CANCER**

Kreitler, Michal, M., Kreitler, Shulamith; Israel

*Objectives* To present a new measure for assessing the quality of life in children and describe its application in a sample of children with cancer.

*Methods* The participants were a sample of 217 children with cancer. They were of both genders (108 boys, 109 girls), ranged 6–18 years of age ( $M = 14.93$ ,  $SD = 3.75$ ), were mostly born in Israel (76%) and included children of the major pediatric oncological diagnoses, in the major disease stages, partly on-treatment and partly off-treatment. They completed all the Children's Quality of Life questionnaire.

*Results* The different assessed domains form three scales: Emotional Distress, Coping with the Disease, Concern and Worry. The highest relative scores were in the domains of motivation, and positive feelings followed by body image, basic needs, and cognitive functioning. The lowest scores were in the domains of mastery and independence, pain, health worries, play, and stress. Quality of life was found to be higher for younger than for older children; for boys than for girls; and for Israeli-born than for immigrants. Further differences in quality of life were found for specific characteristics of treatments.

*Conclusions* The new Children's Quality of Life questionnaire is reliable and valid and enables accurate and insightful observations of children with cancer that may be helpful in designing adequate and target-specific interventions.

### **PSYCHOLOGICAL PREPARATION FOR SURGERY AND SURGERY ANXIETY AS PREDICTORS OF PERIOPERATIVE ADAPTATION**

Krohne, Heinz Walter; Germany

Surgery is a major stressor for any patient. This stress can adversely affect the course of anesthesia, surgery, and recovery. Psychological preparation, especially through information

or relaxation procedures, could prove to be an effective means of reducing this stress. However, research in this area is characterized by inconsistent results. These inconsistencies may be caused by a neglect of patient characteristics such as surgery-related anxiety. Therefore, the purpose of the study was to explore the role of surgery anxiety as a possible mediator of the influence of a specific preparation program (information *versus* relaxation–attentional diversion) on patients' perioperative status. Sixty patients undergoing nasal cavity or septum surgery were randomly assigned to an information or a relaxation-attentional diversion group. In addition to surgery-related anxiety, adaptation parameters such as perioperative state anxiety, actual coping, satisfaction with social support, physical recovery, postoperative pain, wound healing, or length of hospital stay were assessed. Results exhibited significant interactions of the content of psychological preparation and the level of surgery anxiety on different parameters of patients' adaptational status. These findings suggest that a psychological program preparing patients for surgery should be tailored to relevant patient characteristics such as surgery anxiety.

### **DIFFERENTIAL RESPONSES BY PSYCHOSOCIAL SUBGROUPS OF CHRONIC PAIN PATIENTS TO DOUBLE-STANDARDIZED INTERDISCIPLINARY REHABILITATION**

Kuusinen, Patrik; Finland

*Objectives* The aim is to investigate if patient's psychosocial profile is related to the outcome of double-standardized rehabilitation program.

*Methods* Three hundred and eighty-six consecutive chronic pain patients admitted to the double-standardized rehabilitation program were evaluated both at the prior and at the end of the program. The scores of Multidimensional Pain Inventory (Kerns *et al.*, 1985) were used in cluster analysis and it divided the subjects into four subgroups. Three groups described by Turk and Rudy (1988) (AC: adaptive copers, DYS: dysfunctionals, IP: interpersonally distressed) were identified, but simultaneously a fourth cluster emerged. "Socially isolated" group (SI) was showing low levels of pain, interference, and negative social interactions, but also low levels of perceived social support and positive interactions. Patients in both "functional restoration" and "working ability restoration" programs received informative education, relaxation training, physical exercising and physiotherapy. In the "working ability restoration program" patients also received an intervention aimed to improve their physical, psychological and social working environment. Self-reported change in pain severity, interference, activity, pain control, life control and depressive symptoms were used as outcome measures.

*Results* The results showed that patients benefited equally from both rehabilitation programs with a large effect size. There was, however, a statistically significant interaction between psychosocial profile and changes in outcome measures, the DYS group benefiting the most from the rehabilitation.

*Conclusions* ID group who reported levels of pain severity and life control problems comparable to DYS group failed to respond to the rehabilitation. This may require intervention components that address to the needs that are specific to this group (interpersonal skills at job and family environments). Also the results call attention to reconsider the AC and SI patients needs for standard interdisciplinary rehabilitation programs.

### **WHY DO PATIENTS GET RELIEVED OR REMAIN WORRIED DURING A PRIMARY CARE CONSULTATION?**

Laakso, Virpi, Niemi, Päivi, M.; Finland

*Objectives* One of the goals of a consultation with a GP is to reassure the patient whose complaint is not medically serious. Some patients do get relieved, but others remain worried.

The purpose of this study is to explore the patients' own reasoning behind their experience of relief or persistent worry.

*Methods* Sixty-two primary health care patients, aged 18–39 years, with somatic complaints were interviewed before and after a consultation with a GP. They evaluated their worry at both time points using a visual analogue scale. After the consultation they were also asked directly if they felt more, less or equally worried compared to how they had felt before the consultation. In addition, they were requested to give reasons for their evaluations in their own words.

*Results* The patients attributed their relief to having received a reassuring explanation of their complaint from the doctor, including reassurance that the complaint was not serious. Additionally, relief was sometimes evoked by the doctor's reassuring behaviour or confidence in the efficacy of the treatment prescribed. The patients whose worry persisted or increased said that they had not received new information about their complaint or felt increasingly uncertain about its nature or prognosis.

*Conclusions* Our results indicate that patients can be reassured by the medical knowledge given by the GP, but also by the GP's behaviour during the consultation. The latter observation is especially valuable in cases where the doctor is not able to give unambiguous information about the patient's condition, either because of lacking medical results or because of the nature of the complaint.

## **RELATIONSHIPS BETWEEN ATTACHMENT, PERCEPTIONS OF SUPPORT AND SUPPORT EFFICACY IN INDIVIDUALS WITH TYPE 2 DIABETES AND THEIR NONDIABETIC SPOUSES**

Lafontaine, Marie-France, Bélanger, Claude, Canada; Nouwen; Arie, UK; Sabourin Stéphane, Canada

This study investigated the relationships between four patterns of attachment (angry withdrawal, compulsive care giving, compulsive care seeking, and compulsive self-reliance), nondiabetic spouses' support to the patients concerning their self-care programme (positive and misguided reinforcement behaviours), and confidence in the ability of the nondiabetic spouses to help their diabetic spouses follow the dietary plan. Forty-six individuals with Type 2 diabetes and their nondiabetic spouses have been evaluated. Selection criteria included: (a) couples cohabiting for at least six months; (b) one of the spouses had been diagnosed with Type 2 diabetes for at least 3 years; and (c) no major changes in diabetes-related medication for the past 3 months. Both partners completed the Reciprocal Attachment Questionnaire for adults (West and Sheldon-Keller, 1994), the Multidimensional Diabetes Questionnaire (Talbot *et al.*, 1997) and the Perceptions of Spousal Support Efficacy Scale (Nouwen, 2000). For individuals with diabetes, results showed that the more they reported angry withdrawal, compulsive self-reliance and compulsive care seeking, the more they believed that their spouses used misguided reinforcement behaviours (nagging) regarding self-care activities. Moreover, patients' confidence in their spouses' ability to help them follow their dietary plan was associated with lower levels of angry withdrawal and compulsive self-reliance. For the nondiabetic spouses, it appears that the more they used misguided reinforcement behaviours regarding self-care activities, the more they reported compulsive self-reliance, but less compulsive care giving. These findings are discussed in terms of attachment theory. Implications for the development of self-care programmes involving spouses of individuals with diabetes are presented.



## **SOCIOECONOMIC INEQUALITIES IN MENTAL HEALTH AMONG EMPLOYEES**

Lahelma, Eero, Laaksonen, Mikko, Martikainen, Pekka, Rahkonen, Ossi, Sarlio-Lähteenkorva, Sirpa; Finland

*Objectives* Socioeconomic inequalities have been found to be universal for a broad range of physical and generic health indicators as well as mortality. However, for mental health inequalities the evidence remains largely inconsistent: some studies suggest similar hierarchical inequalities as for physical health, some weaker inequalities, and some even reverse inequalities. We therefore examine socioeconomic inequalities in mental health across multiple socioeconomic dimensions among women as well as men.

*Methods* In 2000, 2001 and 2002 employees of the City of Helsinki, reaching 40, 45, 50, 55 and 60 years, received a mailed questionnaire ( $n=8996$ , 80% women, response rate 68%). Socioeconomic status was measured by education, occupational social class and household income. Mental health was measured by the General Health Questionnaire 12-item version (GHQ-12), with three or more symptoms indicating poor mental health. Odds ratios and inequality indices were calculated from logistic regression analysis.

*Results* Among women inequalities varied by different socioeconomic indicators. Mental health was poorest among those with low income, and a weak gradient was found. In contrast, educational and occupational class inequalities suggest that female managers and professionals have the poorest mental health. However, the inequalities found among women tended to be small and did not necessarily reach statistical significance. Among men the inequalities were largely inconsistent or nonexistent.

*Conclusions* Our results suggest that inequalities in mental health are likely to be gender specific and differ for different socioeconomic indicators. While among women hierarchical inequalities by household income could be found, educational and occupational class inequalities were inconsistent. Gender differences in mental health inequalities are evident, with men showing largely nonexistent inequalities. Future research needs to examine the mutual pathways and interrelationships between different socioeconomic determinants of mental health among women and men.

## **FURTHER EVIDENCE ON THE GENE X ENVIRONMENT INTERACTION IN NOVELTY SEEKING**

Lahti, Jari, Rääkkönen, Katri, Ekelund, Jesper, Peltonen, Leena, Raitakari, Olli, Keltikangas-Järvinen, Liisa; Finland

*Objective* Recent meta-analyses have questioned the association between dopamine receptor D4 (DRD4) gene polymorphism and temperament trait of Novelty seeking (NS), and proposed an interaction between the polymorphism and other factors. We wanted to study whether childhood environmental characteristics moderated the association between DRD4 polymorphisms and NS.

*Methods* Population-based sample of children and adolescents ( $n=2149$ ) and their parents was examined in 1980 on socioeconomic circumstances and rearing practices. In 1997, subjects completed the Temperament and Character Inventory (TCI) for the Novelty seeking temperament trait, and a sub sample ( $n=150$ ) was genotyped for DRD4 exon III polymorphism. Moderating effect of childhood family SES and residential setting on the association between DRD4 gene polymorphism and NS was tested with logistic regression analyses.

*Results* In subjects with higher educated mothers, higher annual family income, and urban residential setting 17 years prior to the NS assessment, an association between the short (two- or five-repeat) alleles of the DRD4 gene and extreme high NS scores was observed. When the mother was less educated, the annual family income was below median, or the family lived in rural setting, the genotype was not associated with NS. Most of the associations remained significant after controlling for gender, age, and maternal child-rearing. Socioeconomic circumstances did not moderate the association between DRD4 seven-repeat allele and NS.

*Conclusions* These results provide further evidence on gene–environment interaction on temperament of NS and show that in addition to proximal processes (e.g. child-rearing), which have been shown earlier to moderate the DRD4 and NS association, environmental characteristics may partly explain the heterogeneity of findings concerning the association between DRD4 polymorphisms and NS.

### **WORKING CONDITIONS AND WEIGHT GAIN**

Lallukka, Tea, Laaksonen, Mikko, Lahelma, Eero, Martikainen, Pekka, Sarlio-Lähteenkorva, Sirpa; Finland

*Objectives* Previous studies linking working environment with weight gain are scarce. Therefore, we studied the effect of work-related factors on weight gain.

*Methods* Data using postal questionnaires (response rate 68%), sent to 40–60-year-old women ( $n = 4929$ ) and men ( $n = 1252$ ), employed by the City of Helsinki in 2000–2001, were analyzed. Self-reported weight gain during the previous 12 months was the outcome variable in logistic regression analyses. Independent variables included job demands and job control, work fatigue, physical and mental strain of work, and work–home interface. All the analyses were adjusted for age, education, socio-economic status, marital status, body mass index, previous weight loss attempts, and health behaviours.

*Results* One-fourth of women and 19% of men had gained weight. Among men, only working overtime was associated with weight gain. Among women, high demands, work fatigue, and working overtime were associated with weight gain, whereas high physical strain of work was inversely associated with weight gain. All these associations were independent of each other.

*Conclusions* A number of work-related factors were associated with weight gain. The associations were, however, rather weak. Working environment should be taken into account in health promotion, aiming at prevention of weight gain.

### **BASELINE PSYCHOSOCIAL FACTORS AND SURVIVAL IN MELANOMA AND BREAST CANCER PATIENTS**

Lehto-Järnstedt, Ulla-Sisko, Ojanen, Markku, Härkönen, Tommi, Kellokumpu-Lehtinen, Pirkko; Finland

*Aims* Psychosocial factors and stress have been claimed to influence cancer patients' quality of life and survival time. The effects of stress on health outcomes are believed to be due to coping, which is initiated by the disease and treatment variables, modified by social support and personality, and interfered with noncancer life stress. We investigate how psychological stress processes (social support, coping with cancer, certain personality factors, and noncancer

life stresses) and quality of life predict survival in melanoma and breast cancer during 10 years after diagnosis.

*Methods* Factors in the stress processes and quality of life were assessed in 171 consecutive melanoma and breast cancer patients with localized disease (participation rates 86 and 82%) with quantitative validated questionnaires (Structural-Functional Social Support Scale, Ways of Coping Questionnaire, Anger Expression Scale, Life Experience Survey, Chronic Strains Survey, Rotterdam Symptom Checklist, Depression Scale, and EORTC QLQ-BR23) 3–4 months after diagnosis. Their effects on survival time were investigated by statistical survival analysis techniques (Cox's model).

*Results* After adjusting for biological survival predictors, the more positive the score of life events were the longer the survival time (present follow-up time 6–9 years). In addition, shorter survival in melanoma was predicted by anger control and anger-in traits, while support from spouse and family and amount of psychological symptoms were protective factors. In breast cancer, higher education was a protective factor and the perceived impact of cancer diagnosis was a risk factor.

*Conclusions* The results will assist in developing comprehensive cancer care and identifying targets for psychosocial interventions.

## **SOCIAL REPRESENTATIONS OF ADOLESCENCE AND PSYCHOLOGICAL COSTS OF HELP-SEEKING**

Leone, Giovanna, Ritella, Angela, Schiavoni, Oriana; Italy

*Objectives* Our aim is to investigate how an adolescent school difficulty may be interpreted as a serious disease or a normal developmental challenge by a group of adolescents, compared with a group of parents. A further investigation aims to understand how adolescents and parents, depending on their different understanding of that adolescent difficulty, evaluate the psychological costs of the help-seeking behaviour linked to the problem.

*Methods* An ambiguous story on a school difficulty was written, with the help of linguists and psychiatrists, in order to make it possible to interpret it as the beginning of a serious disease, or as a normal developmental challenge. A group of 40 adolescents (20 = M; 20 = F) individually read the story, and remembered it twice, after 15 and 30 min, as in classic Bartlett (1932) methodology. After the second repetition, participants answered a brief questionnaire, regarding the perceived psychological costs of help-seeking behaviour of the adolescent described in the story, and their own opinion on which could be the more appropriate behaviour (ranging from not asking help from anyone, asking peers, asking parents or asking for a professional help of a psychologist). A similar procedure was applied to a group of 40 parents.

*Results* Parents' and adolescents' memory changes differed, leading to a second repetition in which the gist of the story was interpreted as more serious by parents. The questionnaire on help-seeking showed more difficulties in asking for a help for male participants. Parents judged the one referred to parents and family as the more appropriate help-seeking, female adolescents the one referred to peers and friends, male adolescents the asking to nobody or to a psychologist.

*Conclusions* Results suggest some interesting implications, referred to possible misunderstandings between adolescents and parents. Results suggest furthermore that women, starting from teenage, may rely on more effective social coping strategies linked to help-seeking behaviour.

## EVALUATION OF ANXIETY AND HOSTILITY LEVELS IN PATIENTS AFTER CORONARY ARTERY BYPASS GRAFT (CABG)

Leszczynska, Kinga, Stepnowska, Monika, Kowalska, Monika, Tylka, Jan, Wojcicka, Mariola; Poland

*Aim of the study* An attempt to evaluate levels of anxiety, hostility and inquisitiveness with patients after CABG, characterized by the Type A behaviour, in the early phase of cardiac rehabilitation and six months after.

*Materials* 78 males (aged 31–63;  $x = 50.8$ ) – 39 characterized by Type A behaviour (Group A); 39 – by Type B (Group B).

### *Methods*

1. JAS – Jenkins and co-authors – to estimate Type A.
2. TPI – Spielberger – the level of hostility and inquisitiveness. The patients were examined twice, during the hospitalization and six months after CABG.

*Results* At the beginning: no significant differences in anxiety level between groups, everybody had high anxiety level. However patients in Group A had higher hostility than Group B. Within patients showing the Type B there was a higher level of inquisitiveness.

Six months after: major decrease of anxiety level observed in Group B. There was a slight decrease among patients in Group A as far as anxiety level is concerned, the hostility stayed on the same level. In both groups the inquisitiveness raised significantly.

### *Conclusions*

1. Among all patients (irrespective of the behaviour type), bypass causes high level of anxiety.
2. In stress situation (CABG), patients with Type A behaviour show higher hostility – for Group B inquisitiveness level increase is typical.
3. Rehabilitation can significantly lower the anxiety level in Group B .
4. It is recommended that there is an independent rehabilitation program introduced (concerning psychological issues) for patients with Type A behaviour.

## A QUALITATIVE EXPLORATION OF PROVISION OF MULTICULTURAL GENETIC SERVICES

Lewis, Linwood, J.; USA

*Objectives* To understand how genetic counselors and MD clinical geneticists have been trained to conduct multicultural genetic counseling; to document the experience from the perspective of the genetic health care provider.

*Methods* Semi-structured qualitative interviews with 20 genetic counselors and clinical geneticists in the US and Canada.

*Results* Preliminary results indicate that there are differences in types of training experienced by genetic counselors and clinical geneticists. These differences seem to be related to comfort in provision of genetic services. Both genetic counselors and clinical geneticists believe that change is necessary in training future providers of genetic services. Suggestions about training will be advanced in the poster presentation.

*Conclusions* More research is necessary to understand how genetic service provision is experienced by clients and counselors. This information has implications for training of culturally competent and sensitive genetic counselors and clinical geneticists.

### **ARE DIFFERENT PSYCHOLOGICAL VARIABLES RELATED TO PARTICULAR MEASURES OF QUALITY OF LIFE (QOL) IN HEAD AND NECK CANCER (HNC) PATIENTS?**

Llewellyn, Carrie, McGurk, Mark, Weinman, John; UK

*Objectives* To assess whether baseline psychological variables are predictive of pre-treatment QoL in patients with HNC, using three different measures: two standardised measures of health-related QoL (HR-QoL) and a patient-centred assessment of QoL.

*Sample* Fifty-five newly diagnosed patients with HNC were recruited. QoL measures: the SF-12v2 (standard), the EORTC QLQ-C30 and the Patient Generated Index (PGI). Predictor variables: IPQ-R, HADS, BMQ – specific (adapted), short form COPE and LOT-R. Multiple regression analyses were conducted.

*Results* The PGI was highly correlated with EORTC QLQ-C30 subscales; Global QoL, Emotional Functioning and Cognitive Functioning and SF-12v2; Mental Health, Role Emotional, Role Physical and Social Functioning subscales. Thirty percent of the variance in PGI scores was due to Illness Identity (IPQ-R), Acceptance (COPE) and Use of Instrumental Support (COPE). Depression was the most significant predictor for most HR-QoL subscales, particularly those measuring physical functioning and pain. However, a large proportion of the variance in Global QoL (measured by the EORTC QLQ-C30) was accounted for by depression and treatment concerns (BMQ) (adj.  $R^2=0.43$ ). Different illness beliefs and coping also explained a large proportion of variance in each SF-12v2 subscales, in particular; General Health (IPQ Timeline and Self-Blame (COPE) adj.  $R^2=0.3$ ), Vitality (IPQ Timeline and Timeline cyclical, adj.  $R^2=0.35$ ), Role Emotional (depression and Substance Use (COPE) adj.  $R^2=0.43$ ) and Mental Health (Anxiety and IPQ Illness Identity, adj.  $R^2=0.49$ ).

*Conclusions* Many different QoL measures are used in both clinical practice and research to guide treatment decisions and assess patient outcomes. This study indicates that different measures are predicted by different underlying beliefs.

In order to guide the development of interventions based on predictors of QoL, the most appropriate outcome measure(s) should be used according to the facets of QoL of interest. In clinical practice, standardised measures tend to be employed, however, there may be scope to also include more patient-centred approaches in QoL assessment.

### **DIFFERENTIATING MEN AND WOMEN BY PHYSICAL ACTIVITY STAGE OF CHANGE: THE ROLE OF PSYCHOSOCIAL VARIABLES**

Lorentzen, Catherine, Ommundsen, Yngvar; Norway

*Objectives* To understand physical activity behaviour, and to facilitate development of effective interventions to promote physical activity, it is important to assess factors and processes believed to mediate changes in physical activity participation. The main purpose of this study is to examine differences in men and women in the relationship between selected psychosocial variables and physical activity stages of change.

*Methods* Data for this cross-sectional study were collected as part of an intervention study aimed at promoting physical activity in a community sample. One thousand and seventy-three men and 1387 women aged 31–67 (mean age 48.7 and 47.5 years, respectively) completed a self-administered questionnaire that assessed stages of change in physical activity and the following possible psychosocial correlates of physical activity; social support, self-efficacy, attitude, perceived behavioural control, and identity.

*Results* Multivariate analyses of variance (MANOVA) revealed a significant main effect for stage in both men (Wilk's lambda = 0.46,  $F(32, 2738) = 20.33$ ,  $p < 0.001$ ) and women (Wilk's  $\lambda = 0.50$ ,  $F(32, 3476) = 22.80$ ,  $p < 0.001$ ). Follow-up univariate ANOVAs showed significant differences across stages for all variables in both genders ( $p < 0.001$ ). Tukey's post hoc tests showed that for both men and women those in the precontemplation stage scored significantly lower on all psychosocial variables than those in all other stages. Further, both men and women in the maintenance stage scored higher on all variables than those in the first three stages.

*Conclusions* Among men and women a similar strong set of psychosocial variables differentiated across stages of change in physical activity. Results suggest that intervention strategies to promote physical activity based on these psychosocial variables may be equally beneficial for men and women.

### **EFFECTS OF THREE KINDS OF SOCIAL-COGNITIVE INTERVENTIONS ON BEHAVIOR CHANGE AMONG OVERWEIGHT PATIENTS**

Luszczynska, Aleksandra; Poland

The study investigates the effects of three individually tailored interventions enhancing (1) maintenance self-efficacy, (2) maintenance self-efficacy and planning, (3) maintenance self-efficacy and social support seeking. The tailored interventions were expected to influence social cognitions and nutrition behavior. Respondents ( $N = 233$ ) were obese and overweight individuals (BMI from 24.02 to 30.66), aged 18–66. All participants intended to reduce their weight. Two months after Wave 1 data collection the interventions were applied. Wave 2 data were collected 8 months after Wave 1. All intervention groups differed in respective cognitions, measured at T2 (i.e., the highest levels of social support seeking was found among individuals who participated in the intervention group enhancing self-efficacy and social support seeking). Regarding effects on meat consumption and fat snacks consumption, all intervention groups differed significantly from the control group at T2; no differences between the intervention groups were found. One of the interventions (enhancing self-efficacy) led to an increase of fruit and vegetables consumption at T2. All individually tailored interventions had similar effects on nutrition behavior. Combined interventions were not more effective than an intervention aiming at self-efficacy change.

### **AN EXPLORATORY STUDY INVESTIGATING NEW WAYS OF INCREASING THE NUMBERS OF YOUNG MEN WITH DEPRESSION WHO ACCESS PRIMARY CARE SERVICES**

Luzon, Olga, Pilling, Stephen, Leibowitz, Judy, Cape, John, Tylee, Andre; UK

*Background* It is often the case that young men forgo professional help when feeling under severe distress or depressed. These patients do not often approach their GP for support and treatment for emotional problems (Dubow *et al.*, 1990; Garland and Zigler, 1994). It is important to

investigate in more detail what prevents young men from seeking help and how can we facilitate their access to services in order to respond to this service gap (Stefl and Prosperi, 1985; Kushner and Sher, 1991).

*Aims* This study aims at investigating the effectiveness of targeted strategies within a general practice to increase the number of young men with depression who access primary care services.

*Methods* Flyers specifically developed and tested with young men to ensure they are appealing to the targeted group, will be sent out to patients aged 16–35 years registered with two GP practices in London. Patients are invited to contact a telephone number at the practice to access help.

General practitioners will be encouraged to refer males aged 16–35 years with a new diagnosis of depression. Practice computer records will also be interrogated regularly to identify patients having a current diagnosis of depression and no treatment in the preceding four months.

*Results* Initial baseline data on demographics, symptom severity, social functioning, and quality of life is presented. Measure of the number of young men with depression identified after flyer sent out is compared with the baseline measure identified by the practice over the preceding three months. Some preliminary data from semi-structured interviews with a purposive sample of young men is presented.

*Conclusions* Research into young men's perceptions of help-seeking behaviours and how appropriate they feel GPs are as a source of help for depression has important implications for designing interventions in primary care.

## **CARING AT HOME AND AT WORK: IS WORK ALWAYS “GOOD MEDICINE” FOR WOMEN?**

Lyonette, Clare, Yardley, Lucy; UK

*Objectives* Previous research has claimed that work is “good medicine” for women, providing social support and reducing the effects of stress in the domestic sphere. However, many women are currently providing informal care for an older person while also going out to work. The study reported here examines the mental health of women caring for an older person at home and working in caring occupations, compared with noncarers involved in similar caring occupations, to see whether the combination of caring in both roles leads to greater mental health problems than caring in only one role. Follow-up analysis was used to examine changes in mental health over time.

*Method* Questionnaire packs were sent to a matched group of 174 working carers and 174 working noncarers. Measures of care-related, work-related and other factors were included, as well as measures of mental health and positive affect.

*Results* At both Time 1 and Time 2, carers in all occupations were significantly more likely to be suffering from mental health problems than noncarers (Time 1:  $\chi = 4.505$ ;  $df = 1$ ;  $p < 0.05$ ; Time 2:  $\chi = 15.515$ ;  $df = 1$ ;  $p < 0.001$ ). In examining nurses only, carers again recorded significantly worse mental health than noncarers (Time 1:  $\chi = 4.749$ ;  $df = 1$ ;  $p = 0.029$ ; Time 2:  $\chi = 9.242$ ;  $df = 1$ ;  $p < 0.005$ ). Although carers reported a greater within-subjects increase than noncarers in mental health problems over time, this increase was not statistically significant.

*Conclusions* Working carers reported worse mental health than working noncarers in all occupations, and nursing carers also reported worse mental health than nursing non-carers. These results are discussed in the context of multiple role theory.

### **IS SELF-REGULATION RESEARCH MORE PROMISING THAN COPING RESEARCH?**

Maes, Stan, The Netherlands; Johnston, Marie, Scotland; Greenglass, Esther, Canada; Oldenburg, Brian, Australia

Has coping research any future? The problem with the stress-coping paradigm is its underlying assumption that individuals cope in a reactive way with disease-related events. By focussing exclusively on the way the stressor shapes coping behaviour, these models overlook the effects of the individual's life goals on the meaning and representation of a health problem and the selection of action plans. In addition, despite enormous research efforts, the coping paradigm looks less promising today than 35 years ago. What is most puzzling in this respect is that intervention studies repeatedly showed that a change in coping behaviour is not related to relevant outcome measures such as health status or disease management. One of the reasons for this may be that the coping paradigm does not adequately reflect the process of goal pursuit as described by self-regulation models (characterized by goal selection/representation, goal level setting, goal monitoring, planning, progress evaluation, problem solving and emotion- and action modulation). But are coping and self-regulation models really different? A new paradigm may consider self-regulation as a key component defining coping. Do they refer to different psychological processes? Should new coping measures be developed? Which self-regulation measures would be superior to coping measures and why? How would a self-regulation approach differ from a coping approach in terms of interventions? These and other questions will be discussed by a panel of experts from different parts of the world, including Marie Johnston (Scotland), Esther Greenglass (Canada), Brian Oldenburg (Australia) and Stan Maes (The Netherlands). We also hope the audience will participate actively in the discussion.

### **STRESS AS A SOURCE OF PERSONAL WELL-BEING: A SALUTOGENIC PERSPECTIVE**

Magrin, Maria Elena, Scignaro, Marta, Viganò, Veronica; Italy

*Aims* The paper presents a model of psychological intervention realized within a broader program of cardiac rehabilitation. The aim of the intervention is to help subjects to develop a salutogenic style of coping with stressors in everyday life.

The illness is seen as a "turning point" as McAdams (1996) defines it, and we work on this issue to help subjects find a meaning dimension into illness and into future daily life events.

*Methods* The methods of intervention has been conceptualized taking inspiration from two different, but related, models: the Self-empowerment Model, as it is defined by Brusaglioni and Gheno (2000) and the Narrative Approach, according to McAdams' Model (1996, 2001).

*Results* First of all this work describes the operative model and instruments of intervention realized, and second the results of intervention are presented.

*Conclusions* The results enable us to discuss about the validity of the theoretical approach and its related operative instruments into a salutogenic perspective (Antonovsky, 1984).

### **QUESTIONNAIRE SCALES FOR COMPONENTS OF ATTITUDE TOWARDS PHYSICAL ACTIVITY**

Marttila, Jukka, Nupponen, Ritva; Finland

*Aims* The affective and cognitive aspects of attitude based on the classical multi-component model were operationalised and empirically tested.



*Methods* Following the principle of compatibility, scales were developed to measure affective and cognitive (outcome-expectations) aspects of attitude towards two specific modes of physical activity, Outdoor Aerobic Exercise (OAE) and Everyday Commuting Activity (ECA). The items were selected on the basis of a pilot study and the scales were tested in a population study ( $N=1516$ ). Item analyses were carried out to refine the scales. Principal component analyses and factor analyses were used to establish the dimensional structure of the scales. The principal component analyses of the pooled attitude items suggested affective and cognitive components for both OAE and ECA. Further, for both OAE and ECA, two components were extracted from the affective items with a clear emphasis on the first component. Therefore, principal axis analyses were performed and the summed factor scores of the first axis were used as the scale scores. For both OAE and ECA, the item correlations and the dimensionality analyses of both the outcome-expectation items and the pooled attitude items suggested separate positive and negative scales. The corresponding scale scores were calculated by summing the item responses. Sufficient internal cohesion was observed for the two affective and the two positive outcome-expectation scales.

*Results* The purported scale properties were met in the case of the affective scales and the positive outcome-expectation scales. The intercorrelations of these scales are within the expected range (0.60 for OAE, 0.55 for ECA). The negative expectation scales need to be reconstructed.

*Conclusions* The affective and the cognitive aspects of attitude were successfully identified in the empirical study.

## **SOCIAL SUPPORT AND PHASE-SPECIFIC SELF-EFFICACY IN MAINTENANCE OF REGULAR RUNNING**

Mazurkiewicz, Magdalena, Luszczynska, Aleksandra; Poland

The process of changing health behaviors, such as physical activity consists of an initiation of health behavior, maintenance of it and recovery after lapses (Schwarzer, 2001). Various studies provide information of factors that facilitate initiation of physical activity, while the HAPA model suggests that problems with maintenance of health behaviors might result from self-regulatory (i.e. self-efficacy) and external (i.e. social support) deficits.

The role of social-cognitive variables, such as phase-specific self-efficacy and social support were analysed in the context of maintenance of regular physical activity. Over 400 of runners (77% men) aged from 19 to 35 participated in the study.

The design of the study was longitudinal with 5 weeks gap between Wave 1 and Wave 2. After first measure the sample was randomly assigned into the experimental or control groups. Participants from the experimental group received an intervention regarding social support seeking; they were asked to fill in the form and return by e-mail.

Social support was measured by means of Polish version of Berlin Social Support Scale. Self-regulatory skills were measured with modified Maintenance Self-Efficacy Scale and Recovery Self-Efficacy Scale.

Data analyses revealed that maintenance self-efficacy and recovery self-efficacy are strong predictors of maintenance of regular running, higher frequency of that behavior and fewer lapses. Results also showed that manipulation of social support had significant influence on physical activity but only in the experimental group that had had sent the information back.

The results show the influential role of self-regulatory strategies and social support in post-intentional processes.

## PSYCHOSOCIAL ADJUSTMENT FOLLOWING AN MI IN PORTUGUESE AND SCOTTISH PATIENTS: GENDER, AGE AND CULTURE

McIntyre, Teresa, Portugal; Johnston, Marie, Scotland; Soares, Vera, Portugal; Trovisqueira, Ana, Portugal; Pereira, Maria da Graça, Portugal

*Aims* This paper reports on a study which aims at comparing differential patterns of psychosocial outcomes of women and men following myocardial infarction (MI) in Portugal and Scotland with the goal of identifying differential aspects in the provision of cardiac rehabilitation services. The focus of this report is to examine the role of gender, age and culture (Portugal *versus* Scotland) in the psychosocial adjustment of Portuguese and Scottish MI patients (anxiety, depression and functional status).

*Method* The subjects were 111 Portuguese (Male: 64; Female: 47) and 219 Scottish (Male: 159; Female: 60) inpatients in cardiology units of central hospitals. Evaluations were conducted at three moments post-MI: discharge, 2 weeks, and 3 months after discharge. The instruments used were: The Sickness Impact Profile; the Hospital Anxiety and Depression Scale, and a sociodemographic and clinical form constructed for this study.

*Results* The results show that anxiety and depression post-MI were higher for Portuguese women than for Scottish women, and depression post-MI was also higher for Portuguese men than for their Scottish cohorts. At 3 months, anxiety tended to decrease but did not reach Scottish levels. The Portuguese patients also had more unfavourable outcomes in terms of the SIP categories of locomotion, mobility, recreation, emotions and alertness, especially at 2 weeks post-discharge. There was also an age effect for depression among Portuguese patients: younger patients (40–60 years old) experienced higher depression at 2 weeks and those over 60 were more depressed at discharge. Country  $\times$  Age effects were found for SIP functional adaptation. All analyses controlled for residence (urban–rural), professional status, prior MI, family history and severity of MI.

*Conclusions* The results are interpreted in terms of health care delivery differences in the two countries as well as differences in the impact of gender and sociocultural representations of MI in cardiac rehabilitation.

## SUPPORTING SUCCESSFUL AGEING IN RESIDENTIAL HOMES – THE ROLE OF THE PHYSICAL ENVIRONMENT

McKee, Kevin, Parker, C., Barnes, S., Morgan, K., Tregenza, P., Torrington, J.; UK

*Objectives* Older people living in care homes may depend on the environment to compensate for their physical or cognitive frailties. Guidelines on the design of care buildings have accumulated over time with little knowledge of their impact on the quality of life (QoL) of building users. The Design in Caring Environments Study (DICE) sought to determine relationships between care home design features and resident QoL.

*Methods* Cross-sectional data on building design and resident QoL was collected in 38 care homes. QoL was assessed in a number of domains, including activity level and observed well-being, observed positive and negative affect, dependency, enjoyment of activities, and environmental choice and control. The physical environment was measured on eleven user-related domains using a new tool, the Sheffield Care Environment Assessment Matrix (SCEAM).

*Findings* Provision in the building design for choice and control was associated with observed well-being. The extent to which the building was connected to the wider community was associated with the observed level of activity among residents. Support provided by the building

for residents with physical frailties was related to residents' ability to control their immediate environment. Support for cognitive frailties, such as sensory stimulation and ease of wayfinding, was associated with outward signs of positive emotion. There was evidence that a focus on safety and health requirements could be creating risk-averse environments that act against QoL, particularly among the least frail residents.

*Conclusions* Our findings offer support for Lawton's (1982) environmental docility hypothesis, and suggest that improvements in single architectural features of care homes can produce improvements in resident well-being. However, if more global change in resident QoL is the desired outcome, this will only arise as a result of attention to several aspects of home design.

### **PREVENTION IN LIMBURG: HOW ARE THE GENERAL PRACTITIONERS DOING?**

Meganck, Jeroen, Vinck, Jan; Belgium

*Introduction* In Flemish health prevention policy a strong emphasis is put on the role of the general practitioner (GP). This study intended to identify relationships between the importance GPs in Limburg attach to and the time they invest in prevention, and demographic variables and practice characteristics.

*Methods* A questionnaire was created in collaboration with GPs from the local governmental organisation for health promotion (LOGO). With it data was collected on demographic and practice characteristics, and on GPs' actions with regard to five areas of prevention: eating habits, breast cancer, smoking, personal safety, and vaccination.

All GPs in Limburg were contacted at meetings of their local professional organisations and asked to fill out the questionnaire and return it at the end of the meeting.

*Results* Results indicate that most GPs do find prevention important although this is not always reflected in the time they spend on it. The importance attached to prevention is higher for GPs working in a group practice and for GPs using a computer dossier. In turn, time spent on prevention is higher for females and for younger GPs. The social-economical hierarchy of the location of the practice influences both time and importance.

*Conclusions* The information gathered with this study is used in collaboration with the LOGO to devise strategies on how to enhance the time GPs spend on evidence-based prevention.

### **SUBSTANCE USE AND PERSONALITY IN ADOLESCENTS: DATA FROM FOLLOW-UP STUDY**

Merenäkk, Liis, Harro, Maarike, Laidra, Kaia, Allik, Jüri, Harro, Jaanus; Estonia

*Objectives* This longitudinal study examined the relationship between substance use and personality in 386 adolescents at age 15 and 18 years.

*Methods* Adolescents filled questionnaire about their alcohol and illicit drug use and Five Factor Model of personality descriptions (neuroticism, extraversion, openness, agreeableness, conscientiousness) were gathered from questionnaires filled in by adolescents' mothers. Logistic regression analysis was performed to evaluate the associations between substance use and personality. Drinking habits as a dependent variable were tripartiate to (1) less than every month, (2) monthly drinkers and (3) weekly drinkers and illicit drug use as a dependent variable dichotomised (1) had not tried and (2) had tried.

*Results* Strong relationship was found between alcohol and illicit drug use. Lower conscientiousness and higher extraversion were associated with drinking both at age 15 and 18. At age 15 monthly drinkers had also higher scores of openness compared to less than monthly drinkers. Monthly drinking at age 18 (compared to less than monthly users) significantly associated with higher extraversion and neuroticism at age 15 and weekly alcohol use at age 18 (compared to less than monthly users) associated with higher neuroticism and lower conscientiousness at age 15.

Illicit drug trying at age 15 was borderline significantly associated with higher openness. Illicit drug trying at age 18 was associated with higher neuroticism, lower agreeableness and lower conscientiousness at age 18 and in another model with lower conscientiousness at age 15.

*Conclusions* Substance use in adolescence is associated with personality traits both cross-sectionally and longitudinally, although weakly. The most characteristic to illicit drug trying and weekly alcohol using is lower conscientiousness.

### **SYMPTOM REPORTING: PERSONALITY AND SITUATIONAL PREDICTORS IN FAMILIES WITH ADOLESCENTS**

Michel, Gisela; USA

*Objectives* The current study explored the levels of variation in symptom reporting and how neuroticism and time of the day (daily pattern) influence symptom reporting in families with adolescent children.

*Method* One-hundred and seventy-three families with two parents and at least one child older than 13 years used a computer-assisted self-observation procedure six times per day for seven consecutive days. After an acoustic signal, they answered a questionnaire including a question about their current complaints and pains. Using multilevel analysis, we first assessed the levels of variation in symptom reporting and then analyzed the influence of neuroticism and time of day.

*Results* The major part of variation was on the person, the day and the situation-level. No significant variation was found on the family level. Knowing about this, the influence of neuroticism on the daily pattern of symptom reporting was analyzed. Results show a curvilinear pattern for individuals average in neuroticism, but a constant and increased reporting of symptoms throughout the day for individuals high in neuroticism. Individuals differing in neuroticism are not significantly different in their average level of symptom reporting.

*Conclusion* After more than 20 years of research in symptom reporting, the analysis of the levels of variation justifies post-hoc the use of person and situational predictors to explain symptom reporting. In contrast to retrospective reports, individuals high in neuroticism do not report more symptoms but differ in the daily pattern. Future studies should control for the time of day when symptoms are reported.

### **IMPROVING HEALTH CARE DELIVERY: MAKING PSYCHOLOGICAL THEORY USEFUL**

Michie, Susan, Johnston, Marie; UK

*Background* Health professional behaviour is key to delivering high quality health care. An important aspect of this is the extent to which health professionals implement evidence-based

clinical guidelines. Despite over 250 studies aimed at changing professional practice to improve quality of care, these have not produced a coherent set of findings nor principles to draw on in developing effective interventions. A potentially fruitful approach is to consider the extent to which psychological theory may inform the understanding of professional behaviour, and the development of interventions to change it.

*Objectives* To identify a set of key theoretical constructs for multidisciplinary use in

- (a) studying the implementation of evidence-based practice and
- (b) developing strategies for effective implementation.

*Theory Development* Eighteen health psychologists and 13 implementation researchers met on four separate days and conducted six phases of work: generating explanatory constructs, simplifying into domains, evaluating their importance, interdisciplinary evaluation, validating the framework, generating diagnostic questions.

Eleven key constructs were identified: knowledge, skills, professional role, beliefs about capabilities, beliefs about consequences, motivation and goals, memory, attention and decision processes, environmental context and resources, social influences, emotion and action plans.

*Theory Application* This set of questions has been developed into a diagnostic tool for use in research and intervention development. Its use in relation to the implementation of national UK guidelines for schizophrenia will be described.

*Conclusions* This work demonstrates interdisciplinary agreement about key constructs for use in implementation research and the successful development and application of a theoretically based diagnostic tool.

## **PERSONALITY, WORK STRESS, AND WORK-FAMILY CONFLICT: WHO'S HEALTH IS AT RISK?**

Michielsen, Helen, Voskamp, Manon; The Netherlands

*Objectives* Because there is no general agreement on a work-family conflict (WFC)-model, in which relationships with important constructs as personality, work stress, and health are described, the aim of this study was twofold: first we wanted to examine whether work stress influences WFC/family-work conflict (FWC) or vice versa and second, to evaluate the predictive value of demographics, personality, work stress, and WFC-FWC on health and fatigue.

*Methods* In this cross-sectional study, 128 hospital employees of all layers in the organization (52% females) completed questionnaires concerning the Big Five personality factors (FFPI), work stress scales (work pressure, mental burden, independence), WFC-FWC, fatigue (FAS), and general health.

*Results* Following Baron and Kenney's suggestions of mediator analyses, it appeared that we could only find one work stress mediator, work pressure, in the relationship between emotional stability and WFC. WFC was not a mediator in the personality-work stress relationship: WFC does not influence work stress. In addition, FWC only correlated with work pressure and not with any of the personality scales. Therefore, no mediation analyses could be performed concerning FWC. The hierarchical regression analyses to answer the second research question revealed that emotional stability and work pressure predicted both fatigue and general health, explaining 40 and 27% of the variance, respectively. WFC was not a significant predictor in these analyses.

*Conclusions* Work stress predicts WFC and not vice versa. The findings in the present study suggest that, in particular, the health of individuals who are neurotic and report a high level of work pressure are at risk. These constructs should be included in future studies.

## ANXIETY AND DEPRESSION IN CARDIAC REHABILITATION: GENDER DIFFERENCES

Miglioretti, Massimo, Nasorri, Carola, Conti, Massimo; Italy

*Objective* Evaluate anxiety and depression differences in male and female patients during the period of cardiac rehabilitation.

*Methods* 110 (55 M, 55 F) patients in cardiac rehabilitation were recruited at the first week of intensive rehabilitation programme. Male and female patients were similar for age (M:  $65.2 \pm 4.8$ ; F:  $66.7 \pm 4.5$ ;  $p = \text{n.s.}$ ), education level (M:  $9.6 \pm 3.9$ ; F:  $8.7 \pm 3.8$ ;  $p = \text{n.s.}$ ), and type of cardiac pathologies ( $\div = 5.237$ ,  $p = \text{n.s.}$ ), the most frequent pathologies were by-pass out-comes and cardiac valve replacement. Almost the whole of men are married (90.7%), whereas the number of single women is more consistent (48.4%;  $\div = 26.096$ ,  $p < 0.001$ ). Anxiety and depression were assessed by STAY-Y1, STAY-Y2 and Beck Depression Inventory.

*Results* There is no difference in anxiety trait and state between male and female of this group. On the contrary level of depression in female was more significant than in male (M:  $9.2 \pm 7.2$ ; F:  $14 \pm 11.4$ ;  $p = 0.012$ ). Women with a serious depression (score  $> 30$ ) are 8.6% compared with men 1.8%; Women with quite-serious depression (score from 20 to 29) are 19% while men 9.1%. Slow depression sample (score from 10 to 19) shows 29.3% women and 25.5% men. Civil status differences does not seem to influence depression seriousness ( $F = 751$ ;  $p = \text{n.s.}$ ).

*Conclusions* Our study about patients in cardiac rehabilitation shows higher levels of depression in females than in males. Previous studies had shown how depression can affect rehabilitation time after heart operation and risky behaviours, like fattening or giving up physical exercises. Our results have pointed out the importance of a careful evaluation of depression symptoms, since first rehabilitation time, in order to perform specific therapeutic ways.

## E-HEALTH: OPINIONS, ATTITUDES AND HABITS OF SPANISH DOCTORS

Mira, José Joaquín, Pérez-Jover, Virtudes, Lorenzo, Susana, Rodríguez-Marín, Jesús; Spain

*Objective* To analyse specialised doctors' opinions, attitudes and habits with respect to e-health, specifically in order to identify repercussions on doctor-patient relations.

*Method* Nine hundred and one doctors from eight Spanish hospitals were surveyed. Advantages and disadvantages of e-health were explored by means of 19-questions. Hospitals were selected on the basis of their size (number of beds), and location (urban and rural areas).

*Results* Three hundred and two doctors replied (response rate 33.52%). Of them, 54% were men; most of them were between the ages of 30 and 40 (47%). Eighty percent have and use access to the Internet. Almost 40% use the Internet less than one hour a day; doctors in smaller hospitals (less than 200 beds) spend more time on the Internet and men spend more time than women. The most frequently visited websites are PubMed (11%) and Google (22%); when choosing a website, periodical updating and prestige are important to 78% and 69% respectively; 37% have taken a course through the Internet; 35% consult electronic journals systematically; 16% regularly collaborate with, or write materials for healthcare websites; 12% receive electronic mail from their patients. Doctors who have taken courses over the Internet show a positive attitude towards their patients' seeking a second opinion on the Internet ( $\chi^2 = 18.54$ ,  $p = 0.0001$ ), and they do not have a favourable attitude towards receiving and answering their patients' queries by electronic mail ( $\chi^2 = 0.75$ ,  $p = 0.784$ ). Three clusters of information

were generated in this study to classify the participating hospital doctors: the different types of information the doctors consulted, the way the Internet enhances doctor–patient relations and the aspects that the doctors consider relevant when connecting to the Internet.

*Conclusions* Spanish doctors consider the Internet to be a tool that enhances doctor/patient relations. There appears to be a favourable attitude towards seeking a second opinion by Internet, although not towards patients’ “chats”.

### **PAIN TREATMENT, PATIENTS’ INFORMATION, AND SATISFACTION IN SPANISH HOSPITALS**

Mira, Jos Joaquín, Pérez-Jover, Virtudes, Tomás, Olga, Rodríguez-Marín, Jesús; Spain

*Objective* To determine if pain treatment outcome such as assessed by patients is related to patient information, and patient satisfaction outcomes.

*Method* Fourteen thousand seven hundred and fifty-two patients admitted in public hospitals in Spain were surveyed when discharged. Patients were admitted to surgery, medicine, or obstetric wards. Systematic sampling method was used. A Likert-five-point-scale was used to measure pain treatment outcome.

*Results* 61.2% of patients were satisfied with the pain relief treatment applied to them. Pain treatment outcome such as assessed by patients had effects on: patients satisfaction (95% IC 2.33–2.80 versus 4.60–4.63,  $p < 0.001$ ), perception of professionals competence (95% IC 2.53–3.00 versus 4.56–4.60,  $p < 0.001$ ), empathy as providers attitude to them (95% IC 1.66–2.44 versus 4.73–4.76,  $p < 0.001$ ), information given by doctors to them (95% IC 2.34–2.80 versus 4.49–4.54,  $p < 0.001$ ), nursing care (95% IC 2.57–3.09 versus 4.75–4.78,  $p < 0.001$ ), and healthcare outcome (95% IC 2.34–3.28 versus 4.51–4.56,  $p < 0.001$ ). Female’s perception of pain treatment outcome was slightly more positive than male’s view ( $p = 0.025$ ). This tendency was observed in all analysed cases.

*Conclusions* A positive assessment of the pain treatment outcome is associated to a positive perception of traditional measures of quality of care.

### **COPING WITH, CONSTRUING BENEFITS FROM, AND ADJUSTING TO CANCER: A LONGITUDINAL STUDY**

Mohamed, Nihal E., Sudan; Böhmer, Sonja, Germany

There is a considerable amount of research concerning the relationship between stress, coping and general adjustment in cancer patients. However, a few studies focused on search for meaning and adjusting to cancer. The aim of the present study was to analyze patients’ own search for meaning and to investigate its associations with depression, quality of life, pain, impairment due to illness, and coping with cancer.

Patients were approached in four hospitals and clinics in Berlin. The sample consisted of 150 cancer patients (40% women), with mean age 63 years ( $SD = 10.7$ , range = 19–86). The reported site of cancer included: rectum cancer (26.9%), colon cancer (24.6%), pancreas cancer (11.5%), lung cancer (10%), liver and gall-bladder cancer (10%), stomach cancer (7.7%), esophageal cancer (3.8%), and other types of cancer disease (4.4%).

The search for meaning was measured by a 17-item benefit finding scale (Antoni *et al.*, 2001). The attribution scale, a depression scale (CSD-D; Radloff, 1977), a quality of life scale (EORTC-QLO-C30; Aaronson *et al.*, 1993), three visual analogue scales to assess patients’ subjective

health, and a coping scale (the Brief COPE; Carver, 1997) were applied in five measurement points in time starting from 3 days pre-surgery and ending at 12 months post-surgery. The benefit finding scale was applied only twice; 4 and 12 months post-surgery.

Data analyses revealed associations between benefit finding, quality of life and fatigue. In addition, benefit finding was associated with problem-oriented coping.

These results highlight the role of benefit finding on enhancing productive coping strategies with cancer and are in line with other research findings (Taylor, 1998; Antoni *et al.*, 2001) which showed that not only negative but also positive sequelae can follow adverse and traumatic events.

## CHANGES AND HEALTH IN THE CONTINGENT AND REGULAR JOBS

Moilanen, Liisa; Finland

A three-years follow-up study was conducted on the well-being of the employees in atypical employment relationships. What effects have the work relationships on the health and how are the stress symptoms and strain connected with the work relationships? About 550 temporal and permanent employees in the hotel and restaurant sector participated on both surveys. The external life resources of the contingent worker were not the same as those of the regular worker. The four work contract groups (contingent part-time, contingent full-time, regular part-time, regular full-time) did not differ statistically from each other in age or education. In the atypical work situation the workers had encountered many types of unfavorable changes. The security and satisfaction of life was better in the typical than in the contingent work situation. However, the various symptoms and health appeared to be worse in the regular full-time work than in the contingent or part-time work, except for those employees who were over 50-years old and worked in regular, part-time work. Aronsson and Göransson (1999) found that those permanent workers who were not in a preferred position reported more symptoms and fatigue than controls. The control of the work situation was impeded in the "locked-in" position of permanent workers. Although life was regarded as more satisfying by permanent workers than by contingent workers, fatigue and mild depression were more common among full-time, permanent workers.

## SECONDARY TRAUMATIC STRESS AS A PSYCHOSOCIAL EMERGENT RISK

Moreno, Bernardo, Morante, M<sup>a</sup>Eugenia, Rodríguez-Muñoz, Alfredo y Garrosa, Eva; Spain

The literature review explores how interacting with seriously traumatized people has the potential to affect health-care workers. The review begins with an introduction to post-traumatic stress disorder as being one of the possible negative consequences of exposure to traumatic events. The report proceeds with examining the secondary traumatic stress, burnout and compassion fatigue, as potential adverse consequences for workers who strive to help people who are traumatized. The differences between these concepts are also discussed.

Since 1995, authors like Janoff-Bulman, Figley, Stamm, etc. are proposing the theoretical bases of secondary traumatic stress. In the same way, there are some specific instruments of evaluation (Stamm, 2002). However, no questionnaire has been specifically designed to measure this construct in Spanish sectors. From the University Autónoma of Madrid (Spain), our research group considered this syndrome to be an occupational risk and is trying to create a specific instrument of assessment in the emergency services of Madrid (Spain). Also, from the obtained results, future programs of training in effective strategies of confrontation will be developed, to anticipate or minimize the damages to the health derived from this new psychosocial risk. Sadly, the events



of last years (terrorist attempts perpetrated in New York and Madrid) have updated the need and convenience of these types of studies.

### **THE RELEVANCE OF ORGANIZATIONAL FACTORS ON THE OCCURRENCE OF MOBBING**

Moreno, Bernardo, Rodríguez-Muñoz, Alfredo, Morante, M<sup>a</sup>Eugenia y Rodríguez, Raquel; Spain

Mobbing has received increased attention in recent years and has been recognised as an important social problem. This phenomenon is the systematic persecution of a colleague, a subordinate or a superior, which, if continued, may cause severe social, psychological and psychosomatic problems for the victim and may lead to a stigmatisation of the target. Traditionally, empirical researches into the causes of mobbing at work have mainly addressed two issues: the role of the personality of the victims and the role of psychosocial factors. The present paper focuses on organizational factors. According to this view, mobbing is primarily caused by work environment and social environment problems within the organization. The primary goal in this study was to establish the relative weight of organizational variables in the prediction of the mobbing. Data were collected with the questionnaire on mobbing at work (Moreno and cols; 2003). The sample consisted of 103 Spanish employees of transport and communications sector of the community of Madrid. The findings of this study suggest an association between organizational factors and mobbing. Also, this research concludes that victims of mobbing at work report a more negative work environment than those who did not report significant levels of mobbing.

### **SENSE OF COHERENCE (SOC) AND QUALITY OF LIFE IN RHEUMATOID DISEASE: PRELIMINARY RESULTS**

Mroziak, Barbara, Zwoliński, Marek, Gaszewska, Ewa; Poland

*Objectives* The aim of the study is to check a hypothesis based on the authors' earlier research: certain personal resources (e.g. a strong sense of coherence, task-oriented coping style and perceiving stressful situations as a challenge) should facilitate coping with chronic somatic disease (RD), which should be evidenced by the patients' better quality of life both during hospitalization and at one-year follow-up.

*Method* The following variables are measured (with tools bracketed): sense of coherence (SOC-29 questionnaire by Antonovsky), coping style (CISS scale by Endler and Parker), primary assessment of stressful situations (the Challenge-Threat-Loss Scale by Sęk and Szładziński), present mental health (GHQ-12 by Goldberg), quality of life (SF-36 by Ware), socio-demographic data (a questionnaire developed by the authors).

At baseline about 80 patients with rheumatoid disease are to be examined using the above-listed questionnaires. At one-year follow-up they will be re-examined with the same tools.

Twenty-six RD patients rehabilitated at the Institute of Rheumatology were examined so far (12 men, 14 women, mean age 50.8 years, mean illness duration 14.6 years).

*Results* Sense of coherence (SOC) was not related either to RD duration or to self-rated body pain. Significant negative correlations were found between SOC and the patients' scores on the p screening GHQ-12 ( $r = -0.52$ ,  $p < 0.007$ ). Moreover, SOC level was significantly correlated with RD patients' general life satisfaction ( $r = 0.48$ ,  $p < 0.01$ ) and their quality of life in three areas: vitality ( $r = 0.48$ ,  $p < 0.02$ ), social functioning ( $r = 0.44$ ,  $p < 0.02$ ) and mental health ( $r = 0.65$ ,  $p < 0.0001$ ).

*Conclusions* As hypothesized, SOC proved to be an important resource related to somatic patients' mental health and to psychological dimensions of their quality of life.

### **SENSE OF COHERENCE (SOC) AND COPING STYLE CHANGES IN ALCOHOL DEPENDENCE TREATMENT**

Mroziak, Barbara; Poland

In this study, the relationship was assessed between alcoholics' sense of coherence (SOC) and (a) their coping styles intensity, and (b) post-treatment coping style changes. Subjects consisted of 101 alcoholics (77 men, 24 women) who completed a six-week psychotherapy program and were examined using Antonovsky's SOC-29 Questionnaire and the CISS by Endler and Parker: before and after treatment, and at one-year follow-up. Data were analyzed using ANOVA and a series of paired *t*-tests. Data indicate that subjects with an initially weak SOC (W-SOCs,  $N=45$ ) scored significantly higher than did those with a strong SOC (S-SOCs,  $N=56$ ) on two "negative" styles (emotion- and distraction-oriented), and significantly lower on two "positive" styles (task-focused and seeking social contacts). Further findings showed that in both groups, stable positive changes were noted after therapy and at follow-up, but a steady significant decrease in emotion-oriented coping over the year was found in S-SOCs only, while a steady significant decrease in distraction coping was found in W-SOCs. Implications of the results are discussed.

### **FACTORIAL INVARIANCE AND CRITERION VALIDITY OF THE GENERAL HEALTH QUESTIONNAIRE**

Mäkikangas, Anne, Feldt, Taru, Kinnunen, Ulla, Kinnunen, Marja-Liisa, Pulkkinen, Lea; Finland

General Health Questionnaire (GHQ) is one of the most extensively studied screening measure for minor psychological disorders. Nevertheless, the factorial invariance of the scale across time has not been studied earlier, which means that we do not know whether the changes in GHQ-scores are due to changes in health condition or to changes in the structure of GHQ. The aims of the present study are to examine, first, the structural properties of the GHQ-12 and its invariance across time and, second, the criterion validity of the GHQ-12, that is, how the instrument identifies the cases of mental illness. The study is based on the ongoing Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) which started in 1968 when participants were eight-year-old children. Questionnaire-based data gathered at age 36 and 42 ( $n=231$ ) and medical examination data at age 42 ( $n=189$ ) were used in this study. The Structural Equation Modelling (SEM) and Receiver Operating Characteristic (ROC) curves were used as analysing methods. The results of SEM indicated that the two-factor solution showed a better approximation of the data than the one-factor model. The factors were termed as 'general dysphoria' and 'social dysfunction'. Furthermore, this two-factor structure was found to be invariant across measurement times. The results of ROC indicated that the factors of 'general dysphoria' and 'social dysfunction' discriminated between participants with or without mental illness (assessed by a physician) as well as the whole GHQ-12 measure. Our findings suggest that the correlated and time invariant two-factor solution yielded the best description of the GHQ-12 structure. The criterion validity of the obtained factors was equally good as that of the whole GHQ measure, therefore, the implication of the study is that the GHQ-12 could be still shortened without any loss of the properties of the measure.

### **OPTIMISM AND LIFE SATISFACTION: DEVELOPMENT FROM EARLY ADULTHOOD TO MIDDLE-AGE**

Mäkikangas, Anne, Aunola, Kaisa, Kinnunen, Ulla, Pulkkinen, Lea; Finland

Optimism (i.e., generalized positive outcome expectancies) and life satisfaction are the basic constructs of positive psychology. However, the knowledge about the developmental dynamics between these phenomena is limited, due to the fact that the majority of the research in the field has been cross-sectional. The aim of the present study is to investigate, first, to what extent optimism and life satisfaction would change from early adulthood to middle-age and, second, the developmental dynamics of these constructs over time. The study is based on the ongoing Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) which started in 1968 when the participants were eight-year-old children. Questionnaire-based data gathered at ages 27, 36 and 42 were used in this study ( $n = 245$ ). The development of optimism and life satisfaction was analysed by using Latent Growth Curve methodology, which provides the possibility of investigating intra-individual changes in a particular variable of interest over time, as well as inter-individual differences in such changes. The results showed that, at the mean level, there were no changes in optimism, whereas life satisfaction first decreased (from age 27 to 36) and then slightly increased (from age 36 to 42). The stability of optimism was not high from early adulthood to adulthood (from age 27 to 36), but the stability from adulthood to middle-age (from age 36 to 42) was found to be fairly high. Life satisfaction, for one, was completely stable over time. The results showed further that the level of life satisfaction predicted the subsequent trend of optimism: the higher the level of life satisfaction, the more increase in optimism across three measurements. Life satisfaction, indexed by satisfaction with occupation selection, work, leisure, lifestyle, and housing, turned out to be a basic component in good psychological functioning.

### **THE ISRAELI NATIONAL PROGRAM FOR EARLY DETECTION OF BREAST CANCER: WOMEN AS THE TARGET POPULATION**

Neter, Efrat, Hagoel, Lea, Ore, Liora, Almog, Ronit, Rennert, Gad; Israel

*Objective and Methods* This paper presents a series of three consecutive initiatives aimed at enhancing adherence to mammography (MM) screening in Israel. The first initiative was a field experiment inviting women to a pre-scheduled appointment, interviewing them afterwards. The second initiative, built on the first stage of mailed invitation to MM, recruited primary care medical personnel into further enhancing the adherence of nonattending women. The medical personnel called their nonattending patients, inquired into their reasons for nonattendance and encouraged attendance. The third initiative was undertaken in response to medical personnel's requests for tools in the above-mentioned individual inquiry. It consisted of a qualitative study in search of women's motives and perceptions (personal constructs) regarding MM, employing a salutogenic perspective.

*Results* The mailed invitation initiative resulted in increasing the rate of adherence to MM from 16% of self-screenees to 45%, and establishment of a national policy of initiated MM appointment. The implementation of the first and second initiatives together resulted in a national average of 56% MM adherence.

*Conclusions* The above sequence demonstrates that change can be achieved within a relatively short period of a decade. The two-stage model suggested here – a first general appeal to all the target population by means of a mailed personalized message and then an individual approach

to the nonadherent women by medical professionals is (1) relatively cost-effective, using the time resource of medical personnel sparingly, targeting only the nonadherent, (2) mobilizes medical staff as opinion leaders to diffuse the innovative concept of a screening test, and (3) capitalizes on the long-term therapeutic relationship between the woman and her attending physician (or nurse), enabling them to tailor the message to the personal barriers of the woman or to tie the message to the woman's concerns and own constructs. The diffusion of the relatively innovative procedure of screening tests from policy level to users requires a management/policy commitment, action research to shape the interventions, as well as monitored implementation.

### **AGGRESSIVE BEHAVIOR IN FAMILY AND CHILDREN'S PSYCHOLOGICAL HEALTH**

Nikolaeva, Elena; Russia

As was figured out earlier the features of totalitarian consciousness appear in delayed aggression to positive stimuli and absence of reaction to aversive stimuli. We hypothesize that such behavior is formed in early childhood in family context of punishment and encouragement. In order to ground this statement 30 children (15 boys and 15 girls) of 10–11 years old and 30 children (15 boys and 14 girls) of 4–6 years old and their parents were surveyed. The questionnaire suggested to the parents included issues covering methods of encouragement and punishment they used in their family and feelings they experienced. More than 30% of parents found it hard to describe their feelings in such situations. During interviewing the children on the same topic the hypothesis was confirmed as well. Approximately 25% of children expressed nonadequate feelings in situations of encouragement and punishment. They inverted the reactions to positive stimuli and did not react to aversive ones.

### **IMPLICIT AND EXPLICIT ATTITUDES TOWARDS DRINKING AND THE ATTITUDE-BEHAVIOUR CONSISTENCY IN PROBLEM DRINKERS AND NONPROBLEM DRINKERS**

Niyazi, Asli, Albery, Ian; UK

*Objectives* To assess attitudes toward alcoholic and nonalcoholic drinks held by problem and nonproblem drinkers and to test the correlation with self-report measures.

*Methods* Participants were 10 problem and 14 nonproblem drinkers. Implicit Association Test was used to measure the differential association of alcoholic drinks-related words to positive versus negative adjectives. A feeling thermometer and semantic differentials were used to report feelings toward alcoholic and nonalcoholic drinks explicitly.

*Results* The result of a 2 (PD versus NPD)  $\times$  2 (compatible versus incompatible blocks) ANOVA showed a significant interaction between groups  $\times$  blocks ( $F(1, 22) = 5.502, p = 0.028$ ). An independent samples *t*-test revealed there was a significant difference between PD and NPD where PD were faster for alcoholic drinks + unpleasant combination than NPD ( $t = 2.597, p = 0.016$ ). Problem drinkers were also slower for alcoholic drinks + pleasant combination than NPD, but this difference was not significant. These results were exactly the opposite of our hypothesis. Nonproblem drinkers were significantly slower in responding to alcoholic drinks + unpleasant combination than they were to alcoholic drinks + pleasant ( $F(1, 13) = 15.080, p = 0.002$ ). A 2 (PD and NPD)  $\times$  2 (explicit measures – feeling thermometer and semantic differential) ANOVA

revealed a main effect for group ( $F(1, 22) = 13.088, p = 0.002$ ), so that for explicit measures PD had a larger mean than NPD (7.150 and  $-17.786$ , respectively). Moreover, there was a significant interaction between the explicit measures and the group ( $F(1, 22) = 14.735, p = 0.001$ ). These results indicated that PD had a preference for alcoholic drinks over nonalcoholic drinks. Correlations between explicit and implicit measures revealed a nonsignificant relationship between the IAT and feeling thermometers or semantic differential scales ( $r = -0.25, p = 0.23$ , and  $r = -0.17, p = 0.42$ , respectively.)

*Conclusions* This study shows that implicit and explicit measures tap into different cognitive mechanisms. There is an addictive element of drinking that makes people accommodate their behaviour rather than stopping that behaviour. Future research should examine whether making problem drinkers aware of their incongruent implicit cognitions might facilitate their ability to stop drinking.

### **IMPLICIT AND EXPLICIT ATTITUDES TOWARDS SMOKING AMONG AND THE ATTITUDE-BEHAVIOUR CONSISTENCY IN SMOKERS AND NONSMOKERS**

Niyazi, Asli, Albery, Ian; UK

*Objectives* To assess implicit and explicit attitudes toward smoking held by smokers and nonsmokers and to investigate the correlation between implicit and explicit measures.

*Methods* Participants were 12 smokers and 12 non-smokers. Go/No-Go Association Task was used to measure implicit automatic attitude towards smoking. A feeling thermometer and semantic differentials were used to report explicit feelings toward smoking.

*Results* The result of a 2 (group – smokers *versus* nonsmokers)  $\times$  2 (block – smoking + good *versus* smoking + bad) ANOVA revealed a significant main effect for group ( $F(1, 22) = 6.269, p = 0.020$ ). Smokers were faster at responding than nonsmokers (1322.0 and 1567.8, respectively). Smokers were faster at responding to target words when the categories were smoking + good ( $M = 1306.7$ ) than when the categories were smoking + bad ( $M = 1337.3$ ) indicating a positive automatic attitude toward smoking. On the other hand, nonsmokers were faster at responding to target words when the categories were smoking + bad ( $M = 1526.9$ ) than when the categories were smoking + good ( $M = 1608.6$ ) indicating a negative automatic attitude toward smoking. A 2 (smokers and nonsmokers)  $\times$  2 (explicit measures – feeling thermometer and semantic differential) ANOVA revealed a significant main effect for group ( $F(1, 22) = 41.366, p = 0.001$ ) where smokers had a higher mean for explicit measures than nonsmokers. There was also an interaction between group and explicit measure type ( $F(1, 22) = 11.654, p = 0.002$ ) showing that smokers scored significantly higher in both measures than nonsmokers. These results indicated that smokers had a positive attitude toward smoking in their explicit measures as well as their implicit ones. There was no significant correlation between any of the explicit measures and the GNAT effect.

*Conclusions* In general, smokers have ambivalent attitudes toward smoking behaviour. Most of them see themselves as enjoying the behaviour as they continue to engage in the behaviour but at the same time have negative feelings about smoking and wish they could quit. Due to this complex nature of smokers' attitudes toward smoking, it is very important that clinicians do not rely on any one type of measure (e.g. questionnaire) and that they try and assess attitudes toward smoking both explicitly and implicitly. Future research should continue to investigate the important implications of complexity of smokers' attitudes toward smoking for smoking cessation interventions.

## EVALUATING QUALITY OF LIFE FOLLOWING LIVER TRANSPLANTATION

O'Carroll, Ronan, Hayes, Peter; UK

*Objectives* Quality of life (QoL) has become increasingly recognised as an important variable in listing people for liver transplant, and also in evaluating the outcome of this major surgical intervention (O'Carroll *et al.*, 2003). The aim of this study was to compare individualised *versus* questionnaire methods of assessing QoL following liver transplantation.

*Methods* Cross-sectional design. One hundred and twenty patients who were at least one year post-liver transplant were evaluated using a variety of measures including the Hospital Anxiety and Depression Scale, an individualised quality of life measure (SEIQoL-DW) and a widely used questionnaire method, the WHOQOL-Bref.

*Results* The relationship between individualised and questionnaire-derived method of assessing quality of life will be presented. The findings are important in furthering our understanding of the most appropriate ways of evaluating the efficacy of major surgical and medical interventions.

### Reference

O'Carroll, R.E., Couston, M., Cossar, J., Masterton, G. and Hayes, P.C. (2003). Psychological outcome and quality of life following liver transplantation: a prospective, national, single-center study. *Liver Transplantation*, 9, 712–720.

## THE EFFECTS OF WRITTEN EMOTIONAL DISCLOSURE ON HEART RATE AND BLOOD PRESSURE IN RESPONSE TO PSYCHOLOGICAL STRESS

O'Connor, D.B., Ashley, L., Bellerby, S.; UK

*Objectives* Writing about stressful or traumatic events has been found to have beneficial effects on health and psychological well-being (cf., Pennebaker, 1988; 1997). Recent evidence has suggested written emotional disclosure may influence immune function indices, although less work has investigated its impact on cardiovascular parameters (e.g., heart rate and blood pressure).

*Methods* Fifty-six healthy men and women were randomised into either a written emotional expression group or a control group. The emotional expression group was instructed to write about the most stressful or upsetting experience of their life, for 15 min over three consecutive days. The control group wrote about nonemotional, nonstressful experiences over the same period. Two weeks later, heart rate and blood pressure measures were taken in response to laboratory-based psychological stressors (e.g., delivering a presentation). Positive and negative mood and psychological distress levels were measured at baseline and two weeks later. Cynical hostility and trait alexithymia were assessed at baseline.

*Results* Preliminary analyses revealed that participants in the written emotional expression group had significantly lower absolute heart rate levels in response to laboratory-based psychological stressors, compared to the control group. No significant differences were observed for systolic or diastolic blood pressure levels or for the measures of psychological well-being.

*Conclusions* These preliminary results indicate that written emotional expression interventions may have short-term salutary effects on heart rate levels in response to laboratory stressors (but not for blood pressure). Moreover, the longer-term effects of emotional writing interventions

on cardiovascular health require further investigation. The implications of these findings will be integrated into the wider stress and coping literature.

### **QUALITY OF LIFE IN NEUROLOGICAL ILLNESS: GENERIC *VERSUS* INDIVIDUALISED INDICATORS**

O'Doherty, Lorna Jane, Hickey, Anne, Hardiman, Orla; Ireland

*Objectives* To investigate discrepancies in the information yielded by traditional, generic, health-related quality of life (QoL) measures and individualised, patient-centred QoL measures in three neurological populations: motor neuron disease (MND), multiple sclerosis (MS) and post-polio syndrome (PPS).

*Methods*  $N=76$  (36 male, 40 female) in three groups: MND:  $N=33$  (mean age = 54.6,  $SD=13.6$ ); MS:  $N=22$  (mean age = 53.3,  $SD=12.5$ ); and PPS:  $N=21$  (mean age = 53.7,  $SD=8.7$ ). Measures included the Short Form-12 (SF-12); Stanford Health Assessment Questionnaire (HAQ); Schedule for the Evaluation of Individual Quality of Life-Direct Weighting (SEIQoL-DW); and ALS Functional Rating Scale-Revised (ALSFRS-R). Participants were recruited through two specialist neurology clinics.

*Results* There were statistically significant differences between the three groups in terms of their mean functional disability indices (FDI) ( $p<0.0005$ ). Despite notable differences in disability levels across the groups, mean group individualised QoL scores were similar. FDI was strongly related to the physical health dimension (PCS) of the SF-12 ( $r=-0.6$ ,  $p<0.01$ ). However, neither the FDI nor PCS were related to individualised QoL. Conversely, the mental health dimension (MCS) of the SF-12 was associated with individualised QoL ( $r=-0.4$ ,  $p<0.01$ ) in the sample. Individualised QoL was examined longitudinally in a subsample of MND patients. Despite significant disease progression in terms of ALSFRS-R scores for the group ( $p<0.005$ ), individualised QoL actually improved over six months ( $p<0.05$ ).

*Conclusion* The current findings indicate that functional disability, while related to patients' perceptions of physical well-being, was unrelated to perceptions of overall QoL. Furthermore, individual QoL was maintained despite progressive loss of physical function. This study highlights the importance of recognising that several factors are associated with individual QoL. Of these factors, mental health appears more significant than physical function. The study also highlights the risks in drawing conclusions about individual QoL based exclusively on generic/health-related QoL scales.

### **WHEN 'REALITY' STRIKES BACK: A CLOSER LOOK ON INITIATING HEALTH-RELATED ACTIVITY PLANS IN EVERYDAY LIFE**

Oeberst, Andries, Scholz, Urte, Sniehotta, Falko; Germany.

For a successful integration of new health behaviours into the daily routine, conflicting habits offer most resistance and do not seldom provoke total disengagement. Thus especially in the first weeks of making this effort the individual control on action, appearing (non-)achievement and simple qualities of the action plans seem to be very important. To evaluate these assumptions we accompanied 122 coronary patients – almost all with the strong intention to regularly practise the medical recommended physical activities – by weekly questionnaires during their clinical rehabilitation and in particular the following 6 weeks. Actually individual action control is correlated with the mastery over this time and predicts physical activity in a “2-month follow up”.

But in differentiating several kinds of activity plans, varying developments occur, whereby some properties of a 'good activity plan' can be deduced and which at least underlines the demand for interventions specially shaped to support this stage of behaviour change.

### **JOB STRESSORS AND PERSONALITY TRAITS AS PREDICTORS OF BURNOUT SYNDROME IN POLICE OFFICERS**

Oginska-Bulik, Nina, Juczynski, Zygfryd; Poland

The purpose of the study was to establish:

- (1) the relationship between job stress, personality traits and burnout syndrome in police officers;
- (2) the mediating impact of personality traits on burnout syndrome in policemen with high level of job stress;
- (3) predictors of burnout syndrome.

*Objectives* The sample consists of 100 policemen, aged 22–52.

*Methods* The following techniques were used in the study: the Perceived Job Stress Questionnaire (Dudek *et al.*, 1999) to measure level of job stress, the NEO Five Factors Inventory prepared by Costa and McCrae (1992) and Maslach Burnout Inventory (MBI – general version prepared by Maslach *et al.*, 1996).

*Results* The results revealed significant relationship between job stress, personality traits and burnout syndrome in examined group of policemen. In general, the higher level of job stress, the higher level of burnout expressed in emotional exhaustion and depersonalization.

*Conclusions* The data confirmed the significant role of personality traits, especially neuroticism and conscientiousness in development of burnout syndrome in the group of police officers.

### **ADAPTATION IN OLD AGE: ASSESSMENT METHODS FOR COMMUNITY AND CLINICAL POPULATIONS**

O'Hanlon, Ann, Barker, Maja, McGee, Hannah, Hickey, Anne, Conroy, Ronan; Ireland

An increasing proportion of the population now live well into old age but we have few insights about the strategies older people use to adapt to challenges. The present study was conducted as part of the Healthy Ageing Research Programme (HARP) which is a multi-institutional and multidisciplinary programme on the island of Ireland aimed at improving understanding of ageing as a social and psychological, as well as chronological experience. In this study we sought to examine strategies of selection, optimisation and compensation (SOC) whereby people select goals actively, maximise functioning through the use of optimisation strategies, and counteract losses through compensatory mechanisms. Despite their potential value, little empirical evidence is available about the occurrence of SOC strategies, in part because of the length of the available assessment tool (SOC-48: a 96-statement instrument). We sought to examine the psychometric properties of the English language SOC-48 with older Irish people and whether a shorter and more user-friendly version could be developed. Community-based adults (aged 65+) were recruited across the health continuum from active retirement groups to attendance at day-centers. Participants completed the SOC-48 ( $n=208$ ). A shorter (18-item) version of the SOC scale provided the best psychometric profile (better than the SOC-48), i.e. while items from the SOC-48 overlapped a lot with each other, this was not the case for the



18-item SOC. Furthermore, although the shorter scale was a third of the length of the original, the internal reliability scores were comparable, i.e. 0.61–0.78 for the SOC-48 and 0.62–0.79 for the SOC-18. Further empirical data on this questionnaire is being gathered from a large-scale population study on the island of Ireland ( $n = 2000$ ). SOC strategies have the potential to improve health and well-being among older people. This 18-item SOC measure is a promising and useful research tool.

### **ASSOCIATIONS OF SOCIAL SUPPORT AND SEX LIFE – THE HESSUP STUDY**

Ojanlatva, Ansa, Rautava, Päivi, Helenius, Hans, Korkeila, Katariina, Sundell, Jari, Kivimäki, Mika, Vahtera, Jussi, Mäkinen, Juha, Koskenvuo, Markku; Finland

The present study characterizes the associations of three sex life issues (importance of and satisfaction with sex life as well as ease in talking about it with an important other) and social support. We utilized survey data of working aged women and men ( $n = 21,101$ ) from the population-based random sample of the Health and Social Support (HeSSup) study (40% response). The respondents with abundant social support consider sex life important, are satisfied with it, and find it easy to talk about sex life more often than those with less social support. Social support offered by one's own spouse or partner is important to women and men in terms of sex life, and it is not available from the other sources to the same extent. Friends function as significant positive sources of support in sex life but relatives do not. Mutual reciprocity in social support is associated with more favorable perceptions of sex life. Clinical and practice implications have to do with the roles of spouse, partner, and/or friends when counseling about sex life-related stress.

### **ENVIRONMENTS AND CONTEXTS – PROMOTING HEALTH AND PREVENTING DISEASE ACROSS THE LIFE-COURSE**

Oldenburg, Brian; Australia

While there have been considerable gains in the health of most national populations over recent decades, these have not been shared equally across the population. Consistently poorer health outcomes are evident for persons from socioeconomically disadvantaged backgrounds, those who live in rural or remote locations and native populations. These disparities are generally evident across all stages of the life-course and most health indicators, and in many countries, the inequalities between the most and least disadvantaged have widened considerably in recent years. A complex array of upstream (e.g. government policies, health care and other service systems), mid-stream (e.g. social, physical, economic and environmental contexts) and individual-level factors contribute to these disparities. Two examples of recent research investigating the relationship between environment and health will be presented. In the first, the Brisbane Food Study has been using a multilevel research design to collect area- and individual-level data to estimate the relative contributions of environmental, economic and material, inter-personal and intra-personal factors to socio-economic variability in food purchasing behaviours. In the second, the PROMAS Longitudinal study has been investigating the extent to which a range of family, home, school and socioeconomic factors are associated with the development of mental health problems during childhood. The implications of this research for new theoretical approaches, research designs and methods that reflect contemporary understanding of the determinants of health and the genesis of health inequalities are discussed.

**IF EVIDENCE-BASED MEDICINE IS SO GOOD,  
WHY IS IMPLEMENTATION OF THAT WORKS SO BAD?**

Oldenburg, Brian; Australia

An improved understanding of how new programs, strategies, practices or innovations are spread, is critical for ensuring that the practice of health professionals is based upon the best available research evidence, which will ultimately maximize the population impact of chronic disease prevention and management programs. However, influencing the practice and behaviour of health professionals is merely one level of a complex, multi-level process. Effective implementation and diffusion is enhanced by high quality program implementation applying multiple theories and models. Most importantly though, at the practice level, the planning and implementation of practice must incorporate a systematic approach to planning for program adoption, implementation, and sustainability. This planning should be an integral part of the original innovation development rather than being a process that is only thought about immediately prior to dissemination of the program or innovation. Finally, diffusion is not just a concept which is of interest to those in the field of health, but rather, it is of interest to the whole of society and because at any point in time in our society there are many different products, messages or ideas, that other individuals want to see advanced and disseminated very widely. The understanding of how some products, ideas or ways of behaving suddenly cross a threshold or “tip” and “take off” is an important phenomenon, which can also be applied to the field of health and medicine, particularly to understand the efforts of health professionals in preventing disease and improving health.

**EMOTIONAL INTELLIGENCE OF ACADEMICS**

Olivier, M.A.J. (Tilla), De Lange, Naydene, Venter, D.; South Africa

Academics at tertiary institutions often reflect on the emotional impact their profession has on them and they mention experiencing emotions such as tension, anxiety and stress. Stress is a significant universal phenomenon and a major topic for discussion, as well as for research worldwide. Research on stress has indicated that people in the helping professions dealing with people, especially those in the teaching professions, are particularly prone to emotional distress. Yet information regarding the stress-related emotions specifically experienced by academic lecturers at institutions of Higher Education is not abundant.

Factors, such as the current rapid social and political transformation in South Africa, as well as the emphasis on efficiency, downsizing, and short-term contracts in the workplace, all contribute to feelings of insecurity and stress in the academic context. It can be argued that people who are facing the challenges of the contemporary dispensation, coupled with the pressures of heavier workloads, less support, fewer means and rewards, and less recognition for hard work, can become a contingency of emotional exhaustion and deteriorated mental well-being.

The interesting relation between cognitive intelligence (including rationality) and emotional intelligence, therefore, becomes the thrust of this paper, with specific reference to the role of job-related emotions. The purpose of the explorative research that serves as the empirical basis for this paper was a quantitative investigation of the aspects of stress among academics in the Nelson Mandela Metropole and its impact on their emotional intelligence. The paper also reflects on the research findings. Recommendations were derived from the findings, in an attempt to assist academics to better cope in their work place.

### **TRANSPLANT DISCUSSION OF ADHERENCE IN A SMALL RENAL POPULATION**

Orr, Anne, Finn, Paul, Britton, Peter, Holmes, Michael; UK

*Objectives* This study investigates adherence to medication among renal transplant recipients in relation to age, year of transplant, quality of life, locus of control and drug side-effects.

*Method* All patients attending a North East Renal Service, who underwent kidney transplantation between 1994 and 2000, were invited to take part. Of these, 122 (85%) agreed to participate. Demographic data was collected, and each participant completed a drug side-effects questionnaire, which included questions on adherence, MHLC Scale (form C), SF-36 and the Renal Service Satisfaction Questionnaire. Statistical analysis employed Chi-squared tests to compare participants' responses.

*Results* Sixty-two (52%) patients admitted to accidental and one (1%) to deliberate nonadherence to medication. There were no statistical differences between adherent and nonadherent patients in relation to year of transplant, quality of life, service satisfaction or drug side-effects. However, adherence increased with increasing age ( $p < 0.05$ ), and those with high internal and external locus of control were more adherent than those with low internal and external locus of control respectively ( $p < 0.05$ ).

*Conclusions* Adherence improves in adults with increasing age. Clear perception of locus of control improves adherence.

### **A CONTRIBUTION TO THE QUESTION OF SEX DIFFERENCES IN STRESS RESISTANCE**

Ortner, Tuulia M., Proyer, René T., Radinger, Regina; Austria

While many studies show that women report more and/or more frequently stressful events than males, it is still part of the current research to enlighten the specific personality traits that lead to these differences (e.g. the tendency to worry). This study makes a step away from the self-description of stress experience and focuses on the consequences of stress resistance, the ability to cope with stress and keep this competence on a high level. The instrument used in this study was a new battery for testing stress resistance, following R.B. Cattell's concept of "objective personality tests" – or to say: "performance-tests of personality" according to Cronbach: BAcO (Becoming stressed Assessment: computerized Objective personality test battery; Ortner *et al.* in prep.). It measures six stress conditions following a pragmatic definition: unfavorable working conditions; time pressure; aversion of working according to a plan; clash of tasks; working under inappropriate feedback and working under observation. A measurement on a mixed sample consisting of students and applicants for different positions indicates that there are no sex differences in the work performance under stress. These results show, that research in stress resistance always has to examine various aspects in order to get a more general view.

### **NEGOTIATING HEALTHY LIFESTYLE: BALANCING BETWEEN PLEASURE AND SELF-CONTROL**

Pajari, Pia, Jallinoja, Piia, Absetz, Pilvikki; Finland

*Objectives* This study analysed arguments and counter-arguments for healthy lifestyle and the way responsibility for one's health is being constructed, with the goal of gaining more insight to effective and ethical health promotion.

*Methods* Data was collected in four focus group interviews and analysed using a discourse analytical approach.

*Results* As a result of the analysis, five different interpretative repertoires regarding healthy lifestyle were separated: Activity, illness, external barrier, weak character and pleasure repertoires. Activity repertoire reflected the dominant cultural value of health and constructed healthy lifestyle as dependent of one's behaviour. Illness, external barrier, and weak character repertoires shared the underlying value of health with the activity repertoire, but exemplified situations where the individual lacked control over his behaviour. Pleasure repertoire, on the other hand, brought up other, competing values. Description of the repertoires showed that argumentation concerning health was an ongoing dialectical process drawing from different repertoires. For a major part the dialogue took place between self-control, its barriers and pleasure. Even though the discussion emphasized the importance of health, unhealthy habits and criticism towards healthism was presented openly, too.

*Conclusions* It is necessary to develop comprehensive tools for health education that will take the cultural context with contradictory meanings into account. Health professionals should encourage clients to take responsibility for their health and help to find practical means to do this, but also make more room for discussions about competing values and clients' descriptions of their constraints for a healthy life.

### **THE EFFECTIVENESS OF SOLUTION-FOCUSED BRIEF THERAPY MODEL AMONG ADOLESCENTS**

Pakrošnis, Rytis, Lithuania, Fleming, James, USA; Gostautas, Antanas, Cepukienė, Viktorija, Lithuania

*Objective* The present study evaluated the effectiveness of the Solution-Focused Brief Therapy (SFBT) model among adolescents in primary mental health care and foster care institutions.

*Method* The effectiveness was evaluated according to the scales of client's and counselor's evaluation of therapeutic improvement as well as adolescent's behavior checklist filled up both by adolescents and their parents.

The study is still in progress. We expect to have a sample of approximately 50 adolescents aged 12–18.

*Results* The results show ( $N=21$ ) that 58.9% of adolescents reported average or considerable improvement. Accordingly, 47.6% of adolescents were reported by counselors to demonstrate positive behavioral changes leading to improvement or complete solution of their problems. Effect size score was 1.19, which is rather high and demonstrates SFBT effectiveness. Future analysis will cover the results obtained by filling out the adolescent's behavior checklist by adolescents themselves and their parents.

*Conclusion* SFBT can be considered an effective model for solving adolescents' problems.

### **MONITORING INFORMATION GOOD PRACTICES IN A PAEDIATRIC WARD**

Palazón, Inmaculada, Mira, José Joaquín, Pérez-Jover, Virtudes, Tomás, Olga, Rodríguez-Marín, Jesús; Spain

*Objective* Monitoring the frequency of good practices of patient information in a paediatric setting.

*Method* A descriptive study based on a survey was conducted in public hospitals of the Valencian Autonomous Community. Nine hundred and seventy five parents were surveyed

(error estimated of  $\pm 0.50$  for a 95% confidence interval). Fifty-seven percent between 31 and 40 years old, 76% female. Sixty-five percent of children were between 5 and 10 years old. Fifty-nine were boys. Data of good practices was obtained with respect: information before to be admitted to hospital, kid's information to explain reasons to be admitted to hospital, before any test or treatment (inform consent), before discharge, and an additional measure to determine if parents' expectations with respect information given were satisfied. Chi-Square was used to identify differences in good practices among hospitals.

*Results* Sixty-seven percent of parents received information about rights and duties, and about hospital's rules. Ninety-six percent of parents were informed before testing or applied treatments. Ninety percent of kids received an explanation about the reasons to go to the hospital (without differences between boys and girls). Parents and kids could stay together in the hospital all time (94%). Before discharge, 96% received a report containing details of diagnosis, tests, treatments, and recommendations to follow at home. Sixty-three percent said that their expectations about information were satisfied (female and male showed a similar point of view). There were no differences among hospitals in the frequency of informed kid about the reasons to be admitted ( $p=0.666$ ), and information before discharge ( $p=0.425$ ). Differences were observed with respect to frequency of information of rights, duties and rules when patient is admitted ( $p=0.0001$ ), and with respect to the policy of inform consent ( $p=0.003$ ).

*Conclusions* Although data revealed a higher frequency of good practices in paediatric wards, there are some opportunities to improve because data yielded differences among hospitals' information practices.

### **EMOTIONAL DISCLOSURE WHILE WAITING FOR THE RESULTS OF PREGNANCY TEST**

Panagopoulou, Fharis, Tarlatzis, Basilis, Gaitartzi, Chrisa, Manatou, Elli; Greece

This paper presents the results of a pilot study investigating the impact of emotional secrecy and emotional disclosure to adjustment to *in vitro* fertilization treatment. In addition the study explored whether emotional disclosure influences adjustment through a cathartic process (venting hypothesis) or cognitive restructuring (cognitive mediational hypothesis), or because it facilitates communication between the partners (social mediational hypothesis).

A randomized controlled  $2 \times 3$  design was employed using Pennebaker's structured writing paradigm method. On the day of the embryo transfer participants ( $N=120$ ) were interviewed and were randomly assigned in three groups: in the first group they were asked to keep a diary of their thoughts and feelings concerning their attempts to conceive, for four consecutive days and were informed that their partner would be able to read their diaries at the end of the waiting period. Participants in the second group were given the same writing instructions, but were told that nobody would read their diaries. Participants in group C were asked to write about trivial topics. Participants were interviewed again 2-3 days before pregnancy test.

The article discusses the implications of the study for understanding the mechanisms through which emotional disclosure can influence health and well-being.

### **PARENTS' PERCEPTIONS OF THEIR CHILDREN'S DIABETES: THE IMPACT OF PERCEIVED CHILD COMPETENCE AND PARENTAL SELF-EFFICACY ON DIABETIC CONTROL**

Pattison, Helen, Moledina, Shazma, Barrett, Tim; UK

*Objectives* To quantify the effects of parental self-efficacy and perceived child competence on children's diabetic control.

*Methods* Cross-sectional outpatient-based questionnaire survey of 78 children aged 6–12 years, diagnosed with type 1 diabetes for over 12 months. Parental perceptions of their child's competence were assessed, together with parental perceptions of their own self-efficacy in managing their child's diabetes. Diabetic control was assessed by the average annual HbA1c level. Socio-demographic data were collected, and data were analysed by linear regression.

*Results* The response rate was 64.5% (51 parents); 82% were mothers. However the socio-economic class and ethnicity spread was representative of the general population. The mean age of the children was 10 years and duration of diabetes 4.4 years. Parents with high perceived self-efficacy thought children would be able to take responsibility for managing diabetes at a much younger age and rated their child's competence more highly ( $F_{3,26} = 7.730$ ,  $p = 0.001$ ; adjusted  $R^2 = 0.410$ ). However, a high level of perceived child competence correlated with an increased HbA1C level, implying poorer diabetic control in children who are perceived to be more competent by their parents. ( $F_{4,24} = 6.744$ ,  $p = 0.001$ ; adjusted  $R^2 = 0.451$ ).

*Conclusions* Parents with high self-efficacy, who may appear more competent at managing diabetes, are those most likely to overestimate their child's capabilities, leading to poorer diabetic control. Self care by children with diabetes at younger ages is currently advocated in the UK; these results suggest that care should be taken in assessing the readiness of children for self care.

## RELATIONSHIP BETWEEN THE SYMPTOMS OF DEPRESSION AND SUICIDAL TENDENCIES AMONG DEPRESSIVE WOMEN

Pauliukeviciute, Klaudija, Sinkariova, Liuda, Gostautas, Antanas; Lithuania

*Objectives* The aim of the study is to assess the relationship among symptoms of depression and death thoughts as well as suicide attempts.

*Methods* The subjects of the study were 49 women, hospitalized at the psychiatric in-patient department, 156 women undergoing depression treatment at the out-patient department. All the subjects were interviewed using the CIDI 2.1.

*Results* The logistic regression analysis revealed that among hospitalized depressive women the strongest relationship was found between death thoughts and sense of guilt (Exp (B) = 8.99; 95% confidence interval 1.65–48.86), while suicide attempts were related to anxiety (Exp (B) = 0.16; [0.03–0.76]), sense of guilt (Exp (B) = 0.03; [0.00–0.36]), and lack of attention concentration (Exp (B) = 27.85; [1.79–431.91]). Among the women undergoing treatment in the out-patient department death thoughts were mostly related to lack of attention concentration (Exp (B) = 7.99; [1.13–56.40]), decision-making difficulties (Exp (B) = 5.78; [2.05–16.29]), and decreased libido (Exp (B) = 2.89; [1.23–6.79]).

Among hospitalized depressive women relationship was determined among such depression symptoms as loss of self-esteem, sense of guilt, and death thoughts, as well as among suicide attempts and sense of guilt, decision-making difficulties.

Death thoughts among women undergoing depression treatment at the out-patient department – death thoughts were related to sleeping problems, sense of guilt, lower self-esteem, lack of attention concentration, decision-making difficulties. Suicide attempts in this group were related to loss of appetite, sleeping problems, sense of guilt, lower self-esteem, and decreased libido.

*Conclusion* Depression criteria, diagnosed using CIDI, can be useful revealing suicidal peculiarities among depressive women. Depressive symptoms, related to suicidality are different among in- and out-patient depressive women.

**OPTIMISTIC VIEWS OF LIFE AND THEIR ASSOCIATION WITH MOOD VIA SPECIFIC COPING STRATEGIES (I.E. PROBLEM-FOCUSED, ACCEPTANCE, SOCIAL SUPPORT AND USE OF HUMOUR) IN A NONCLINICAL SAMPLE**

Pavlidou, Athanasia, Greece; Marks, David, UK; Golemati, Christina, Greece

Previous research has revealed that optimism is beneficial to individuals as it is associated with physiological and psychological well-being (Aspinwall and Taylor, 1992; Raikkonen *et al.*, 1999). The first aim of the present study was to examine whether optimism was inversely related with depressed mood. The secondary aim was to consider whether optimism was positively related with specific coping strategies (i.e. problem-focused, acceptance, social support, use of humour) and the third aim tested whether the specific coping strategies were the mediator of the relationship between optimism and mood. Female ( $N=50$ ) and male ( $N=50$ ) nonclinical individuals (age range = 18–60) were recruited to take part in the study. Results from regression analysis revealed that optimists experienced less depressed mood in relation to pessimists who reported higher levels of depression. Further, correlation analyses indicated that the participants who viewed life optimistically used more coping strategies, such as humour, seeking social support, accepting responsibility and planful problem solving as compared to pessimists who were found to use more escape and avoidance strategy and also the positive reappraisal strategy in relation with optimists. Factor analysis revealed three factors, with several variables, that loaded heavily on the first factor. Therefore, it was concluded that the different coping strategies used by either optimists or pessimists were not the mediator (as they were no independent of each other) of the relationship between optimism, pessimism and mood. The practical implications of the study consider developing cognitive-behavioural intervention programs focusing on altering individuals' pessimistic views of life. Participating in humour therapy programs may be also conceived as beneficial for people. Learning relaxation techniques and antidepressant skills when having pessimistic thoughts may be also essential for these humans.

**CONTEXTUAL AND PSYCHOSOCIAL RISK FACTORS FOR NECK AND SHOULDER PAIN AMONG ELDER CARE EMPLOYEES**

Pekkarinen, Laura, Sinervo, Timo, Elovainio, Marko, Noro, Anja; Finland

*Objectives* The purpose of this study is to examine whether employees' experiences of physical load and job demands mediated the effect of contextual factors of long-term care wards (i.e. ward size, staffing levels) and the characteristics of elderly residents (i.e. physical dependency, cognitive functioning) on neck and shoulder pain among employees.

*Methods* Survey data were collected during 2002 from 1004 employees in 93 residential homes and health centre wards. Residents were assessed with the Residents Assessment Instrument and ward-level means of these assessments were used. Data were analysed with multilevel analyses and hierarchical regression analyses.

*Results* The physical load of employees differed across wards and this load was related to the physical dependency of the elderly residents. However, only little ward-level variation was found in employees' reports on neck and shoulder pain. Employees' neck and shoulder pain was the result of not only their experiences of physical load, but also of high job demands.

*Conclusions* The results support the idea of the multifactorial etiology of musculoskeletal symptoms. Employees' experiences of physical load mediated the relationship between contextual

factors, characteristics of the elderly residents, and neck and shoulder pain experienced by employees. Consistent with earlier findings, job demands were related to neck and shoulder pain among employees. The psychosocial factors should be carefully considered when supporting employee health in elder care wards.

### **WEIGHT AND GESTATIONAL AGE AT BIRTH PREDICT INFANT TEMPERAMENT AT 6 MONTHS**

Pesonen, Anu; Finland

*Objective* To study whether infant weight for gestational age and gestational age predict mother- and father-rated infant temperament characteristics (the IBQ) at 6 months, characteristics that according to prior research may underlie many of the personality factors related to diabetes and cardiovascular disease.

*Methods* The sample comprised family units with both biological parents and infants born at term ( $n = 152$ ). Data on weight and gestational age were collected from the obstetric database.

*Results* Infants born SGA (weight < 10th percentile for gestational age) were rated by both parents as significantly more fearful and negatively reactive compared to infants born appropriate-for-gestational-age (AGA). Infants born SGA defined by using the lowest 15th or 20th percentile groups did not differ from AGA group in temperament. The weekly continuum of gestational age predicted differences in parental ratings of infant temperamental attentiveness.

*Conclusions* The predictive significance of infant weight for gestational age and gestational age for behavioral outcomes appear true also for infants born at term. Concordance in parental perceptions of an infant born SGA emphasizes the clinical significance of the findings, and point out the importance of early prevention.

### **ILLNESS REPRESENTATIONS, SYMPTOMATOLOGY AND QUALITY OF LIFE IN PATIENTS WITH MULTIPLE SCLEROSIS AND THEIR CAREGIVERS**

Pereira, M., Graça, Sousa, C.; Portugal

Multiple sclerosis (EM) is an inflammatory disease of myelin from the Central Nervous System of cause unknown, chronic, that affects young people. Its evolution creates sensitive, motor autonomic and psychic's deficits with consequences in quality of life. This study's goals were: assessment of disease representations, psychological morbidity and quality of life in patients with multiple sclerosis and their caregivers.

*Methods* Sample – A group of 100 ambulatory patients with criterions of Poser defined EM, age mean of 39.19 years, Expanded Disability Status Scale (EDSS) of 1.8, and a group of respective caregivers participated in this study.

#### *Instruments*

- (a) Patients: Disease Representation (IPQ Weinman and Petrie, 1996); Hospital Depression and Anxiety (HADS – Zigmond and Snaith, 1983) and Multiple Sclerosis Quality of life questionnaire (MSQOL-54 – Vickrey *et al.*, 1995).
- (b) Caregivers: Caregivers Reaction Assessment (CRA – Given *et al.*, 1992), Beck Depression Inventory (BDI – Beck *et al.*, 1961) and State Trait Anxiety Inventory (STAI – Spielberger *et al.*, 1983).



*Hypothesis 1* We expect differences in terms of illness representations when we compare patients with high *versus* low quality of life and high *versus* low psychological morbidity.

*Hypothesis 2* We expect a negative relationship between adjustment to disease and psychological morbidity in caregivers of patients with multiple sclerosis.

*Results* Patients with high quality of life manifest significant differences in illness representations in the subscales: identity and consequences – they show less symptomatology and fewer consequences of the disease. In terms of psychological morbidity, those with depression and anxiety have more symptomatology (identity), more disease consequences, lower understanding of the disease, higher perception of the disease as cyclical and more illness distress.

We found a significant relationship between depression and adjustment to disease in caregivers in the subscales: Impact on schedule, lack of family support and impact on health. The same holds true for anxiety except on the subscale impact on health.

Implications for intervention with this population are discussed.

## PSYCHOLOGICAL ASPECTS OF THE DIABETIC PATIENT

Pereira, Joao, Portugal, Monteiro, Joana, Portugal, Cunha, Maria; Portugal

Diabetes is a chronic disease that implies a change in the lifestyle and continuous adaptations to the context of the disease which may interfere with the psychosocial balance of the individual, as well as an articulation of beliefs and ideas associated with “being ill” and “chronologic aspect of the disease”, which underlies the psychological suffering and the feeling of hopelessness. There are two types of diabetes that can be distinguished and physical, psychological and social level. Having in mind the differentiation of the target-population, the object of the present study is to explore and describe the existing differences between the psychosocial aspects of both groups.

The study was divided into two moments. In a first moment is presented the theoretical basis on the theme related with the object of the study: from the diabetes characterization to the psychological aspects which interfere with life and adaptation to the disease. In a second moment, a field study, the methodology and the proceedings of investigation are approached.

Through the statistical analysis of the data from the used instruments, specific in diabetes – ADDQoL, PedsQL, W-BQ22, Health Beliefs, Paid – we have verified that there were significative differences between the groups of the target-population, which generally allows a conclusion that the Type II diabetic presents more difficulties in the adaptation to the disease its psychosocial impact is more evident in the Type I diabetic.

The relevance of the study by the presentation of a wider perspective of diabetes mellitus, which allows a contribution to the understanding of the disease complexity, with the purpose of promoting the development of future investigations and intervention programmes on this specific area.

## PSYCHOLOGICAL VARIABLES ASSOCIATED WITH THERAPEUTIC ADHERENCE AND METABOLIC CONTROL IN ADULTS WITH DIABETES

Pereira, M.G., Marques, O., Coelho, L., Castoe, G., Frias, A.; Portugal

*Introduction* Diabetes is a chronic disease with several demands on patients in terms of life style (meals and physical exercise) monitorization of glicemy and insulin administration. When adherence is not obtained the life of the individual is at risk and may even lead to death. As a result, therapeutic adherence and metabolic control are important factors.

*Methods* Sample – A group of 73 patients with diabetes Type I participated in the study. All patients attended routine appointments in S. Marcos hospital in Portugal.

*Instruments* Quality of Life (Ingersoll and Marrero, 1991); Hospital Depression and Anxiety Scale (HADS – Zigmond and Snaith, 1983), Barriers to Diabetes Treatment (Glsgow, 1993), Ways of Coping, (Coyne *et al.*, 1981) Social Support Behaviour Scale (Vaux *et al.*) and adherence to treatment (Pereira and Almeida, 2001). Metabolic control was measured by the concentration of HbA1c.

*Results* Results show a significant correlation between quality of life and adherence to treatment as expected and also between metabolic control and barriers to treatment. This last variable was also significantly correlated with social support.

Gender, coping, anxiety, depression, metabolic control, barriers to treatment and social support are also predictors of quality of life. Gender was only significant for anxiety: women score higher than men. There were no significant differences in all other dependent variables. Implications for intervention with this population are discussed.

### **WHAT INFORMATION THE PATIENTS OF THE SPANISH HOSPITALS RECEIVE WHEN THEY ARE ADMITTED?**

Pérez-Jover, Virtudes, Mira, José Joaquín, Palazón, Inmaculada, Rodríguez-Marín, Jesús; Spain

*Objective* To analyse the contents of the informative documents that are used in hospitals of Spain when a patient is admitted to hospital.

*Method* Qualitative study based on the analysis of content of the documentation that surrenders to the patients. Information was requested to 389 hospitals, clinical and assistance centres, so much public as private.

*Results* Main topics of those that it is more probable to find information are: schedule of visits (74.2%), information on rights and duties (73.2%), letter of rights and duties (70.1%), schedule of the religious services (69.1%), what to make with objects of value (67%), numbers of contact telephone (66%), where the hospital is located (63.9%), conditions to the medical discharge (59.8%), prohibition politics of smoking (57.7%), how and where to make suggestions or reclamations (48.5%), schedule of coffee house (48.5%) and how to be called from the hospital (47.4%). For against, it is not very probable to find information on: commitment of quality of the hospital (12.4%), what to make in the event of emergency (11.3%), on the characteristics or composition of the team of professionals of the hospital (10.3%), on the schedule of the doctor's visit (9.3%), on the carried out activity (7.2%), on the costs of the attendance (5.2%), how and when to use ambulance (3.1%), orthopaedic material (3.1%), or the offer of other sanitary services (2.1%).

*Conclusions* The analysis of this type of information can help us to reduce the variability in the information and to identify what elements they are the most interesting when transmitting that information to the patients.

### **MI PATIENTS' DRAWING OF THEIR HEARTS AND SUBSEQUENT DISABILITY**

Petrie, Keith, Broadbent, Elizabeth; New Zealand

*Objective* To examine whether myocardial infarction patients' drawings of their hearts predict subsequent return to work, exercise, distress about symptoms and perceptions of recovery at three months.

*Methods* Seventy-four consecutive patients aged under 70 admitted with an acute myocardial infarction drew pictures of their hearts just prior to hospital discharge. Patients' recovery was assessed at three months by postal questionnaire.

*Results* Patients who drew damage on their heart while in hospital perceived that their heart had recovered less at three months ( $P=0.005$ ), that their heart condition would last longer ( $P=0.01$ ) and had lower perceived control over their heart condition ( $P=0.05$ ) than patients who drew no damage. The amount of damage drawn on the heart was also associated with a slower return to work ( $r=0.37$ ,  $P < 0.05$ ). While patients' peak troponin-T in hospital was associated with the amount of damage drawn ( $r=0.41$ ,  $P < 0.001$ ), it was not associated with speed of return to work or other three month outcomes apart from perceived duration of heart condition ( $r=0.26$ ,  $P < 0.05$ ).

*Conclusions* Patients drawings of damage on their hearts after a myocardial infarction predict recovery better than medical indicators of damage. Drawings offer a simple starting point for doctors to assess patients' ideas when discussing their heart condition and an opportunity to counter illness negative beliefs.

#### **NATION-WIDE DISSEMINATION OF A MINIMAL CONTACT SMOKING CESSATION INTERVENTION FOR GENERAL PRACTITIONERS IN THE NETHERLANDS: PREDICTORS OF GP'S ADOPTION BEHAVIOUR**

Pieterse, Marcel, Seydel, DeVries, Hein; The Netherlands

An effective minimal contact smoking cessation program (MIS) for Dutch GPs was disseminated nation-wide, using a multi-component diffusion strategy. Two years after dissemination the MIS was implemented by 15.8% of Dutch GPs, increasing to 30% after four years.

*Objectives* To assess predictors of program implementation by GPs, determinants of adoption were observed in a prospective study.

*Methods* In a single group before-after design, involving a representative cohort of 297 GPs, determinants of MIS adoption were assessed: at baseline preceding dissemination and at one and two years follow-up. Organizational (i.e. number of years practising, practice type GP smoking) and social-cognitive variables were measured.

*Results* GPs starting practising after 1975 were more likely to implement the program (Odds R 4.6,  $p=0.005$ ). Other characteristics as age, not practising solo, and non-smoking, were found to be non-significant, but tended to predict MIS implementation ( $p < 0.10$ ).

GPs believing at baseline that anti-smoking counseling effectively promotes cessation, belongs to their preventive tasks, provides a major health gain, and is not paternalistic towards patients, were more likely to implement MIS. Self-efficacy was not predictive of adoption at baseline, but did explain MIS usage at follow-up. In subjective norm, a shift was observed from proximal referents (office personell, colleagues) being influential at baseline, to patients at first follow-up, to distal referents (regional and national organisations) at second follow-up.

*Conclusions* Given the fact that in the Netherlands a fee for smoking cessation counseling and reimbursement of nicotine replacement therapy are lacking, the 30% implementation rate of the MIS may be considered as a positive outcome. The longitudinal analysis of adoption determinants revealed useful insight into the social-cognitive changes that take place during such an innovation process.

**DOES ORGANIZATION-BASED SELF-ESTEEM MEDIATE THE EFFECTS BETWEEN JOB STRESSORS AND WELL-BEING: COMPARING THREE ORGANIZATIONS IN FINLAND**

Piitulainen, Sari, Mauno, Saija; Finland

The main purpose of this study was to investigate whether the organization-based self-esteem (OBSE) mediates the relationship between psychosocial job stressors (job insecurity, time pressures and work-family conflict, WFC) and self-reported well-being (psychosomatic symptoms, job exhaustion, job satisfaction and job engagement) by using data gathered from three organizations in Finland ( $n=1253$ ): health care district (in Central Finland) ( $n=736$ ), information and communication technology (ICT) company ( $n=296$ ) and paper mill ( $n=221$ ). The hypothesized mediating model was tested by using multiple group analysis of Mplus-program. The results showed that in all organizations OBSE fully mediated the relationship between job insecurity and psychosomatic symptoms, job exhaustion and job engagement. Moreover, OBSE operated as a partially mediating factor between job insecurity and job satisfaction in all organizations. In addition to the equivalent paths found across organizations, results also indicated that the mediating effects varied across organizations. For example, in the ICT company OBSE fully mediated the association between time pressures and psychosomatic symptoms and job satisfaction. Furthermore, in the health care district, OBSE partially mediated the linkages between time pressures and WFC and all the outcome variables studied, whereas in the ICT company a partial mediation was found only between time pressures and job exhaustion and job engagement. Altogether, our study shows that OBSE is an important mediating factor in job stressor-well-being relationship, signifying that the effects of job stressors on well-being are not direct but mediated by OBSE.

**STATE OF HEALTH RELATED TO MARITAL STATUS IN THE HUNGARIAN POPULATION**

Piroska, Balog, Mészáros, Eszter, Kopp, Mária, S.; Hungary

*Objectives* The aim of this study was to investigate the effect of marital status on state of health.

*Methods* Data were obtained from the Hungarostudy 2002, a national representative study: 12668 persons were interviewed, representing the Hungarian adult population. Questions referring to marital status, age, education, and different diseases were included in the survey. Shortened Marital Stress Scale, Shortened Beck Depression Inventory, Hospital Anxiety Scale, Shortened Vital Exhaustion Questionnaire and Sleep Complaints Scale have been used.

*Results* 18% of the adult Hungarian population are single, 60.8% are married or living in a common low marriage, 8.7% are divorced, or living separately from their spouses and 12.4% are widowed. We have differentiated low stressed and high stressed marriages, and we have found that all diseases occurred more frequently in high stressed marriages, both among men and women. Among women these differences were significant in gynecological problems, endangered pregnancy, abortions, panic and depression. For men these differences were significant for diseases caused by alcohol and drug abuse. We have analyzed the relation of marital status to depression, anxiety, sleep complaints, and vital exhaustion. After controlling for age and education, the highest scores for depression, anxiety, sleep complaints, and vital exhaustion, were found in stressed marriages (higher than in divorcee or widowhood), both for men and women. These values were significantly higher, compared to the lowest values, which were found in good marriages, both for men and women.

*Conclusions* Marriage in itself is not a protective factor against diseases: stressed marriages are related to an increased incidence of different diseases. Good marriages were related to good health.

### **THE CULTURE PROMOTION AS INSTRUMENT FOR HEALTH PROMOTION**

Pizzi, E., Torricella, E.; Italy

*Purpose* In the suburban areas of large cities there are derelict areas, youth disease and relative forms of poverty especially cultural poverty. In this work is presented the experience of a cultural activity in the suburb of Rome to promote from "Compagnia Teatrale Il Gruppo". This activity was to recover and upgrade the suburb.

*Method* The method used was for the promotion of cultural activity (theatre, visit to archaeological areas, conferences, etc.) for the local population that have involved citizens like "actors" to recover and to use individual, local and institutional resources. Through theatrical experience is stimulated a reflection upon health (natural feeding, smoke), social and ambient themes.

*Results* This experience is a sign to promote concretely the recovery, revival and renewal of suburban areas of the city. In this twenty years of activity more than two hundred cultural events happened, for many people that live in the territory. The students of the theatre laboratory numbered seven hundred.

*Conclusion* One of the most important strategy to struggle against cultural poverty, social disease and to transform suburbs into new urban centres, is work to improve the development and quality of life for people that live in that area. The cultural events realized have acquired a meaning of social and cultural promotion "service", to improve resources and life skills of the people and of the suburb areas. In this direction promoting cultural activity in the needy territory means promoting health. Through the activation of the local resources we can change suburban areas for many years felt over to urban, social and cultural deterioration.

### **DOES STIMULATING SELF-CARE INCREASE SELF-CARE BEHAVIOUR FOR MINOR ILLNESSES OF DUTCH AND TURKISH INHABITANTS OF A DEPRIVED AREA?**

Plass, Anne Marie, Timmermans, Danielle, van der Wal, Gerrit; The Netherlands

A large number of interventions have been applied to stimulate medical self-care in an attempt to reduce medical care-seeking behaviour. It is not clear why some interventions led to success, whereas others failed. Moreover, it is not known whether success was due to an increase of self-care behaviour, because self-care behaviour in itself was practically never used as an outcome measure.

*AIM:* The aim of the present study was to examine whether self-care behaviour increases after an intervention aimed to reduce care-seeking behaviour by stimulating self-care behaviour for minor illnesses of Turkish and Dutch inhabitants of a deprived area in the government city of the Netherlands, and to see whether there are cultural differences.

*Design* This longitudinal study was based on a "pre-test/post-test one group" design.

*Method* Data were collected during three structured face-to-face interviews: before, six months and one year after the intervention, in which participants were asked to report their self-care actions during the six months preceding each interview. Also, the TpB was applied.

*Intervention* GPs personally handed out booklets to their patients containing guidelines on the management of 12 minor illnesses. Each guideline consisted of a description of the minor illness, advice on when to seek help, and suggestions for self-treatment.

*Results* The number of self-reported self-care actions did not increase. The number of consultations for minor illnesses however, decreased. The Turkish participants showed the strongest reduction of formal health care utilisation, but they also reported a decrease in number of self-care actions. Furthermore their attitude towards self-care became more negative and they perceived less control. The number of self-reported self-care actions of the Dutch increased, their attitude and their perception of control over self-care increased, but they only reported less consultations for minor illnesses during the first six months of the study.

*Conclusion* The intervention was most effective to the Turkish participants, but its consequences were reverse to what was expected: their self-care behaviour decreased! Obvious stimulating self-care in itself does not lead to a reduction in formal health care utilisation, there must be other factors responsible for the effectiveness of self-care stimulating interventions.

#### **UTILITY OF THE RORSCHACH TECHNIQUE FOR SUICIDE RISK EVALUATION IN DEPRESSED WOMEN**

Pranckeviene, Aiste, Gostautas, Antanas; Lithuania

*Objective* To examine the utility of the Rorschach Comprehensive System's Suicide Constellation (S-CON; Exner, 1993) for suicide risk assessment in depressed women.

*Method* Assessment by using Rorschach was performed in outpatients department and psychiatric hospital. The outpatients sample consisted of 45 women (the average age 51.98, SD = 14.58, range 22–78 years), inpatients sample consisted of 30 women (the average age 42.77, SD = 15.46, range 18–76 years). Clinical diagnosis of the depressive episode, recurrent depressive disorder, bipolar disorder, schizoaffective disorder and mixed anxiety and depressive disorder were diagnosed by a psychiatrist. The suicide risk was evaluated asking about current suicidal thoughts, plans, and suicide attempts in the past as it is formulated in CIDI-2.1.

*Results* 31.1% of outpatients sample and 13.3% of inpatients sample had current suicidal thought or plans but had no suicidal attempts in the past. 17.8% of outpatients sample and 43.3% of inpatients sample had current suicidal thought, plans and suicidal attempts in the past. No relation was found between S-CON and suicidal thought, plans or attempts. S-CON was positive for 3 patients in outpatients group (2 of them did not report suicidal thought, plans or attempts) and for 1 patient in inpatients group. No correlation was found between S-CON scores and verbally evaluated risk of suicide.

*Conclusion* These findings did not confirm the utility of Rorschach Suicide Constellation for suicide risk evaluations in depressed women.

#### **STRESS, ANXIETY AND QUALITY OF LIFE: A PATH ANALYSIS STUDY**

Pravettoni, Gabriella, Italy; Cropley, Mark, UK; Leotta, Salvatore, N., Bottino, Margherita, Italy

This study aimed to investigate closely the nature of the relationship between anxiety and stress, and perceived quality of life. In particular, after establishing a cause-effect relationship between the two factors and quality of life, path analysis was used to develop and study a model of paths of influence which took into account quality of sleep and enthusiasm for daily activities as intervening variables mediating the relationship between anxiety and quality of life, and the relationship between stress and quality of life. It was hypothesised that the relationship between the two factors and quality of life may be better explained if considered in terms of direct influence and of indirect influence.

The sample used for the study consisted of 101 participants, with an average age of 21.9 years (sd: 5.28) and ages ranging from 19 to 51 years. There were 64 female participants (63.4%) and 37 male participants (36.6%). Each participant was asked to complete an experimental procedure consisting of a series of standardised questionnaires: the general health questionnaire, the Pittsburgh sleep quality index, self-rating anxiety scale, perceived stress scale.

Using path analysis, the results of the study revealed that the overall effect of the influence of anxiety on quality of life was equal to  $-0.4$ ; however direct effect was equal to  $-0.08$ , while indirect effect was equal to  $-0.32$ . Similar results were found for the effects of stress on quality of life: direct effect was equal to  $-0.15$ , while indirect effect was equal to  $-0.26$ . It can be concluded from the path analysis data that the effect of the influence of anxiety and stress on quality of life may be significant if we take account of the effect of influence of anxiety and stress both on sleep quality and on degree of enthusiasm for daily activities, which in turn have a considerable influence on quality of life itself.

## LOCUS OF CONTROL BELIEFS AND HEALTH-RELATED QUALITY OF LIFE AMONG HIV-INFECTED PATIENTS

Preau, Marie, Spire, Bruno, Morin, Michel; France

*Objectives* This study examined the relations between locus of control (LOC) beliefs and health-related quality of life (HRQL) in 296 HIV-infected patients enrolled in a French cohort, 44 months (M44) after they began HAART.

*Methods* A self-administered questionnaire gathered information about HRQL (MOS-SF36), LOC beliefs and psychosocial and socio-demographic characteristics. LOC beliefs were measured with Levenson's scale and HRQL with the MOS-SF-36. We used the two aggregate scores, physical (PCS) and mental (MCS) component summary of HRQL. Analysis of covariance was used to examine the relations, adjusted for baseline HRQL, between HRQL and LOC beliefs, sociodemographic and psychosocial characteristics.

*Results* LOC beliefs and mental HRQL changed significantly over time during illness. Internal LOC beliefs after more than three years of HAART were associated with both mental and physical HRQL in multivariate analysis. After multiple adjustment, internal LOC beliefs on beginning HAART were not associated with physical and mental HRQL at M44. Self-reported symptoms, patient-provider relationship and social status were always significantly associated with HRQL.

*Conclusions* The dynamics of the mutual influence of control beliefs and treatment experience of treatment were significantly related to HRQL in persons with HIV infection. Our results underline the need of improving the feeling of control and the patient-provider relationship, to take into account self-reported symptoms and social status for attaining higher HRQL in the long term.

**ON THE USE OF OBJECTIVE PERSONALITY INVENTORIES IN  
PSYCHOLOGICAL ASSESSMENT – THE EXAMPLE OF A NEW APPROACH  
IN ASSESSING THE “REPRESSER-SENSITIZER”-CONSTRUCT**

Proyer, René, T., Kubinger, Klaus, D., Turnheim, C.; Austria

A short introduction into Objective Personality Tests in the sense of R.B. Cattell is given. Here the term objective refers not only to the classic test criteria but also to a special construction principle. Cattell and Warburton (1967) described this principle as follows: “the subject does not really (he may believe he does) know for certain in what way his behaviour is being measured or what kinds of personality inference will be drawn for his test reactions” (p. 16). These tests should be impervious to guessing and information on personality is drawn from the person’s performance in a certain task rather than from a self-report. The PDAV (Perceptual Defense and Vigilance Test; Turnheim *et al.*, in prep.) uses visual stimuli from 32 pictures taken from the International Affective Picture System. First the pictures are blurred and get plain with time. As soon as the subject recognizes the content he has to press a button and chose the right answer from a multiple choice form. This is seen as an indicator for the represser/sensitizer type. A validation study with the ABI (Angstbewältigungs-Inventar [Anxiety-Coping-Inventory]; Krohne, 1992) has been carried out. In a study with  $N=183$  subjects only low congruence was found. It is concluded that the PDAV differentiates between different groups of persons. Results from the ABI-study show that the PDAV assesses different aspects of the construct than the ABI.

**ON THE ROLE OF READING UNDERSTANDING WITHIN THE PROCESS  
OF PSYCHOLOGICAL ASSESSMENT – AN EMPIRICAL RESULT FROM  
DRIVING PSYCHOLOGY**

Proyer, René, T., Wagner-Menghin, Michaela, M., Grafinger, Gyöngyi; Austria

Proyer *et al.* (in prep.) developed an inventory to measure reading understanding in adults. The inventory was constructed (in cooperation with the Dr. G. Schuhfried GesmbH) to be provided on the computer. Following a pragmatic definition of reading understanding the authors developed different stories and questions. After reading the stories the subject has to answer questions in multiple-choice-format. A verification towards the model implications of the dichotomous logistic model by G. Rasch (1960, 1980) was done. Only the items which turned out to be compliant to the model were used for the final version. Grafinger (2002) compared a group of  $N=122$  drivers who were in a psychological training programme for risky drivers to a group of  $N=59$  students from the Technical University of Vienna. A significant difference in the reading understanding scores was found ( $p<0.1$ ). It turned out that a score of  $PR < 10$  could be traced back to a lack in reading understanding skills. Significant influences were found from memory ( $r=0.37^*$ ; Alpha = 5%), working time ( $r=-0.14^*$ ) and level of education ( $r=0.17^*$ ). It can be summarized that this inventory should be used to evaluate the question whether the subject has the basic ability to understand items from questionnaires or not. Since there is no comparable inventory available in German speaking countries this inventory can be seen as an important supplement to the psychological-diagnostic test-inventory. It is suggested not to neglect the influence of reading understanding skills within to process of psychological assessment especially while working with questionnaires. Especially this inventory can be used to evaluate the question whether the subject has the basic ability to understand items from questionnaires or not.



### **MULTIDIMENSIONAL CLINICAL EVALUATION OF SUBJECTS WITH PRE-MENOPAUSAL SYNDROME (PMS)**

Pruneti, Carlo, Mortilla, Simona, Frassi, Filippo Nicola; Italy

*Aims* The principal aim of the present study consists on the analysis and description of the psychological influences on a large number of symptoms that usually characterized women's menopausal period. The effort of the research is to describe some steadies traits of personality or life styles able to explain the complexity of the clinical picture.

*Methods* 30 women were consecutively chosen from the Menopausal Centre of a Department of Gynecology and were administered the following psychological tests: Symptom Questionnaire (SQ; Fava e Kellner, 1981), Sixteen Personality Factors Questionnaire-5 (16PF-5; Cattell, 1956) and Pisa Stress Questionnaire (PSQ; Pruneti, 1996).

Subjects were divided into 3 groups: polymenorrhea, oligomenorrhea, amenorrhea.

Kruskal Wallis statistical test was utilised for the comparison between groups. Moreover the Mann-Whitney statistical test was employed to analyse differences on stress-related behaviours and personality characteristics between subjects who referred flushing, sweating or other vasomotor signs and subjects who did not refer them.

Correlation test of Spearman and linear regression were calculated to find relations between different psychological indexes and were utilised for valuating the influence of these on the others.

*Results* No significant difference was found in subjects with amenorrhea, oligomenorrhea and polymenorrhea and from the comparison between subjects with or without flushes – sweats on ways of life, on typical behaviours, on personality's dimensions and on psychological and emotional status. Instead, many statistical relevant correlations and relations that described the typical answer configurations and the kind of relationship between the considered variables were found.

*Conclusions* Obtained results show that some steadies personality traits seems to be able to predict the manifestation of some of the symptoms and of some stress related behaviours strictly correlated with the PMS. It is important to underline the relevance of a multidisciplinary approach on women during the menopausal period.

### **TEMPERAMENT IN CHILDHOOD AS A PREDICTOR OF BODY MASS AND ABDOMINAL FAT IN ADULTHOOD: AN 18-YEAR FOLLOW-UP STUDY**

Pulkki, Laura, Kivimäki, Mika, Elovainio, Marko, Raitakari, Olli, Keltikangas-Järvinen, Liisa; Finland

This study examined associations of temperament at ages 6–12 with body-mass index (BMI) and waist circumference (WC) at ages 24–30. Participants were 296 men and 385 women derived from the population-based Cardiovascular Risk in Young Finns Study. Temperament was operationalized as (negative) Emotionality, Sociability, and Activity. High Emotionality in girls and a low Sociability in boys predicted increased BMI and WC, independently of childhood risk factors for adult obesity such as parental BMI and socioeconomic status, birthweight, tracking of BMI, and health risk behaviors. The findings suggest that temperament in early life has a role in the development of general obesity and abdominal fat accumulation in adulthood.

## COUNTRY-SPECIFIC DETERMINANTS OF SMOKING ONSET IN BOYS AND GIRLS

Rahman, Juliette, Candel, Math, de Vries, Hein; The Netherlands

*Background* This study uses data of European Smoking prevention Framework approach (ESFA-project). While many studies investigate determinants of smoking onset less research has been done in country- and gender-specific determinants. From a perspective of public health it will be important to know more about determinants of smoking onset in adolescents and whether country- and gender-specific differences exist.

*Aim* This study will investigate the transition from never smoking adolescents at baseline to a higher smoking stage one year later. The most important goal is to determine country- and gender-specific determinants of smoking onset.

*Method* 4021 never smoking adolescents from 6 European countries (the Netherlands, Denmark, Finland, Portugal, Spain and United Kingdom) have been analyzed. Differences in motivational determinants between sustained never smokers and who became smokers were analyzed by a Mann Whitney U-test. Analyses had been done gender-specific and for each country.

Logistic regression analyses reveal whether country-specific predictors exist.

*Results* Overall Danish and Finnish experimented smoking girls have more positive beliefs, had often smoking parents and, lower self-efficacy regarding smoking than sustained never smokers. Dutch, Portuguese and British experimented smoking girls had more often smoking parents.

Boys from the Netherlands, Spain and United Kingdom who became smokers have less negative beliefs regarding smoking at baseline than sustained never smokers. Predictors of smoking are having smoking friends and smoking parents, significantly for Finish, Dutch, Portuguese and British boys.

*Conclusions* Regarding determinants of smoking onset some gender and country differences exist. According to the findings of this study it would be useful to focus on country- and gender-specific interventions.

## DIFFERENCES IN DETERMINANTS OF SMOKING ONSET BETWEEN BOYS AND GIRLS: RESULTS FROM THE ESFA STUDY

Rahman, Juliette, de Vries, Hein; The Netherlands

*Background* The European Smoking prevention Framework Approach was implemented in six European countries among adolescents aged 12–15 years. The aim of this study is to show which motivational determinants of the ASE-Model predict the smoking onset for boys and girls.

*Method* Data were analysed for never smoking boys and girls. Tukey HSD contrast analyses were used to determine differences in smoking determinants at baseline for the several smoking stages, for boys and girls separately. Logistic regression analyses were used to measure which motivational determinants of smoking were more associated with boys or with girls.

*Results* Out of the never smokers at baseline, 28.38% of the girls started to smoke and 24.44% of the boys. Compared to boys who remained never smokers after one year, regular smokers experienced at baseline more social pressure from their friends and had more often smoking parents, siblings, and friends. Girls who became regular smokers after one year had more positive

beliefs regarding smoking, that smoking would be a social norm among their friends, had more smoking parents, smoking siblings, smoking friends, and showed lower self-efficacy to resist smoking than girls who remained never smokers. Logistic regression analyses revealed that smoking onset in boys were associated with having smoking siblings and parents whenever feeling upset and for girls were having smoking peers, smoking siblings and low self-efficacy to resist smoking when they were offered a cigarette.

In conclusion increasing self-efficacy in both groups was important but even more in girls. Further interventions should emphasize these findings.

## **SOCIAL SUPPORT AND PSYCHOLOGICAL RESPONSE TO INJURY**

Rees, Tim, Evans, Lynne, Mitchell, Ian, Hardy, Lew; UK

*Objectives* The objectives of this study were to assess the main and stress-buffering effects of social support upon psychological response to injury.

*Methods* Participants were 319 injured British sportspeople, mean age 27.3 years (SD 9.4), ranging in standard from international to recreational level. Recruitment of participants was opportunistic (convenience sample) at a sports injury clinic in the UK over a one-year period. Participants completed measures of perceived social support (Rees and Hardy, 2000), stressors and psychological response to injury (Evans *et al.*, 1996).

*Results* With alpha set at 0.05 for all tests, moderated hierarchical regression analyses revealed that across all 15 models tested, there were significant main effects for stressors and social support on psychological response. Entered first, the effect of the stressors was in a negative direction ( $R^2 = 0.02-0.11$ ). Over and above the variance in psychological response explained by the stressors, social support explained a further amount of variance in a positive direction ( $R^2$  change = 0.01–0.06). There were 5 interactions ( $R^2$  change = 0.01–0.04). The form of these interactions was consistent with the hypothesised predictions and the stress-buffering hypothesis: the detrimental effects of stressors on psychological response were reduced for those with high social support compared to those with low social support.

*Discussion/Conclusion* The present study has provided an insight into the potential for social support to positively influence psychological response to injury, both directly and by moderating the negative influence of stressors upon psychological response.

## **DEVELOPMENT OF A NEW DISEASE-SPECIFIC QUALITY OF LIFE QUESTIONNAIRE TO ADULTS LIVING WITH HEMOPHILIA**

Remor, Eduardo, Diaz, Jose Luiz, Del Rincon, Carolina, Arranz, Pilar; Spain and the Spanish Task Force for the Development of a New Disease Specific Quality of Life Questionnaire to Hemophilia Patients

*Objective* Within a multicentre Spanish study, a hemophilia-specific health-related quality of life questionnaire (named 'Hemofilia-QoL' – Spanish version) was developed to assess quality of life in adults with hemophilia, and was psychometrically tested.

*Method* Phase I – Seventy-three interviews with hemophilia patients (47) and health-care professionals (26) were performed to generate the items included in the questionnaire, and expert ratings

on the items formulated were used to screen them for potential omission, and to determine in which subscale the item must be included.

**Phase II** – This was followed by psychometric testing in a sample of 35 patients. The disease-specific questionnaire was administered together with the SF-36 Health Survey, and each centre also reported some clinical data regarding each patient assessed (e.g., type of hemophilia, degree of severity, number of bleedings in the last year, target joint, orthopedic surgery, type of treatment, number of treatment infusions, HIV or HCV infection). The assessment was performed by health-care staff trained in the administration procedures. Reliability and validity (concurrent) characteristics were assessed.

**Results** Preliminary psychometric testing of the revised questionnaire version, which contains ten domains (physical health, physical role, joint damage, pain, treatment satisfaction, emotional role, mental health, social support), showed acceptable reliability ( $\alpha = 0.94$  for the Hemofilia-QoL total score; ranging from 0.52 to 0.93 for the subscales) and validity.

**Conclusions** The results from the pilot work, presented in this communication, are encouraging. It shows that the disease-specific ‘Hemofilia-QoL’ questionnaire is a reliable, valid and sensitive assessment of quality of life in adults with hemophilia, and it is available for future clinical studies. A field study with a larger patient sample is currently in progress in order to confirm psychometric properties and generate normative data.

### **IT'S DIFFERENT WHEN I DO IT: ASSESSMENT OF UNREALISTIC OPTIMISTIC RISK PERCEPTIONS AT THE INDIVIDUAL LEVEL**

Renner, Britta; Germany

When people are asked to rate their chances of experiencing certain illnesses, accidents, and other problems, most of them report that their risk is to be average or below average. However, such relative risk estimates do not reveal which individuals are actually biased. Most researchers to date suggest that unrealistic optimism can only be determined by reference to an objective standard of accuracy such as detailed knowledge about an individual's risk factors and the epidemiological risk of similar people (e.g., Weinstein, 2003).

In the present study an alternative method is suggested for assessing unrealistic optimism at the individual level. Subjects ( $n = 113$ ) were asked for their sexual risk behaviour and their perceived risk for becoming HIV-infected. Afterwards, they were given various behavioural profiles of hypothetical others and they were asked to estimate the risk of becoming HIV-infected for each of these hypothetical targets. Importantly, one of the hypothetical targets showed a behavioural profile comparable to the subject. Therefore, in this condition, the self and the hypothetical target were virtually identical. This approach allows determining if people evaluate certain risk behaviours as less risky when they demonstrate themselves these behaviours than when other people demonstrate it. Results showed that most subjects perceived themselves less at risk than the “identical” hypothetical target indicating a clear self–other asymmetry in judgments. Further implication for assessment of risk perceptions will be discussed.

### **PREDICTORS OF PSYCHOLOGICAL STATE AFTER GENETIC TESTING FOR INHERITED THROMBOPHILIA**

Ricci Bitti, Pio Enrico, Razzaboni, Elisabetta, Gremigni, Paola, Legnani, Cristina, Palareti, Gualtiero; Italy

**Objective** Many researches have shown that several factors could play a role in predicting psychological impact of genetic testing results, such as personality traits and pre-test psychological

state. Even if genetic predisposition for Venous Thrombosis seems to be well accepted, and a previous study showed that communication of positive results of this genetic testing has not an immediate negative emotional effect, it could be important to better investigate the phenomenon. The objective of the present study was to evaluate which factors could predict post test emotional state.

*Method* Thirty-six adults receiving positive result and 104 receiving negative result following Inherited Thrombophilia screening completed: a questionnaire assessing personality traits (optimism, coping style, health related locus of control, self efficacy) before testing; a questionnaire assessing psychological state, in two different times: before testing and after receiving communication of result.

*Results* Multiple regression showed that pre-test psychological state, together with some personality traits, was the best predictor of psychological outcome, and that test result did not predict any psychological variable.

*Conclusion* Psychological state existing before taking the test seems to be the most important predictor of post test psychological state, whereas test results doesn't have this role. This results could have a clinical implication in programming genetic counselling.

### **BRIDGING THE INTENTION BEHAVIOUR GAP IN THE THEORY OF PLANNED BEHAVIOUR: THE CASE OF QUITTING SMOKING**

Rise, Jostein, Kovac, Velibor, Kraft, Pål; Norway

At T1 (October 2003) attitudes, norms, PBC, and intention to quit smoking in the next 3–4 months were assessed among 174 daily smoking students at the University of Oslo (mean number of years of smoking = 8.0, sd = 4.7; mean age = 24.6, sd = 4.6) using self-administered questionnaires. The TPB extended with affective attitudes and descriptive norms accounted for 38% of the variance of quitting intentions. Affective attitude was the strongest predictor of quitting intentions (beta = 0.44,  $p < 0.0001$ ), while perceived behavioural control came second (beta = 0.23,  $p < 0.001$ ). However, the TPB ignores the volitional processes involved in translating behavioural intentions into actions, and this may be particularly important for addictive behaviours. Hence the purpose of the present study was to bridge the I-B gap by examining the self-regulatory role of four variables: (i) time perspective, planning, temporal stability of intentions, and anticipated emotions. The main idea is that these variables may function as moderators of the I-B relation: the higher the future-orientation, the more active quitting planning smokers engage in, the more stable the intentions, the more negative emotions are anticipated if quitting smoking is unsuccessful, the stronger the I-B relation. A common finding is that it is the inclined abstainers, i.e. those who fail to act on their intentions, who are responsible for the I-B discrepancy. Another purpose is to examine how inclined abstainers (similar to dissonant smokers) differ from inclined actors, disinclined actors and disinclined abstainers. Data on the variables in the volitional phase are currently being collected (February 2004).

### **SOCIAL INFLUENCES AND YOUNG PEOPLE'S HEALTH BEHAVIOURS: REASONED ACTION, SOCIAL REACTION AND GOAL CONTAGION**

Rivis, Amanda, Sheeran, Paschal, Armitage, Christopher; UK

*Objectives* The present study examined: (a) the importance of social influences – prototypes, descriptive norms, and subjective norms – for young people's health-related decisions and

behaviour, and (b) the processes by which social influences impact upon young people's health-risk and health-promoting behaviours.

*Method* The study employed a prospective questionnaire survey design: At Time 1,  $n = 271$  secondary school pupils voluntarily completed measures of Theory of Planned Behaviour (TPB; Ajzen, 1991) and Prototype/Willingness Model (PWM; Gibbons *et al.* 1998) variables in relation to 14 health and risk behaviours. Two weeks later (T2) they reported their behaviour ( $n = 136$ ).

*Results* Hierarchical regression analyses showed that social influence variables contributed, on average, an additional 14%, 13%, and 11% to the variance explained in risk willingness, risk intentions, and healthy intentions, respectively, after other variables from the TPB and PWM had been taken into account. In addition, social influence variables directly contributed to the variance explained in behaviour, capturing an additional 5% and 9% of the variance in risk and health behaviours, respectively, over and above the proximal predictors from the TPB and PWM. Prototype similarity was the most consistent additional predictor of health-related decisions and behaviour.

*Conclusions* The findings (a) highlight the importance of social influences for adolescents' health risk and health promoting behaviour, (b) provide the best evidence to date to support the inclusion of prototypes in the TPB, and (c) suggest that social influences impact upon young people's health behaviour via three routes: reasoned action, social reaction, and automatic goal contagion.

#### **MORE EVIDENCE THAT PERCEIVED BEHAVIOURAL CONTROL IS MULTIDIMENSIONAL – A CONSIDERATION OF PHYSICAL ACTIVITY**

Rodgers, Wendy, Courneya, Kerry, Murray, Terra; Canada

Recently Trafimow and colleagues (2002) presented evidence that perceived behavioural control (Ajzen, 1988, 1991) is multidimensional, comprising two constructs: perceived control (PC) and perceived difficulty (PD). They determined this difference using non-health relevant behaviours. The purpose of this study was to replicate the findings of Trafimow *et al.* using their reading example and to extend their work by also considering self-efficacy (Bandura, 1986, 1995), and by examining the distinction of these three constructs in the context of exercise behaviour. Trafimow *et al.* examined reading 1, 30 and 100 pages to represent different levels of behavioural challenge that should reflect increases in perceived difficulty but not necessarily perceived control. In a repeated measure within-subjects design, with a sample of over 220 undergraduate students participating for course credit, we were able to replicate their findings, demonstrating a significant interaction of PC, PD, and SE such that the decline in PD was steeper than for PC, and the decline in SE was steeper than PD,  $F(4.214) = 50.13$ ,  $p < 0.001$ ,  $ES = 0.48$ . We were also able to reproduce this distinction among the constructs contrasting three exercise frequencies: 2, 4, and 6 days per week, with a significant interaction,  $F(4.217) = 24.29$ ,  $p < 0.001$ ,  $ES = 0.31$ . These results indicate the conceptual and empirical distinction among constructs and between three levels of two behaviours for which perceptions of difficulty, control and efficacy should differ, is supported. The potential role of each control construct in the production of discrete versus long-term sustained behaviour is presented.

#### **OBESSE CARDIAC PATIENTS: PSYCHOLOGICAL EVALUATION PRE AND POST INFORMATIVE GROUP OF OBESITY (IGO) (PRELIMINARY REPORT)**

Romano, Bellkiss, Watanabe, Cintia, Sharovsky, Lilian; Brazil

*Objective* To verify if IGO modifies habits and promotes self control by evaluating depression, alimentary compulsion and perception of self-image, pre-group, 1 month and 6 months later. Method: 37 obese cardiopath 2 attending sessions of IGO lead by nutritionist and psychologist, mean age 56 years, 75% female, 60% married, BMI average 35.7kg/m<sup>2</sup>.

Till now, pre and 1 month evaluations were done.

*Results* Beck Depression Inventory (BDI): severe/medium depression present: 68% pre, 58% post. No depression: 8% (pre), 21% (post). Questionnaire of Eating and Weight Patterns R (QEWPR): 40% compulsive. Alimentary excesses and lack of control annoyed very much (level 4) in last 6 months: 38% (pre), 41% (post). Weight and body shape had influenced negatively in 43% of the self-evaluation. BDI X QEWPR: 67% (pre), 71% (post) of the compulsive patients had presented severe depression.

Draw a person: pre-silhouette of the drawings sufficiently idealized, post-silhouette next to the reality. Refusal in drawing: 1 patient pre, 5 patients post.

Almost 53% (both pre and post) of the drawings had omissions of parts, hands being more frequently (55% pre, 52% post) and neck (22% pre, 24% post). Hairy traces: 28% pre, 38% post. Untied figures in space 86% pre, 90% post; superior half of the sheet: 42% pre, 48% post.

*Conclusions* Difficulties in dealing with the body and recognizing its dimensions confirmed generating intense sensation of low self-esteem, rejection, impotence. More than half (pre and post) drawings omitted parts of the figure, increased n° of patients whom denied to draw post. It improved depression degree and increased depression absence after the group. It has clues (in the drawings) of reliable lack in the social contacts; aggressiveness and immaturity as defense; impulsiveness related to alimentary compulsiveness, suggesting difficulty in directing instinctive impulses, poor internal control. IGO, although only informative, is significant in improving self-perception of necessities and difficulties, suiting insights.

### **THE SPEECH OF HOSPITALIZED CHILDREN WITH CARDIAC CONGENITAL DEFECTS ABOUT DEATH THROUGH AN INFANT BRAZILIAN STORY (PRELIMINARY REPORT)**

Romano, Bellkiss, Watanabe, Cintia, Favarato, Maria Elenita; Brazil

*Objective* To understand social representation of the cardiac children concerning death through the usage of a story.

*Method* 14 children with congenital cardiopathy, mean age 9 years (+/1.5 years), 8 women, 7 pre surgery.

*Instrument* A Brazilian story "the magic mountain of the wild geese" from Rubem Alves: story about 2 wild geese (father and son). Father says farewell when he gets older and leaves for the magic mountain that represents death. When aspects related with death appeared, the story was interrupted and the children were requested to continue it by giving a personal outcome.

*Method of Analysis* Speech of the Collective Subject (SCS) – Synthesis of the key expressions used by all patients as a central subject, creating only one representative speech.

*Results* Three groups of answers:

1. form to approach death: majority ( $n=11$ ) approached death (both themselves and another person) in direct form; one child in indirect form did not manage to finish the story; two had spoken of their hospitalization instead of finishing the story.
2. meaning given to death: something bad-8, separation-7, natural for old people first of all-4, solitude 3, threat-2, abandoned by their family-1, taboo to be hidden-1.

3. found resolution: death of the others to make them company -8, solution through immortality-5, reversibility-2, accepted as natural phenomenon -1.

*Results* All children approached death as a subject. Majority mentioned another one (father, mother or friends) to go with them in order not to be alone. The link that children make between death and separation became clear, also fear of this enigma and necessity to solve it. The fact of these children being hospitalized is important, having deeply moments of separation from family and solitude while in hospital. This research continues, to investigate the cognitive development in the understanding of death.

### **CATTELL'S CHILDREN'S PERSONALITY QUESTIONNAIRE: A PILOT STUDY FOR THE ITALIAN VERSION REVIEW**

Rota, Sabrina, Terzini, Eleonora, Frassi, Filippo Nicola; Italy

*Introduction* It is clear that Children's Personality Questionnaire (Cattell, 1968) is one of the psychometric instrument more useful and complete for assessment and development of the aged personality, although this questionnaire was originally standardized in Italy 23 years ago by Arrigo Pedon (1981).

*Aims* Personality Questionnaire (CPQ).

*Method* Form A of the CPQ (A1 part and A2 part), consists of 140 items, 10 of which for each personality factor was administered to 1157 subjects (600 males and 557 females) aged 8–13 coming from public schools of Tuscany (central Italy). For statistical descriptive analysis mean and standard deviation values were calculated for each factor of experimental sample. Then Student "t" test was used to make a comparison between mean values of the examined sample and mean values of the italian normative sample.

*Results* The results show statistical significant differences in many of the 14 personality factors studied with this test. More specifically there were no significant differences in E, H, Q3 personality factors for females; A, F, G, I personality factors for males and C, D, Q4 for both males and females.

*Discussion* Results show the importance of a new standardization of the Children's Personality Questionnaire in Italy.

### **INCREASED ATTENTION FOR COMPUTER-TAILORED HEALTH COMMUNICATIONS**

Ruiter, Rob, Kessels, Loes, Jansma, Bernadette, Brug, Johannes; The Netherlands

The present study tested the hypothesis whether health communications that are tailored to individual needs receive more attention from the reader than non-tailored health communications. Earlier studies provided some insight into this hypothesis by means of self-report measures that followed message exposure. However, these measures are liable to self-presentational influences. The present study instead used methods from cognitive neuroscience, in particular event-related brain potentials (ERPs), to study attention for computer-tailored, i.e. individualized, nutrition education messages during message exposure. The amount of attention allocation for a parallel task (responding to rarely presented high tones) was measured by means of an electroencephalogram (EEG) during exposure to either tailored or non-tailored persuasive



information about fat intake reduction and increasing fruit and vegetable intakes. Based on resource allocation theory it was predicted that the response to the high tone would be more increased for the non-tailored as opposed to the tailored information group. Our findings provided support for this hypothesis and thus provide more insight into the effective mechanisms of computer-tailored health education.

## ACUTE AND CHRONIC PAIN AMONG AGEING EMPLOYEES

Saastamoinen, Peppiina, Leino-Arjas Päivi, Lahelma Eero; Finland

*Aims* We lack research on general chronic pain among employees. The purpose of this study is to examine the prevalence, anatomical distribution and the socio-demographic and socio-economic determinants of chronic pain among middle-aged female and male employees.

*Material and Methods* Data on age, sex, marital status, education, occupational class, income and pain locations were obtained by mailed questionnaires in 2000, 2001 and 2002, sent to 40, 45, 50, 55 and 60 year-old employees of the City of Helsinki (response rate 67, 80% women,  $n=8970$ ). Acute pain was defined as having lasted a maximum of three months, and chronic pain more than three months. Age-adjusted prevalence rates with 95% confidence intervals and logistic regression were used in the analyses.

*Results* The age-adjusted overall prevalence of acute pain was 15% among women and 12% among men and that of chronic pain was 29 and 24% respectively. Acute pain decreased with age while chronic pain increased. The most common location for both acute and chronic pain was neck and shoulders (10/17% in women and 5/13% in men). Of the women, 20% reported multiple ( $>2$ ) acute pain locations and 36% multiple chronic pain locations. The percentages for men were 16% and 32%, respectively. An inverse association was found between chronic pain and education and occupational social class, but there was no such association for acute pain.

*Conclusions* Middle-aged employees report a high prevalence of chronic pain which follows a clear socio-economic pattern. Further research needs to clarify possible work-related and other risk factors of chronic pain.

## PERSONAL GOALS AND HEALTH

Salewski, Christel, Hiemisch, Anette, Becker, Ulrike; Germany

*Objectives* Personal goals influence what people are currently striving to achieve or try to become. Many studies have shown relations between characteristics of personal goals (e.g. importance or attainability) and psychological well-being. Much less is known about relations between personal goals and physical health.

This study examined in which respect either goal contents or goal characteristics relate to self-assessed physical health.

*Method* Participants were 72 students enrolled in various disciplines. They were asked to list all important current personal goals. For each goal, participants indicated goal importance, perceived goal attainability and recent progress in goal attainment. They also filled in a series of scales of self-assessed physical health. Negative affectivity was assessed as a control measure for reports on physical health. Goals were categorized into ten content areas: power,

achievement, intimacy, affiliation, altruism, variation, physical fitness, tranquility, development, and autonomy.

*Results* Participants rated goals concerning achievement, tranquility, altruism, intimacy and physical fitness as most important, but regarded only achievement- and intimacy-related goals as attainable and recently successful. After controlling for negative affectivity, significant correlations between health and perceived attainability of power-, tranquility- and intimacy-related goals remained. Recent progress in goals concerning power, achievement and affiliation goals were also significantly correlated with health.

*Conclusions* In the context of physical health, attainability and success in goals attainment emerged as more important goal characteristics than goal importance. Specific content areas proved to be relevant in the group under study. Results are discussed with regard to developmental tasks and mechanisms of self-regulation.

## STRESS AND INJURIES AT WORK

Salminen, Simo; Finland

*Objectives* To examine the relationships between stress at work and occupational and leisure-time injuries.

*Methods* In the National Work and Health Survey a total of 2335 working people were interviewed by telephone in the spring of 2003. Their stress experiences at work were measured by the Work Stress Scale developed by the researchers from the Finnish Institute of Occupational Health. In the interview the subjects reported their injuries at work and during leisure time during past 12 months.

*Results* There were low but statistically significant Pearson correlations between the item, Do you feel stress these days and occupational injuries (0.05,  $p < 0.05$ ) and leisure-time injuries (0.05,  $p < 0.05$ ). Injuries at work were also related to hurry to get one's work done (0.04,  $p < 0.05$ ) and to interrupt on-going job because of intervening tasks ( $-0.07$ ,  $p < 0.001$ ).

*Conclusion* This study showed that occupational stress was related to both injuries at work and during leisure time. It is possible that stress situations narrowed the attention of the subjects so that they are more exposed to injuries.

## “EFFECTS OF HIGH HEART RATE (HR) AND LOW HEART RATE VARIABILITY (HRV) ON ANGER”

Sardi, Iliana, Pieper, Suzanne, Brosschot, Jos, F.; The Netherlands

*Objectives* The hypothesis that high HR and low HRV would predict anger from one hour to the next hour during the day was tested. The effects of ‘type of the day’ and ‘location of the participants’ on anger were tested as two secondary hypotheses.

*Methods* Participants were 52 Dutch secondary school teachers (32 men; 61.5%, 20 women; 38.5%), aged from 26 to 69 years old ( $M = 46.88$ ). Each of them took part in an ongoing ambulatory measurement of physiological signals in real-life situations. Emotions and activities were measured with Palmtop computers. All hypotheses were tested using logistic regression. All variables were analyzed as occurring twice in the analysis, in the previous and the after version.

*Results* 'Previous HRV' was not found to be a significant predictor of 'anger after'. Instead, the results showed a weak, but statistically significant, relationship between 'anger after' and 'previous HR' in the direction of decreasing the odds of anger occurring in the next hour. 'Anger previous' revealed to be the strongest and most consistent significant predictor of 'anger after'. 'Physical activity after' had a significant effect on 'anger after' only when the variable 'previous HR' was not included in the analysis. 'Sleep after' had a significant effect only when all the other predictors, apart from 'physical activity', were not entered in the analysis. Participants were found to register more anger during the leisure days and at their work place.

*Conclusion* Contrary to the hypothesis, cardiac activity was not found to anger. Instead, it predicted less anger, albeit weakly.

### **ILLNESS PERCEPTIONS, SELF-PERCEIVED HEALTH, QUALITY OF LIFE AND MORTALITY IN PATIENTS WITH HEAD AND NECK CANCER**

Scharloo, Margreet, Kaptein, A.A., Langeveld, T.P.M., Doorn-op den Akker, M.M., Baatenburg de Jong, R.J.; The Netherlands

*Objectives* Literature suggests that optimism predicts survival status in head and neck cancer patients independent of sociodemographic and clinical variables. In numerous studies global self-rated health is an independent predictor of mortality. We examined if medical variables, quality of life scores (at diagnosis), illness perceptions (at diagnosis), and self-perceived health (at diagnosis and at the start of treatment) could discriminate between head and neck cancer patients who died and patients who were alive at 1 year after diagnosis. Relationships between illness perceptions and self-perceived health were also examined.

*Methods* Fifty-three patients with head and neck cancer completed questionnaires measuring illness perceptions (IPQ-R), self-perceived health (SPH), and quality of life (EORTC QLQ-C30 and QLQ-H&N35). Data on comorbidity (ASA-scores), age, gender, TNM-stages, site, type of cancer, and type of treatment were also collected.

*Results* Ten patients died within 1 year after diagnosis. T-tests and Chi-square tests were used to examine on which variables survivors differed from those patients who died. Patients who died had significantly lower physical functioning scores and higher symptom scores at diagnosis, as well as more unfavourable self-perceived health scores at the start of treatment. No differences were found on illness perceptions, demographics or medical variables. Identity perceptions, cyclical time line beliefs, beliefs about consequences, emotional reactions and psychological attributions were related to self-perceived health.

*Conclusions* Self-perceived health may be a prognostic factor in head and neck cancer. Larger studies and multivariate analyses are necessary. When self-perceived health would indeed emerge as an independent factor, interventions could improve health care in these patients.

### **EVERYDAY THEORY OF MIND AND ACTION IN AN INTERVIEW AFTER A SUICIDE ATTEMPT: SOCIAL MEANING**

Scheidegger, Gabriela, Valach, Ladislav, Michel, Konrad; Switzerland

*Introduction* Conceptualizing suicide and suicide prevention processes in terms of goal-directed systems as actions, projects and careers we address subjective, manifest and social processes (Michel and Valach, 2001; Valach *et al.*, 2002). To work within these perspectives we employ

systematic observation in studying manifest actions (Valach *et al.*, 2002), self-confrontation interview for obtaining information on ongoing subjective processes (Valach *et al.*, 2002) and naïve observation to collect data on social meaning of the target processes. Working within a constructionist paradigm we base our propositions on a comprehensive analysis containing all the three methods. This presentation adds some insights from naïve observation to our studies on suicide and suicide prevention.

*Methods* Thirty-three young people (mean age = 27.3;  $SD = 6.5$ ) viewed an interview of 24 min duration in which a psychotherapist inquired about suicide processes of a female patient 8 days after her suicide attempt. The observers answered a number of questions after each time segment (6 min), then assessed the interview as a whole and also supplied some information about them.

*Results* The observers were able to assess the alliance of the patient and the psychotherapist in a similar way as the patient did. However, they underestimated the patient's feeling of obtaining some new understanding in the interview and overestimated the extent of patient's belief that the interview was helping her that she felt better after the interview and, particularly, that she was able to see that she will eventually work out her problems.

Studying the prediction power of attributed emotion for the observers' attribution of patient's belief that the psychotherapist will help her to reach her goals we found that being in need of support, feeling agitated, restricted, energetic, nervous, sad, dissatisfied, hurt, careful and embarrassed was unrelated to the goal attribution. However, the attribution of joy, feeling understood, showing trust, feeling content and confident predicted well the attribution of patient's belief that the psychotherapist will help her to reach her goals.

*Discussion* As suicide and suicide attempts are socially embedded processes it is important to understand the social meaning and attribution processes in everyday life of the patients that they often feel misunderstood which inhibits the suicide prevention process (Michel *et al.* in press).

## **CROSS NATIONAL COMPARISON OF CANNABIS USE AMONG ADOLESCENTS – DOES CONTEXT MAKE A DIFFERENCE?**

Schmid, Holger, Switzerland, Ter Bogt, Tom; Netherlands

*Objective* This study reports on cross-national differences in cannabis use in 31 countries in Europe and North America. The variation in patterns of use between countries is examined on the basis of national characteristics regarding national contexts such as socio-economic status and generalized notions of young people's acquaintance with and perceived availability of cannabis.

*Method* Data on cannabis use were taken from the 2002 World Health Organization (WHO) cross-national survey on Health Behaviour of School-aged Children (HBSC). The multi-national representative sample consisted of 22 223 male and 24 900 female 15-year-old students. Country characteristics were derived from economic databases and prior conducted cross-national surveys on substance use in Europe and North America. Hierarchical Generalized Linear Model (HGLM) was used to analyse the effects of country characteristics as contexts on individual cannabis use.

*Results* Over all countries, 26% of male students and 15% of female students have tried cannabis at least once in their life. The rates for frequent use of more than 40 times in their lives are 4% among male and 1% among female students respectively. However, there are important differences in cannabis use among young people between the 31 countries. In wealthy countries with high national per capita Personal Consumption Expenditure (PCE), higher rates in

lifetime and frequent use of cannabis can be observed. Country contexts such as the perceived availability and the belief about friends' use of cannabis are associated with individual lifetime and frequent use.

*Conclusion* Country context makes a difference in cannabis use. Frequent use of cannabis is higher in wealthy countries and this relation is stronger than it is for lifetime use. Cannabis is part of a new consumptive behaviour. In addition, in countries where potential users perceive the ease of use, lifetime and frequent use is high. Structural measures may be effective in preventing cannabis use.

### **PHYSICAL ACTIVITY IN CARDIAC REHABILITATION PATIENTS: THE ROLE OF SELF-REGULATORY STRATEGIES**

Scholz, Urte, Sniehotta, Falko, F.; Germany

*Objectives* Changing one's lifestyle is a difficult task. Patients with coronary heart disease are mostly unsuccessful to change their unhealthy lifestyle in order to prevent relapses though they urgently need to do so. Self-regulatory strategies, such as awareness of one's intentions, self-monitoring, and regulatory effort, as well as self-efficacy and planning play an important role in the health-behaviour change process.

The purpose of the present study was to investigate the effects of an intervention on self-regulatory strategies, and self-efficacy aiming to increase physical activity.

*Methods* This experimental and longitudinal study included 199 cardiac rehabilitation patients (mean age = 59 years,  $SD = 10$ , 18% women) who completed questionnaires during rehabilitation as well as 2, 4, and 12 months after discharge. Exercise behaviour, self-regulatory strategies, self-efficacy, and other social-cognitive variables were assessed at all measurement points in time. Additionally, two thirds of randomly chosen patients participated in an intervention designed to improve action planning during rehab and filled out weekly diaries in the first six weeks after discharge.

*Results* No differences in the baseline measures occurred between experimental and control groups. The intervention was effective in enhancing exercise behaviour: The experimental group showed a higher increase in exercise from t1 to t2 compared to the control group. Furthermore, there is a tendency for the intervention group to keep the higher exercise activity up to one year after discharge. Self-regulatory strategies and self-efficacy were also higher for the intervention group compared to controls. These variables partly mediated the effects of the intervention on exercise behaviour.

*Conclusions* Theory-based interventions including action planning are effective features to help persons to successfully implement and maintain their behaviour change. The results suggest that this is mediated by self-regulatory strategies and self-efficacy.

### **EFFECTS OF SOCIAL-COGNITIVE VARIABLES ON DEVELOPMENT AND MAINTENANCE OF PREVENTIVE NUTRITION**

Schüz, Benjamin, Sniehotta, Falko; Germany

*Objectives* Social-cognitive models of health behaviour agree in their assumption that health behaviours like preventive nutrition are best predicted from variables such as risk perception, self-efficacy, outcome expectancies and behavioural intentions. It is hypothesised that the

influence of these variables on nutrition varies depending on the perception of health threats in everyday life.

*Methods* Study 1 ( $N = 600$ , longitudinal, interval = 6 months) examined the influence of social-cognitive predictors of preventive nutritional habits under normal circumstances, i.e. no acute specific health threat.

Study 2 ( $N = 195$ , longitudinal, interval = 4 months) was conducted in a similar way addressing meat consumption during a life stock epidemic as an example for an acute specific health threat hypothesised to influence preventive nutrition.

Both studies were analysed by means of structural equation models.

*Results* In both studies, intentions were predictable from risk perception, outcome expectancies and self-efficacy. In Study 1, outcome expectancies were the best predictor for intentions, while in Study 2 self-efficacy best predicted intentions. Nutritional behaviour in both studies was best predicted by intentions and self-efficacy. However, Study 2 also found a significant direct effect for risk perception on the intake of meat and beef products which was not found in Study 1.

*Conclusions* This suggests that risk perception, although being of minor importance for the explanation of nutritional habits under normal circumstances plays an important role for the adoption and maintenance of behavioural responses to acute health threats.

## PATIENT DELAY IN ORAL CANCER: A SYSTEMATIC REVIEW

Scott, Suzanne, McGurk, Mark, Grunfeld, Elizabeth; UK

*Background* Detecting oral cancer at an early stage is believed to be the most effective means of improving survival and reducing morbidity from this disease. However, roughly a quarter to a half of patients present with advanced lesions, for which the five-year survival rate is around 40%. Previous research suggests that a significant proportion of patients delay seeking help from a health care professional (HCP) after self-discovery of a symptom of oral cancer, yet the extent of this patient delay and the risk factors for delays by patients are unclear.

*Objectives* The current research aims to systematically review the literature on patient delay for patients with oral squamous cell carcinoma.

*Methods* Computerised databases were searched to access relevant articles. Data relating to the methodology used, the extent of patient delay, and the factors investigated for association with patient delay, was extracted from each paper. A methodological assessment was used to rate each paper in terms of its methodological quality.

*Results* Seventeen papers fitted the inclusion criteria for the review. Methodological quality varied between studies and only five were considered to have used reliable and valid methods. In terms of the extent of patient delay, it is estimated that 50% of patients present within 1.4 months, yet approximately 29% of patients delay seeking help for more than 3 months. Results indicate that most tumour factors, demographic variables, and patient health-related behaviours are unrelated to the duration of patient delay. HCP-related variables and psychosocial factors were seen to play a role in the extent of patient delay, although the studies that addressed these factors were rated as of poor quality.

*Conclusion* Reasons for patient delay in oral cancer are poorly understood and studies examining psychosocial issues is sparse or of poor quality. Further investigation, using reliable methods, is now necessary to determine how such factors influence patients' delay in seeking medical advice for oral symptoms.

### CAUSAL MODELS OF RAISED CHOLESTEROL AND PERCEPTIONS OF EFFECTIVE RISK-REDUCTION: SELF-REGULATION STRATEGIES FOR INCREASED RISK OF CARDIOVASCULAR DISEASE

Senior, Victoria, Marteau, Theresa; UK

*Objectives* Self-regulation models of illness suggest that causal models and perceptions of control are determinants both of perceptions of effective risk-reduction strategies and risk-reducing behavior. This model is tested in people with Familial Hypercholesterolaemia (FH), an inherited predisposition to cardiovascular disease.

*Methods* Three hundred and seventeen participants with FH in a trial of genetic and nongenetic risk assessment completed measures of causal model, perceived control, perceived effectiveness of risk-reducing strategies, dietary fat intake, and medication adherence. Illness perceptions were assessed one week and six months after genetic risk assessment. Dietary fat intake and medication adherence were assessed six months after genetic risk assessment.

*Findings* A genetic causal model of FH was related to perceiving medication as an effective risk-reduction strategy. A behavioral causal model was related to perceiving dietary intervention as an effective risk-reduction strategy. Perceived effectiveness of medication was associated with greater adherence to medication. Few of these associations were statistically significant in longitudinal analysis.

*Conclusions* Genetic testing for preventable diseases is likely to reinforce genetic causal models and, therefore, the perceived effectiveness of biologically based methods of reducing risk. Genetic testing may therefore help to increase adherence to biologically based methods of risk reduction. By the same token it may reduce adherence to behavioral methods of risk reduction.

### ADOLESCENT SUICIDAL TENDENCIES AND THEIR RELATIONSHIP WITH PSYCHOLOGICAL ADJUSTMENT

Seputyte, Evelina, Gostautas, Antanas; Lithuania

*Objectives* The purpose of the study is to establish the relationship between male and female adolescent suicidal tendencies and psychological adjustment.

*Methods* A questionnaire was used to measure various psychological aspects of suicidal tendencies. Reliability of scales was assessed by calculating Cronbach  $\alpha$  (Cronbach  $\alpha$  0.8). Subjects in the study were 16–18-year-old schoolchildren living in one of the administrative districts in Lithuania. The study was conducted in 1999–2002. There was a total of 1680 subjects: 933 (55.5%) female and 747 (44.5%) male.

*Results* It was found that Suicide Scale scores were significantly higher for females than for males. Attempted suicide was significantly more prevalent among females (9.9%) than among males (2.4%). From 1999 to 2002 there was a significant decline in suicidal tendencies as measured by Suicide Scale among 16–18-years-old adolescents (both females and males). Female and male suicidal tendencies as measured by Suicide Scale are significantly related to depression, low self-esteem, loneliness, reticence, anxiety, impulsivity, learning and behavioral problems, conflict-ridden relationships with teachers, negative attitudes towards school, and adverse family environment. Experienced violence and substance abuse (alcohol, drugs, nicotine) was related to significantly higher suicide scores in both male and female groups.

*Conclusion* Suicidal tendencies as measured by the Suicide Scale are multidimensional phenomena. Males and females did not differ in terms of suicidal tendencies correlates.

### **LAPSES IN MAINTENANCE OF A HEALTHY DIET: A PRELIMINARY ANALYSIS**

Shankar, Aparna, Conner, Mark, Jones, Fiona, Bodansky, H.J.; UK

*Aims* A healthy diet is an important aspect of self-care in people with Type 2 diabetes. As this behaviour needs to be carried out indefinitely, it is natural to expect lapses in performance. The present study aimed to determine social cognitive predictors of these lapses in patients who had been advised to make these changes for a fairly long time.

*Methods* Sixty-five persons diagnosed with Type 2 diabetes for at least 1 year were recruited during their clinical visits. Participants were required to complete a questionnaire measuring demographics, social cognitive variables such as intention, attitude, perceived competence/self-efficacy, social support, self-identity, motivation measures from self-determination theory and personality variables. A self-report measure of the number of times the participant ate unhealthily in a typical week was also obtained.

*Results* Overall participants reported a strong intention, positive attitude and autonomous motivation to eat healthy. However, participants also reported an average of nearly 8 lapses a week. A total of 80% of variance in intention to eat healthy could be explained with self-identity as a healthy eater being the strongest predictor followed by number of medicines being taken. Intention to eat a healthy diet was the only (negative) predictor of number of weekly lapses, with the model explaining a total of 46% of variance.

*Conclusions* Viewing oneself as a healthy eater appears to be strongly associated with eating healthily among those familiar with the behaviour. Promoting conscious plans to eat healthily could help minimise lapses. In those who are not motivated, it might be useful to examine reasons why they do not perceive themselves as healthy eaters and to attempt to change this perception.

### **IMPLEMENTATION INTENTIONS AND GOAL ACHIEVEMENT: EXPERIMENTAL TESTS OF EXPLANATORY PROCESSES**

Sheeran, Paschal, Webb, Thomas; UK

*Objectives* It is well established that forming an implementation intention (“If situation Y arises, then I will initiate behavior Z!”) promotes the achievement of health goals compared to the formation of a goal intention on its own. However, little research has been directed towards understanding how implementation intentions enhance performance. The present research tested whether heightened accessibility of specified opportunities and strength of opportunity–action links are the explanatory mechanisms.

*Methods* Two experiments were conducted. In Experiment 1, participants ( $N=279$ ) formed an implementation intention or did not, and their performance on a visual illusion was measured. In Experiment 2, participants ( $N=72$ ) formed an implementation intention or did not with respect to collecting a coupon. Accessibility of specified cues and cue–response associations were measured using response latencies, before an objective measure of behaviour was obtained.



*Results* Findings from Experiment 1 indicated that implementation intentions enhanced the detection of specified cues even in highly challenging circumstances ( $M_s = 4.30$  versus 3.87),  $F(1,274) = 6.37$ ,  $p < 0.01$ . Experiment 2 indicated that, compared to controls, participants who formed implementation intentions (a) were more likely to collect a coupon (64% versus 39%), and (b) exhibited faster response latencies to cues and to cue–response associations but not to other concepts. Most important, accessibility of situational cues and the strength of cue–response associations mediated the impact of implementation intentions on behavioural performance.

*Conclusions* The present research provides the first demonstration that implementation intentions enhance the accessibility of situational cues and strengthen cue–response links, and that these processes are responsible for enhanced rates of goal attainment. The findings help to explain why people who form if–then plans do not miss good opportunities to act and how action initiation exhibits features of automaticity.

### **RUNNING ON EMPTY: PREVENTING COMPASSION FATIGUE AND BURNOUT IN PSYCHOTHERAPISTS**

Shobha, Pais; USA

There is a growing body of theoretical and empirical literature, which recognizes that engaging in therapeutic and/or care giving work impacts providers' physical, psychological, emotional, and spiritual lives. Compassion Fatigue is an inevitable and normal response to caring for those who have been traumatized. A strong therapeutic alliance (liking and trusting the therapist) is directly related to the therapist's expression of empathy and compassion. While empathy is a critical healing component for the process of psychotherapy, the well-known risk factor for practicing psychotherapists is their natural tendency to absorb clients' pain and carry it with them – a concept referred to as “compassion fatigue,” “vicarious traumatization,” and “secondary post-traumatic stress disorder.” Warning signs include physical symptoms such as headaches, muscle tension, back problems, insomnia, withdrawal from family and friends, emotional numbing, a loss of interest in everyday pleasures, diminished sense of personal accomplishment and feelings of inadequacy, exhaustion, intense grief, anger, blaming and increased irritability.

This presentation will address an analysis of the current literature on and vicarious traumatization or compassion fatigue/burnout. Additionally, causes of compassion fatigue, warning signs, stress reactions, and possible solutions and interventions to prevent compassion fatigue will be presented. Participants will learn about models of self-care and the essential elements of a good self-care plan. A brief self-assessment scale will also be shared to help participants to assess their own levels of compassion fatigue.

### **TO TEST OR NOT TO TEST? MODERATORS OF THE RELATIONSHIP BETWEEN RISK PERCEPTIONS AND INTERESTS IN PREDICTIVE GENETIC TESTING**

Shoshana Shiloh, Shiri Ilan; Israel

Most theories of health behavior assert that higher perceived vulnerability to a disease (perceived risk) is positively related to intentions to perform protective actions. However, empirical findings on this issue are mixed. Specifically, risk perceptions were found to be sometimes positively and sometimes negatively related to health screening behaviors.

An empirical study, investigating the moderating effects of motivations on the relationships between risk perceptions and intentions to perform medical testing is presented. We hypothesized that among individuals who are mainly motivated to get reassurance of their good health, the risk–intention correlation would be negative, while among those motivated to prevent disease, the correlation would be positive. These hypotheses have been tested with regard to predictive genetic testing for breast cancer. The sample included healthy female participants. A battery of questionnaires was used, measuring risk perceptions, behavioral intentions, and motivations to perform testing. The findings support our predictions, and may help resolve a theoretical confusion about the relationship between perceived risk and intended health behavior, and suggest practical implications regarding psycho-educational and clinical aspects of offering medical screening tests to the public.

### **ORGANISATIONAL JUSTICE, ORGANISATIONAL COMMITMENT AND PSYCHOLOGICAL WELL-BEING OF CARE WORKERS**

Sinervo, Timo, Elovainio, Marko, Pekkarinen, Laura; Finland

*Objectives* The study examines the relationships between organisational justice, organisational commitment and psychological well-being of care workers. Earlier research results suggest that there is a relationship between organisational justice and health of employees as well as a relationship between organisational justice and commitment. To extend these results, whether organisational commitment mediates the relationship between organisational justice and health or not has been explored.

*Methods* Survey data were collected longitudinally in the year 2001 and 2002 from 93 residential home and health centre bed wards ( $N=667$ ). We used the two scales developed by Moorman measuring organisational justice and Allen and Meyer's scale measuring organisational commitment as independent measures. Measures of psychological well-being were emotional well-being and energy scales from RAND-36 measure and job satisfaction-scale from JDS of Hackman and Oldham. Data were analysed with linear hierarchical regression analyses.

*Results* In longitudinal analysis organisational justice was related to all measures of psychological well-being (adjusted for time 1 psychological well-being). Organisational commitment was related to job satisfaction but not to other measures. Organisational commitment did not mediate the relationship between organisational justice and psychological well-being.

*Conclusions* The results suggest that organisational justice is strongly related to psychological well-being, as the former studies have shown. Organisational commitment seems to be more related to motivational outcomes (job satisfaction) and not to health-related outcomes. Further research is needed to find out potential mechanisms through which justice affects psychological well-being.

### **PSYCHOLOGICAL PROFILE OF STUDENTS WITH NEUROTIC DISORDERS ON THE EXAMPLE OF THE LODZ UNIVERSITY AND MEDICAL UNIVERSITY STUDENTS**

Sklodowski, Henryk; Poland

Analysis of the problem of neurotic disorders among university students has been undertaken to establish their extent and genesis. The study comprised 62 subjects: 31 students of the Medical University in Lodz (25 women, 6 men) and 31 students of the University of Lodz (26 women,

5 men). The tests were performed in June, 1999 at students' hostels in the Campus. They were anonymous.

#### *Assumptions*

1. educational profiles of the Universities are different;
2. Medical University students demonstrate higher level of neurotic disorders than the students of the University of Lodz;
3. the level of neurotic disorders is similar in a male student and a female student;
4. the level of neurotic disorders in students does not depend on their age.

The students were subjected to:

1. Biographical Questionnaire worked out by the author;
2. H. Gough's ACL Test.

During the research procedure, the most diagnostic appeared to be 6 from among 24 scales of the ACL Test: defensiveness, joint sensitiveness, affiliation, acceptance by others, feeling of inferiority, readiness for counseling.

Traits described by these scales were classified as symptoms of neurotic disorders in 28 of the tested students (45%). The observed neurotic disorders are in agreement with the descriptions found in recent professional medical and clinical psychology literature.

Analysis of the results of this study demonstrated that the causes of the neurotic disorders observed in the tested students were:

1. disturbed family environment
2. internal conflicts
3. traumatic events

Moreover, the analysis authorizes to state that the tested students are neurotic population of both the Universities in Lodz.

### **DO DOCTORS WHO ACHIEVE NATIONAL HEALTH TARGETS PERCEIVE THE TARGETS DIFFERENTLY FROM THOSE WHO DO NOT?**

Smith, Jonathan, Michie, Susan, Hendy, Jane, Adshead, Fiona; UK

*Objective* There is an increasing push towards the setting of national targets for improving health care worldwide. One such initiative in the UK is the National Service Framework for Coronary Heart Disease. This describes a set of milestones primary care doctors are expected to achieve as part of a national initiative to reduce the scale and severity of CHD. This study aims to compare the beliefs, self-reported behaviour and organisational context of doctors who have been successful in achieving the milestones with those who have been less successful. The understanding of differences between the two groups should help inform recommendations for interventions.

*Method* Semi-structured interviews were conducted with sixteen London primary care doctors: eight "high achievers" (having met at least five of the six CHD NSF milestones) and eight "achievers" (achieving less than three milestones). Practices were matched for practice size across the groups as far as possible. Interviews were transcribed, and qualitatively analysed using Interpretative Phenomenological Analysis (IPA).

*Results* There were three main areas that differentiated high and low achievers: Beliefs about evidence-based practice, control over professional practice and consequences of achieving the milestones. Low achievers:

- expressed less belief in evidence-based guidelines as the basis of their practice,
- were more concerned about their lack of control over the development and implementation of the guidelines (lack of ownership), and their control over their own practice (lack of autonomy).
- perceived more negative consequences and fewer positive consequences, both for themselves and for patient care.

*Conclusions* These results suggest differences between those doctors achieving health targets and those who do not, which could be informative in helping develop interventions to increase guideline implementation in primary care.

### **ACTING ON INTENTIONS: THE ROLE OF ACTION PLANNING AND COPING PLANNING IN LIFESTYLE CHANGES FOLLOWING CORONARY REHABILITATION**

Sniehotta, Falko, F., Scholz, Urte, Schüz, Benjamin, Pohontsch, Nadine, Burkert, Silke; Germany

*Objectives* Planning has been proposed as one key process to bridge the theoretical gap between intention and action. This paper examines the role of action planning and coping planning in lifestyle changes of CHD patients. Coping Planning refers to planned coping responses in anticipated risk situations while action plans specify where, when and how to implement one's intention.

*Methods* In a multicenter study, 500 CHD in-patients completed questionnaires concerning physical exercise, behavioural intentions and planning during rehabilitation as well as 2 and 4 months after discharge. A newly developed instrument for the assessment of action planning and coping planning is briefly introduced. Data are analysed by GLM and regression analysis.

*Results* The planning scales are reliable and valid measures to assess action planning and coping planning independently. At baseline, far higher scale values are found for action planning than for coping planning. The process of coping planning unfolds with the rehabilitation treatment and the experiences after discharge. This is indicated by a strong increase from time 1 to the first follow-up.

Planning predicts exercise over and above past behaviour and intentions. In regressions from time 3 exercise on t1 measures, exercise baseline, intentions and action planning contribute to the prediction, with action planning being more powerful than intentions. In predicting subsequent exercise from time 2 measures, coping planning is the most powerful predictor of exercise, together with the exercise baseline.

*Conclusions* Coping planning is a crucial process for changes of habitual behavioural patterns. It requires experience and unfolds its predictive power after individuals having dealt with potential problems of action performance. Thus, coping planning is a process to target in interventions.

### **FRONT-LINE HEALTH CARE PROFESSIONALS COMMUNICATION SKILLS EVALUATED BY THE PATIENT: PRELIMINARY DATA**

Sommaruga, Marinella, Bianchi, Lisa, Gremigni, Paola; Italy

*Objectives* Communication is central to all aspects of health care. The purpose of this study is to assess outpatients' satisfaction with front-line health care professionals' communication ability as an important indicator of quality of care from a patient's perspective.

*Methods* Two hundred and forty four outpatients (50% males, mean aged 54.34 ■ 14 years) making visits to the Maugeri Institute were asked to evaluate the communication skills of 10 front-line health care professionals using the HCCQ, a 14-item, 5-response option questionnaire. Of all the participants 78 outpatients (Group A) were asked to complete the HCCQ by two psychologists, while 166 outpatients (Group B) were asked to fill in the HCCQ by the front-line professionals. All the questionnaires were anonymous.

*Results* Factor analysis of the HCCQ identified four factors: 1. Patient-centered problem-solving (6 items, range 6–30, mean  $22.22 \pm 3.65$ ); 2. Effective communication skills (5 items, range 5–25, mean  $18.95 \pm 3.20$ ); 3. Hostility (3 items, range 3–15, mean  $3.92 \pm 1.95$ ), and 4. Non-verbal (face) communication (2 items, range 2–10, mean  $6.89 \pm 1.45$ ). The HCCQ showed content validity, established beyond consensus of three experts, and acceptable reliability (Cronbach's  $\alpha$  ranging from 0.68 to 0.86; total/item correlations from 0.70 to 0.88). No differences were found on HCCQ scores as related to age, sex and educational level of patients. Significant differences were found in factor 4 ( $p = 0.005$ ) between Group A (mean  $6.45 \pm 1.46$ ) and Group B (mean  $7.09 \pm 1.41$ ). It suggests that involving, in the assessment procedure, hospital personnel other than the professionals who are the target of patient's evaluation may lead to more reliable measures.

*Conclusions* The HCCQ appears to be a reliable measure of patient satisfaction with health care communicative behaviours. It allows to identify specific aspects that are evaluated as less satisfying by the patients in order to plan effective communication training for health care professionals.

## PRECARIOUSNESS, STRESS AND COPING

Sordes-Ader, Florence, France; Tap, Pierre, France; Vasconcelos, Maria de Lourdes, Fonseca, Marta, Portugal

The instruments currently available to evaluate stress to compile a scale for the assessment of perceived stress have been used. The scale consists of 30 items that represent four dimensions: depression, physical manifestations, lassitude–tiredness and agitation–tension. For this research we reduced the scale to 12 assertions, variously associated with the four dimensions.

To determine the strategies for stress management (coping) we adopted the Toulouse Coping Scale, constructed on the basis of a critical analysis of existing coping scales, whereby 6 initial strategies were assessed: focalization, social support, withdrawal, conversion, confrontation and denial. We retained 18 items from the 54 on this scale, three for each of the 6 strategies.

Regarding the relation between stress and coping, analysis of the results showed that the strategy of withdrawal – social support was positively correlated with the global outcome for stress in three of the four groups, and was not significant for the precarious Portuguese.

The strategy of control-focalization is associated with a low level of stress, but only for the Portuguese, both precarious and non-precarious.

The strategy of denial and conversion was only found in a negative relation, with a high level of stress, for the Portuguese, especially those in a non-precarious situation. In relation to the French, no relation was found between stress and denial.

## STUDY OF DEPRESSED MOOD, COPING STRATEGIES AND QUALITY OF LIFE DURING PREGNANCY AND AFTER CHILDBIRTH

Spitz, Elisabeth, De Tyche, Claude, Briancon, Serge, Costantini, M.-Louise, Vaillant, Magali, France

*Objective* To explore the relationship between coping strategies, quality of life and depressed symptoms during pregnancy and after childbirth.

*Method* The sample consisted of 277 pregnant women. The average age was 29 years old ( $SD = 5$  years, range = 19–40 years). Participants were interviewed during the late second or third trimester (26–35 weeks) of pregnancy and after childbirth. They completed Edinburgh Depression Scale (EPDS *et al.*, 1990), BriefCope (Carver *et al.*, 1989, 1997) and SF-36 Quality of life Questionnaire (Ware *et al.*, 1994). We divided the sample between probable cases of depression and probable non-cases using a threshold of 12 on the EPDS.

*Results* Styles of coping (BriefCope) allow to distinguish significantly between depressive and non-depressive women during the two periods. The impact of the depression on quality of postnatal life is more important because all the dimensions of the quality of life measured by the SF.36 are significantly collapsed with the depressive mother.

*Perspectives* The importance to detect the depressed mood before and after childbirth to prevent health disorders and promote well-being will be underlined.

### **FEELING NOT LESS AT RISK BUT FEELING MORE SELF-EFFICIENT: THE INTERPLAY BETWEEN HEALTH BEHAVIOR PATTERNS AND HEALTH-RELATED COGNITIONS**

Spivak, Youlia, Renner, Britta; Germany

The aim of this study is to examine the relationship between various health behaviors and the interplay between health behavior patterns and health-related cognitions.

Participants took part in a health screening study. Social cognitive variables (risk perception and perceived self-efficacy) and health behaviors were assessed in the domains of nutrition, physical activity, alcohol consumption, and smoking.

The analyses yielded significant age- and gender-related differences in health behavior patterns. Older participants were more likely to report a healthy overall behavior pattern than younger ones. Moreover, women showed a more healthy behavior pattern than men. Interestingly, groups demonstrating a comparable healthy behavior pattern perceived themselves as equally at risk than groups demonstrating a less healthy behavior pattern. However, they showed a higher level of domain-specific self-efficacy. Thus, people demonstrating a healthy behavior pattern may not feel less at risk but they feel more competent in executing these behaviors than people with a less healthy behavior pattern. Importantly, perceived self-efficacy was only high when participants demonstrated a favorable behavior in various domains but not when they reported only one favorable behavior. These results suggest that extending the classical one single behavior perspective to a behavior pattern perspective might lead to new insights with respect to the motivation of health behaviors.

### **BASIC AND APPLIED DECISION MAKING IN CANCER CONTROL**

Stefanek, Michael; USA

*Objectives* This presentation will focus on the question “How do people make health decisions that may impact risk of disease, treatment, morbidity, and mortality?” and will review findings in basic decision making research (e.g., biases, heuristics, framing effects) that may inform work with cancer patients involved in decisions ranging from cancer prevention to palliative care, and examine ongoing research needs.

*Methods* A broad review of decision-making across the cancer control continuum will be presented, along with potentially relevant findings from research outside of cancer control related to basic psychological processes in decision making. The potential of translational work in decision making to directly impact patient care will be highlighted.

*Results* There is an existing literature investigating cognitive biases, heuristics, and the role of affect in decision making that has not been optimally utilized in applied cancer control decision making.

*Conclusions* There is a need to encourage translational research in decision making. This means not only allowing work in basic research to inform clinical care, but for the issue relevant in applied cancer control to impact the type of work investigated in the cognitive laboratory. There needs to be increased attention to this position among funding agencies.

### **STRESSFUL LIFE EVENTS AND SOCIAL SUPPORT: A QUALITATIVE RESEARCH WITH IMMIGRATED WOMEN LIVING IN TUSCANY**

Stefanile, Cristina, Meringolo, Patrizia, Cangioli, Benedetta; Italy

In Italy immigration is a rather recent phenomenon, since for a longtime this country was a starting-point towards North Europe and America for many people.

Many researches in Social and Health Psychology have highlighted that migrants are a particularly vulnerable group. They commonly face discrimination and xenophobic hostility. Several studies suggested the importance of social support in these problematic situations, and the requirement of integration, that means preference for both minority cultural heritage and for engagement with other groups.

The aim of this research is to explore, using real groups, self-categorization and processes that might be useful in order to develop effective strategies for social integration and for the reduction of prejudice and discrimination.

This study refers to the first step, a qualitative research that analyzes perception about life events, strategies of migration and availability of social support in individuals coming from different countries and living in a town in Tuscany.

Participants are 18 women, various in age, status and national origin; and 4 privileged witnesses working in institutions and/or NGO caring migration problems.

*Method* Semi-structured interviews to collect information about migration strategies, work satisfaction, integration in Italian culture, maintenance of heritage culture and effectiveness of formal and informal social support are used. All interviews are audio-taped and transcribed.

Data analysis was based on qualitative methodology, by means of the program Atlas.ti.

Results have highlighted the perceptions of the participants about the difficulties of integration. Participants referred the lack of information about public services, particularly about health services. They state themselves as involved in relationship with Italian people, but social support is often found only in worksites (generally families) or in their children school site. Social identity is defined as a "mix" and this may be a difficulty whether towards heritage culture or towards host society culture.

### **ANXIETY LEVEL DEPRESSION SYMPTOMS, AND EMOTIONAL CONTROL IN PATIENTS WITH CARDIAC ILLNESS DURING THREE MONTHS CARDIAC REHABILITATION**

Stepnowska, Monika, Leszczynska, Kinga, Kowalska, Monika, Piotrowicz, Ryszard, Tylka, Jan; Poland

*Aim of the Study* An attempt to evaluate the variation of anxiety exacerbation (as a state) and emotional control with patients after surgical coronary heart disease treatment, during early hospital rehabilitation and three months after the surgery.

*Material* One hundred and one patients (aged 50–70;  $x = 65.33$ ) after CABG surgery, hospitalized at Cardiac Rehabilitation Clinic (National Institute of Cardiology, Warsaw).

*Methods* Beck Depression Inventory; STAI – C.D Spielberger; Questionnaire of Emotional Control – J. Brzezinski.

The patients were examined three times: on the first and the second day of their hospitalization at Cardiac Rehabilitation Clinic, and three months after CABG surgery.

*Results* The examination at the beginning of rehabilitation showed low and medium depression level with 30% of patients. In the next examination (after the rehabilitation) a slight decrease of depression symptoms (up to 25%) was observed. In three months after the CABG surgery the level of depression symptoms decreased to 17% in the examined subjects.

The differences in the exacerbation of depression symptoms between the first and the second examination were statistically significant  $p < 0.05$  ( $t = 1.625$ ); between the second and the third examination:  $p < 0.25$  ( $t = 2.023$ ). The differences in depression exacerbation immediately after the surgery and three months later were statistically significant at  $p < 0.0001$  ( $t = 3.643$ ).

In anxiety level (as a state) significant statistic differences were observed between the first and the third examination: ( $p < 0.05$ ;  $t = 1.571$ ).

In terms of emotional control, the only significant statistic differences were observed with the scale of situational control at  $p < 0.1$  (between the first and the third examination:  $t = 1.215$ ; between the second and the third:  $t = 1.383$ ).

*Conclusions* Rehabilitation significantly lowers depression symptoms as well as anxiety level experienced by the examined subjects.

– The need of situational control slightly increases during hospitalization but it decreases three months later.

## UNIVERSITY STUDENTS' BELIEFS ABOUT MEDICINES

Söderberg, Ann-Charlotte, Jörgensen, Tove; Sweden

*Objective* To investigate Swedish university students' beliefs about medicines.

*Method* Data was collected with Beliefs about medicine questionnaire (BMQ) among 642 registered first year students at Göteborg University in the autumn 2003. The students were studying pharmacy, medicine, nursing, dispensing pharmacy, pharmaceutical bioscience or finance/accounting. BMQ is divided in a specific- and a general part. The general part was used here and measured beliefs in medicines' harmful effects (General-Harm), beliefs in doctors' over-prescribing (General-Overuse) and beliefs in medicines' beneficial effects (General-Benefit).

*Results* The response-rate was 71.6%. A majority of the students were women and younger than 25 years. Almost 85% had prior experience with prescription medicines, 90.0% with over-the-counter medicines and 37.4% with herbal medicines. More women than men currently used medicines.

Pharmacy students had a significantly higher General-Harm than students in medicine, dispensing pharmacy and finance/accounting. Mean values of BMQ was similar for students in pharmacy and pharmaceutical bioscience. Students in medicine and dispensing pharmacy



had comparable means for the different subparts. All courses had high (> 4.0) General-Benefit and a General-Harm below 3.0. Women had significantly higher General-Harm than men.

General-Benefit showed that first year students in the university thought medicines were beneficial. Pharmacy students saw the largest risk with medicines and thought doctors often over-prescribed medicines. Students in medicine, nursing and dispensing pharmacy will have the most patient-related work. The results show that students in medicine and dispensing pharmacy have a higher confidence in medicines compared to nursing students.

*Conclusions* First year students at the university think medicines are beneficial and not very harmful. Can university educations with focus on medicine and caring change beliefs in medicines?

### **HEALTH LOCUS OF CONTROL PERCEPTION OF ADOLESCENTS AND ITS EFFECTS ON THEIR HEALTH BEHAVIOURS**

Tabak, Ruhi Selçuk, Akköse, Kadriye; Turkey

The main objective of this study is to investigate the relationships between health locus of control perceptions and health behaviours of adolescents as well as the effectiveness of lectures on health locus of control to them. Another objective of this study is to develop recommendations for integrating certain factors for health behaviours and health value assessment such as health locus of control, self-efficacy, optimism and conditional beliefs in the curriculum of health instruction in high schools.

The subjects of our study are 192 students in 6 groups of Grade 9 of a high school. Three groups of 108 students were randomly selected as the experiment group who were subjected to 4 class-hours specific lectures on health locus of control. The rest 84 students constituted the control group. A 34-item questionnaire for health behaviours and the Multidimensional Health Locus of Control Scale, developed by Wallston, Walston and De Vellis were filled by the students before and after the lectures.

The lectures on health locus of control increased the perception of internal health locus of control of adolescents while decreasing chance health locus of control. The differences between experiment and control groups in this aspect were found to be statistically significant. Internal health locus of control is the main source for the increase of responsibility and management of individuals on their health. The relations that were detected between students' health behaviours and information solicitation and their perceptions of health locus of control showed that the students with higher internal health locus of control are more eager to be responsible and active for their health, especially, for the health behaviours such as physical exercise, smoking, tooth-brushing, and medical check-ups.

### **PRECARIOUSNESS AND SELF-ESTEEM**

Tap, Pierre, Sordes-Ader, Florence, France; Vasconcelos, Maria de Lourdes, Portugal; Santos, Rui, Portugal

Taking the Toulouse Self-esteem Scale (Oubrayrie *et al.*, 1994) as our basis, with its sixty items, we constructed another, shorter one, with ten items: five permit a direct positive evaluation, and the other five, with negative significance, imply an inversion of the responses.

This scale appears to be coherent. Factor analysis followed by Varimax rotation yielded two factors, regarded as the two dimensions of self-esteem: the first factor concerns self-assertion

(by denial of the negative); the second is related to self-confidence, representing a positive self-assessment, based on emotional security and a spontaneous feeling of personal worth.

At this level, the main goal of our study was to define the levels of self-esteem as a function of the respective socio-economic circumstances, country, sex, and other indicators.

The results showed that the indicators which determine overall self-esteem are: the global outcome of integration, country, the subjective assessment of health, sex, sharing meals with a friend and having a means of locomotion.

When this analysis it was undertaken, separating the Portuguese from the French, it was found that there were only two common variables: the global outcome of integration, and the subjective assessment of health.

The self-esteem of the Portuguese depends in equal measure on sport, meals with friends and philosophical convictions, while the self-esteem of the French is only influenced by their sex (males).

### **LINKS BETWEEN PRECARIOUSNESS AND FEELINGS OF INTEGRATION**

Tap, Pierre, France; Vasconcelos, Maria de Lourdes, Portugal; Sordes-Ader, Florence, France; Fonseca, Marta; Portugal

In addition to the material objective indicators of integration (relationships, work and recreation activities, possession of articles for communication and locomotion, means of sustaining hygiene and comfort, private personal spaces), the 450 individuals in Toulouse (France) and Coimbra (Portugal), either in a precarious situation or not, were asked for their reaction to the statement of a certain number of attitudes and opinions linked to the subjective dimensions of integration (responsibility, success, social usefulness) associated with the self-evaluation of hygiene and material living conditions, as well as what they felt subjectively about their health. A general perceived integration score was calculated, once the internal coherence of the scale had been confirmed.

The results relate to the status of precariousness/non-precariousness, country, sex and age.

Precariousness is the most determining variable for interpreting the integration score, followed by country (the French feel more integrated than the Portuguese), and the subjective evaluation about health (the better one feels in terms of health, the more integrated he/she feels). Sex had no effect overall. It was noted, however, that the French in a precarious situation had a more positive self-evaluation in terms of integration than the Portuguese/French in the same situation, no doubt thanks to valorization of their family role.

### **GROUP COUNSELLING WITH MINORITY POPULATIONS: AN IMPORTANT TOOL IN HEALTH PREVENTION PROGRAMMES**

Tapini, Elisabeth; Greece

There is a plethora of literature suggesting that the living standards of minority groups are poor. Low-income, poor environmental conditions, poverty, unemployment and single-parent families are among the factors that impede health maintenance. Cancer, cardiovascular disease, diabetes and infant mortality are amongst common health dangers. High rates are usually due to lack of early diagnosis and treatment. Certain groups do not seek health care, either because of ignorance or because of lacking access. Inequality becomes a risk factor in itself. Preconceptions of healthy behaviour do not change easily; hence group intervention programmes may provide a supportive basis for adopting new attitudes towards health. As Yalom suggested, a group member benefits by observing another member's more adaptive way of coping.

Although such a suggestion may seem appealing, cultural and communication barriers may hinder its efficacy. No matter the different foci of counselling, the counsellor has to deal with different preconceptions, customary barriers, language hindrances, as well as the counsellors' own bias. Western-like practices, which usually focus on individual counselling and psychotherapy, do not embrace non-rational approaches, and celebrate self-sufficiency. While approaching minority groups, one has to keep in mind different approaches to healing, such as ritual dancing or herbal medication.

The aim here is not to prove that one culture is superior to the other, nor to adopt only those techniques that are more familiar to each minority individual. Such a task would be untenable: even if the counsellor achieves a sufficient level of understanding the client's cultural heritage, still he or she is the "stranger". To surpass the cultural barrier, one should aim at programmes that entail both collectivistic and individualistic elements, such as group intervention programmes. Health intervention programmes may well succeed more with minority populations if the boundaries of one-to-one counselling are surpassed and the needs of the individual are viewed in the macro-context.

### **QUALITY OF LIFE AND PSYCHOLOGICAL ADJUSTMENT DURING SURVEILLANCE MAMMOGRAPHY**

Tastet, Sandrine, Barreau, Béatrice, Koleck, Michèle, Rascle, Nicole; France

*Background* Patients during follow up breast mammography have to cope with the incertitude of result, because practician cannot clearly say if lesion is benign or not. Women have to be followed up.

*Objective* To investigate quality of life of women and psychological adjustment during surveillance mammography for benign lesions.

*Population and Methods* A semi-prospective study is carried out on 160 women diagnosed with "probably benign" breast abnormalities. The survey is performed at the first follow-up mammography including a 40 item-questionnaire built for this particular population about quality of life and psychological adjustment and perceived stress was evaluated with Likert scale.

*Results* Results showed that quality of life of women is altered because they felt very anxious during waiting of follow-up experience. Low perceived stress patients used avoidance coping strategy while high perceived stress women coped with a helplessness-hopelessness strategy.

*Conclusion* The study is interesting because very few researches work on perceived stress and quality of life during follow-up breast mammography for probable lesion. Knowing the fields of quality of life and the specific coping strategies used will help practicians to take care of these particular patients.

### **SOCIAL COMPARISON IN CHRONIC PAIN AND ADAPTATION RESULTS**

Terol, M.C., Neipp, M.C., Sánchez, P., Pastor, M.A., López-Roig, S.; Spain

The construct Social Comparison (SC) was defined by Festinger in 1954. However, its application in the health psychology field is very recent (Taylor *et al.*, 1990). Gibbson and Gerard (1991)

describe SC as a coping strategy that people can use in or to deal with stressful situations and it is related to patients' adaptation in chronic diseases.

*Aim* To assess the use of SC in chronic pain patients and its relationships with coping and adaptation.

*Method* Sixty-five fibromyalgia patients belonging to different associations and were outpatients at hospitals in Alicante (Spain), were interviewed. Data were collected using the following questionnaires: The General Social Comparison Scale (Gibbons and Buunk, 1999); the Social Comparison Scale in Chronic Illness (Van der Zee *et al.*, 2000); Coping Scale (CEA, Rodríguez-Marín *et al.*, 1992); Psychosocial Adjustment to Illness Scale (PAIS, Derogatis, 1986) and Hospital Anxiety and Depression scale (Spanish adaptation, López Roig *et al.*, 2000). SPSS 11.5 was used to analyse the data.

*Results* Preliminary data show that patients used the "Downward contrast" SC dimension most frequently (Mean = 10.17, *SD* = 2.46), followed by the "Upward Identification" dimension (Mean = 9.5; *SD* = 2.67). "Upward" and "Downward" Contrast dimensions were related positively to approach coping strategies. Moreover, "Upward contrast" and "Downward Identification" dimensions correlated negatively with anxiety, depression, social and domestic environment.

*Conclusions* Fibromyalgia patients used SC in different ways. This construct was related to specific coping strategies and patients' adaptation.

## THE EUROPEAN DIPLOMA IN PSYCHOLOGY (EDP) AND ITS MEANING TO EUROPEAN PSYCHOLOGY

Tikkanen, Tuomo; Finland

The European Parliament has been very busy with the Commission's directive proposal COM (2002) 119 final, concerning the recognition of professional qualifications in Europe.

The Directive is extremely important for the profession of psychologists. Its Article 15 provides a possibility for professional associations to present "platforms" to the European Commission. A "platform" or standard concerning the education and training of psychologists could thereby be accepted by a Committee of the European Commission and the European Union Member States, altogether 25 countries in 2004.

The acceptance would be given if the standard would be considered valid and beneficial for the purpose of mobility and quality of psychological services. The accepted standard would form a basis for free mobility within the profession of psychologists in all EU Member States.

The European Diploma in Psychology (EDP) has been developed at the same time as the "platform" or standard which would fit to the new Directive.

The framework of the Diploma has been accepted already in EFPA General Assembly in London 2001. It comprises a Master's or equivalent level of university training in psychology, the total duration of six years, and one year of supervised practice included or added to the University degree.

When the Diploma draft is ready it will be presented to the European Commission's committee for acceptance.

The function of the European Diploma in Psychology will be to ensure and promote the mobility and quality of psychologists in Europe. It would also have a profound cultural impact to European culture, it would establish psychology as a profession in Europe in a permanent, non-reversible manner.

## PREDICTING PERSONAL GROWTH IN CHRONIC ILLNESS PATIENTS

Tirado, Sonia, Martin-Aragon, Maite, Quiles, M<sup>a</sup> Jose, Sitges, Esther, Jarabo, Carmen, Rodriguez-Marin, Jesus; Spain

Researches about predictors of personal growth show contradictory results about the role of social support, coping, and perceived competence. Some of them have shown that both social support and active coping are strongly related with personal growth, but other researches suggest that other psychological mechanisms, like competence, are relevant (Abraido-Lanza, 1997). The aim of this study is to predict personal growth levels from social support and cognitive factors in a Spanish sample of chronic patients. Methods: 36 patients (58% multiple sclerosis and 36% HIV, 6% unknown) filled out an adaptation of the Personal Growth Scale (Abraido-Lanza *et al.*, 1988; Rodriguez-Marin *et al.*, 2003), the Perceived Social Support Scale (Rodriguez-Marin *et al.*, 1989), the Spanish version of Perceived Health-Competence (Smith *et al.*, 1995; Rodriguez-Marin *et al.*, 1997) and the Coping Strategies Questionnaire (Rodriguez-Marin *et al.*, 1992). Data were obtained by personal interviews. Results: After checking normality, linearity, multicollinearity and independence assumptions we proved four nested regression models with (1) Social Support, (2) Social Support and Active Coping, (3) Social Support, Active Coping and Perceived Competence, and (4) Social Support, Active Coping, Perceived Competence and Evitative Coping as predictors. As F-change was not significant for neither Perceived Competence (F-change = 0.19,  $p = 0.66$ ) nor Evitative Coping (F-change = 0.00,  $p = 0.99$ ), both models 3 and 4 were rejected. In Model 1 Social Support explain 23% of personal growth variance. F-change for Active Coping in Model 2 was marginally significant (F-change = 4,  $p = 0.054$ ); but Active Coping explain 11% of personal growth variability that remain unexplained for Social Support. In the same way, active coping increases R<sup>2</sup> up 32%, and therefore we considered model 2 the best one. Conclusions: Perceived Competence and Evitative Coping do not explain a neither significant nor meaningful part of the personal growth variance. We are in agreement with some studies on that Social Support and Active Coping arise the main predictors of personal growth after chronic disease.

## PERSONAL RESOURCES, STRAIN AND WELL-BEING: DOES SELF-REGULATION MATTER?

Tirkkonen, Maija, Nupponen, Ritva; Finland

Self-regulation, through its versatility, was expected to modify the association between psychosocial and health resources and strain as well as the association between strain and well-being.

Two questionnaires were sent to a representative sample of 51–53-year-old men and women ( $n = 596$ ). The response rate for both questionnaires was 62%.

Self-regulation was measured by means of a 17-item scale (versatility score,  $\alpha = 0.82$ ) of everyday practices with which people rebalance moods and arousal and restore their capability and subjective well-being. The indicator of strain was based on two questions: time pressure during the past 3 or 4 weeks and the experience of life stress during this period compared with the 2 most recent years. Health resources were assessed by means of self-reported health, chronic illnesses, and deficiencies of functional ability. The Finnish versions of LOT-R (optimism;  $\alpha = 0.71$ ) and GSE (generalised self-efficacy;  $\alpha = 0.89$ ) were used to indicate psychological resources. Two indicators of experience of well-being during the past 3–4 weeks were used: a modified 18-item version of GHQ (distress;  $\alpha = 0.89$ ) and a scale of minor health complaints (20 items,  $\alpha = 0.91$ ). Logistic regression analyses were used to examine associations.

Psychosocial and health resources explained the level of well-being. As expected, strain (minor or no *versus* severe) was associated with well-being. Self-reported health was the only resource factor associated with strain. The versatility of self-regulation was associated with only one resource factor, i.e. optimism, but with both indicators of well-being. However, no statistical association was found between self-regulation and strain.

The results did not lend support to the expectations with regard to the modifying role of self-regulation. This concept needs to be reanalysed and the indicators of self-regulation and strain developed further.

### **CERVICAL CANCER SCREENING IN BULGARIA: CULTURAL MEANINGS AND WOMEN'S EXPERIENCES**

Todorova, Irina; Panaiotova, Yulia; Alexandrova, Anna; Bulgaria

The availability and affordability of cervical cancer screening in Bulgaria has deteriorated during the past 2 decades as a result of the slow transformation of the healthcare system. As a result, the identification of cervical cancer is at later stages and mortality has risen, which is explained by the current absence of organized and effective screening programs. A nationally representative survey in Bulgaria for 2001 illustrates that only 27% of women report to have ever had a PAP smear.

The determinants of cervical cancer screening in Bulgaria have shifted from institutionally structured preventive programs, to socioeconomic determinants, personal knowledge and initiative. However, it is not clear to what extent women are expected to be proactive and seek screening themselves, and what their attitudes and experiences of the procedure are. In order to gain deeper understanding of these issues, we have conducted a qualitative study with women in Bulgaria.

The results are presented from 10 in-depth, semi-structured interviews, which were tape recorded and transcribed verbatim. They were analyzed according to the method of Interpretative Phenomenological Analysis, supported by Atlas.ti qualitative data analysis software. The analysis has identified the following themes having to do with women's experiences with cervical cancer screening.

Women's attitudes toward the procedure and their perceptions of barriers and supports for screening.

The cultural meanings of health, illness (cancer), and the body that are relevant to screening and preventive behavior – these include constructions of the woman's role in healthcare and participation in medical decisions about screening.

The cultural constructions of gender that are of relevance to screening and preventive behavior.

The discussion delineates the implications of these findings for the implementation of cervical cancer prevention programs in Bulgaria.

### **DECISION MAKING AMONG GPs: THE IMPACT OF BURNOUT AND COMPLIANCE OF THE PATIENT**

Truchot, Didier, Bantégnie, Delphine, Roncari, Nathalie; France

*Objectives* Burnout is an occupational stress outcome that appears in particular among professionals confronted with demanding and emotionally charged relationships with clients. It has been linked to some detrimental consequences, not only for the professionals, but also for their clients. However, compared with studies on possible causes of burnout, there are only a few studies on the impact of the syndrome (Schaufeli and Enzmann, 1998). The present study

addressed one important potential consequence of burnout: decision making among GPs. If a few studies suggest that burnout may impact on decision making empirical evidence is scarce. Our main hypothesis is that burnout may affect decision making among GPs. More precisely, we predicted that when burned-out, GPs will make a less costly decision (in terms of time, energy, etc.). We also predicted that this link between burnout and less costly decisions will be stronger when GPs are dealing with non-compliant patients.

*Method* Two hundred and thirty five French GPs completed a mail-out questionnaire. Each questionnaire contained:

- (1) a measure of burnout, the MBI and
- (2) one of two versions of a description of a patient who was or was not compliant
- (3) Ten questions, each one relating to a particular decision regarding the patient. These decisions differed according to the cost (time, energy, commitment) they represent for the GP. They were also pre-tested for their effectiveness.

*Results and Conclusion*

Regression analyses revealed that:

- (1) GPs high on burnout scores chose the least costly solutions, independent of their effectiveness.
- (2) This effect is significantly greater when the patient is not compliant.

Given that GPs are among the professional groups particularly affected by burnout, and the importance of their decision on patients well-being, we underline the consequences of the results for burnout research and public health.

## **AN INVESTIGATION OF RESPONSE SHIFT AMONG PARTICIPANTS ATTENDING AN ARTHRITIS SELF-MANAGEMENT PROGRAMME**

Turner, A.P., Barlow, J.H., Buszewicz, M., Rait, G., Atkinson, A.; UK

*Objective* The psychosocial benefits of the lay-led, Arthritis Self-Management Programme (ASMP) are well established. The aim of this study was to investigate the form and content of social comparison processes used by patients with osteoarthritis (OA) attending an ASMP in the UK.

*Methods* Twenty-four participants were interviewed after 4 months attending an ASMP. The mean age of respondents was 69 (*SD* 8.3) years and 13 were male. All interviews were conducted face-to-face and transcribed verbatim. The data were analysed using Interpretative Phenomenological Analysis.

*Results* The benefits of downward comparison emerged as the strongest theme. Participants often compared downwards with others who were 'worse off' and this tended to improve self-esteem and psychological well-being. In addition, downward social comparison led to a positive health re-evaluation (response shift) as participants' perspectives of the severity and burden of their own condition was altered by witnessing other participants and course tutors who they perceived to be more severely affected.

*Discussion* The ASMP provides a fertile environment for people with arthritis to utilise social comparison to improve psychological well-being. The relationship between social comparison and response shift within the context of self-management courses merits further investigation, particularly their possible role in influencing and mediating perception of health.

### **POSITIVE CHANGE AMONG MYOCARDIAL INFARCTION PATIENTS ATTENDING A CHRONIC DISEASE SELF-MANAGEMENT COURSE**

Turner, A.P., Barlow, J.H.; UK

*Objectives* The UK Government is seeking to empower people with chronic illness in participating in their own healthcare with the implementation of the Expert Patient Programme and has adopted the lay-led, 6-week, Chronic Disease Self-Management Course (CDSMC) to achieve this aim. Self-efficacy theory is the mechanism through which behaviour change is achieved on the CDSMC. The purpose of this study is to focus on the experiences of Myocardial Infarction (MI) patients attending the CDSMC and their weekly use of goal setting.

*Methods* Data were collected via semi-structured interviews with 8 CDSMC participants 4 months following attendance. Five of the participants were male and the sample had a median age of 65 years. All participants had experienced their MI within the last two years. Data were analysed using Interpretative Phenomenological Analysis.

*Results* Several themes were identified. Goal setting as 'homework'; acceptability and understanding of goal setting; emotional response to successful/unsuccessful goal achievement; goal setting as a method for promoting positive behavioural change; durability of goal setting. Having to inform the group of the outcome of weekly goal setting meant that participants felt guilty if goals were not achieved and proud if they were achieved, with both emotions serving as a motivating force. The loss of group support and feedback at the end of the course meant that goal setting was often not maintained.

*Conclusions* These findings suggest that having to set goals and provide feedback within a group environment was critical in making positive changes. The attenuation of goal setting suggests the possible need for continued post-course contact among participants.

### **GOAL-DIRECTED ORGANIZATION OF HEALTH PROMOTION AND SELF-HARMING ACTIONS**

Valach, Lad, Switzerland; Young, R.A., Canada; Michel, K., Dey, P., Switzerland

It is suggested that health promoting as well as health detrimental behaviours are organized in goal-directed systems of actions, projects and career. To a certain extent this is widely accepted as it is generally shared that a change towards a healthy lifestyle requires an intentional and goal-directed action. It is maintained that between these two systems there is an interlinking process which occupies a key position for understanding of the 'slipping' into health-detrimental behaviour and of the changes into healthy lifestyle.

Consequently, these three processes (health facilitating, health detrimental, their interlinking) represent a complex system which must be studied and outlined in health psychology. A conceptualization of the family health promotion project in terms of goal-directed processes (Valach *et al.*, 1996) is described and appropriate empirical material collected (Young *et al.*, 2000). In studying suicide behaviour the suicide-related processes are conceptualized in a similar manner (Michel and Valach, 1997) and empirical support is also provided (Valach *et al.*, 2002). In this contribution the linking processes between health facilitating and health detrimental processes at various levels of the postulated systemic action organization are outlined. The illustrations provided refer to suicide acts and are based on 40 interviews with patients after suicide attempt.



### **AN INTERVENTION TO INCREASE ATTENDANCE RATES FOR CERVICAL SCREENING: THE IMPACT OF IMPLEMENTATION INTENTIONS AND ANTICIPATED REGRET**

Walsh, Jane; Ireland

*Objectives* There is substantial evidence that mortality from cervical cancer can be reduced by regular attendance for a cervical smear test. This study examined the physical and psychological factors that predict attendance for cervical screening, using the Theory of Planned Behaviour (TPB), in a sample of over 1000 women aged between 25 and 60 years. The study examined the impact of anticipated regret on attendance for a smear and evaluated the effectiveness of an intervention that encourages women to form implementation intentions as a mechanism to increase uptake rates.

*Methods* Participants were randomly selected ( $N = 3000$ ) from the ICSP database of all women aged between 25 and 60 in the Mid-Western Health Board region and sent the study questionnaire and a letter inviting them to attend for a smear test. Attendance was measured by computerised records sent from the cytology laboratories. Data was collected on the Theory of Planned Behaviour (TPB) variables including anticipated regret. Half of the sample was asked to specify the details of their attendance (i.e. form implementation intentions) in their questionnaires.

*Results* The questionnaire response rate was 41%. Overall attendance for a smear test was poor (17%). The TPB variables and anticipated regret were significant predictors of intentions to attend. The intervention was effective, with women assigned to the implementation intention condition significantly more likely to attend for a smear than those who did not (32% *versus* 25%) ( $\chi^2 = 5.55$ ,  $df = 1$ ,  $p = 0.02$ ).

*Conclusions* The results of this study demonstrate that a simple intervention was effective in increasing attendance for a smear test and has implications for future cancer screening programmes.

### **EXHAUSTION AND PSYCHOLOGICAL HEALTH IN MENTAL HEALTH CARE WORKERS: EFFECTS OF EMOTIONAL BURDEN AT WORK AND FAMILY-TO-WORK CONFLICT**

van Daalen, Geertje, Willemsen, Tineke, M., Sanders, Karin, van Veldhoven, Marc, J.P.M.;  
The Netherlands

Originally, the concept of burnout was developed to explain psychological distress symptoms among employees in health professions (Maslach and Schaufeli, 1993). Research has shown that burnout may indeed be a consequence of the demands patients make on health care workers (e.g., Bakker *et al.*, 2000). However, most job stress research investigated how job and personal characteristics are related to health and well-being among respondents not working with clients. In the present study, we return to the original group for which the concept of burnout was developed, and study whether emotional burden on the job affects exhaustion and psychological health among mental health care workers. Job stress research showed that over-commitment, a set of attitudes, behaviours and emotions reflecting excessive striving in combination with a strong desire to be approved and esteemed, negatively affects one's health, therefore we add over-commitment to the predictors. Furthermore, we included a non-work stressor, strain-based family-to-work conflict (FWC) as a predictor, because nowadays, many employees experience strain stemming from the combination of work and family responsibilities. Data were obtained from 1224 employees from ten Dutch mental health care organisations, working in two types

of service jobs: directly (e.g., doctors, nurses) or indirectly (e.g., managers, secretaries) client-related. Multiple regression analyses were executed with exhaustion and psychological health as dependent variables. Results showed that, over-commitment was related to exhaustion and psychological health and that emotional burden on the job and strain-based FWC also affected exhaustion and psychological health, in both types of jobs. It is concluded that, both non-work stressors and person-specific variables are important in predicting one's health and well-being. Furthermore, it appears that being involved in more direct interaction with clients does not lead to more exhaustion and diminished psychological health.

### **A LONGITUDINAL PREPREGNANCY TO POSTDELIVERY COMPARISON OF GENETIC AND GESTATIONAL SURROGATE AND INTENDED MOTHERS:**

van den Akker, Olga; UK

*Objectives* The aim of this study was to test the hypotheses that surrogate mothers would respond differently to the surrogate experience from intended mothers, and that gestational surrogate and intended mothers would attach more importance to a genetic link than genetic surrogate and intended mother groups.

*Methods* This paper reports on interview data obtained from a prospective longitudinal comparison of surrogate and intended mothers, which is part of a larger study involving standardized questionnaire assessments throughout the pregnancy and postnatal period. Surrogate and Intended mothers ( $N = 81$ ) undergoing Artificial Insemination (AI, genetic) or Embryo Transfer (ET, gestational) were studied separately (4 groups) at the start of their surrogate arrangement and those with a positive outcome ( $n = 34$ ) were re-interviewed at 6 months post relinquishment.

*Results* There were significant differences between surrogate and intended mothers in socio-demographic status and in confidence about the arrangement. Beliefs about the importance of a genetic link were predictors of ET arrangements. Responses were consistent over a one-and-a-half year study period.

*Conclusions* The ethical and clinical implications of the results are discussed in relation to appropriate self-selection, cognitive dissonance and psychological risks during and following a surrogacy arrangement.

### **WORK CONDITIONS ARE RELATED TO APPROACH/AVOIDANCE WORK GOALS AND WELL-BEING OUTCOMES**

van der Doef, Margot, Pomaki, Georgia; The Netherlands

*Objectives* The present study examined whether employees with specific work conditions (J-DCS model) are more avoidance- than approach-oriented in their work goals.

*Methods* Work goals were reported by 172 medical doctors working at a large academic hospital in the Netherlands. Additional information was gathered concerning work stressors (corresponding to the J-DCS model components) and well-being/health outcomes (emotional exhaustion, depression and somatic complaints). Work goals were coded as approach or avoidance by two independent researchers (87% interrater agreement).

*Results* Logistic regression analyses and discriminant analyses showed that unfavorable work conditions predicted avoidance goals. Although both direct and interaction effects were tested

as hypothesized by the J-DCS model, lack of control appeared as the most important predictor of avoidance goals. In line with the existing approach-avoidance literature, avoidance goals were in turn related to lower well-being.

*Conclusions* This study indicates that work conditions play an important role in employee self-regulation. Although it has been primarily found that successful self-regulation is determined by personal factors, this study suggests that improvement of contextual factors can stimulate approach-oriented goals in employees.

### **TO BE IN CONTROL OF ONE'S INTENTIONS WHEN BEING PREPARED TO USE CONDOMS**

van Empelen, Pepijn, Kok, Gerjo; The Netherlands

*Aims* Preparatory behaviors (PBs) are assumed to be important predictors of behavior. Bryan *et al.* (2002) and Bartholomew *et al.* (2001) suggested that different psychological processes may be underlying different PBs. In a study among adolescents we examined predictors of PBs of condom use. Specifically, the moderating role of temporal intention stability (IS, Sheeran and Abraham, 2003) on the intention-PBs (buying, carrying) relationship was examined. Condom communication was unrelated to intended actual condom use.

*Methods* Questionnaires were completed by 399 secondary school students at Time 1 and Time 2 (3 months after T1). At T1, students completed TPB measures, habit and descriptive norms (DN). For condom carrying, personal norms and anticipated regret were also examined. At T2, intentions and PBs were assessed. IS was based on the measures at T1 and T2.

*Results* Condom buying was regressed on the TPB variables ( $R=0.30$ ). DN had an additional contribution ( $\Delta R^2=0.02$ ,  $p < 0.05$ ). Habit improved the model ( $\Delta R^2=0.10$ ,  $p < 0.001$ ), with significant coefficients for intention and habit. To test for moderation, IS and the multiplicative intention by IS variable were entered. IS did not ( $\Delta R^2=0.01$ ,  $p > 0.05$ ), but the interaction term did improve the explained variance ( $R=0.55$ ,  $\Delta R^2=0.04$ ,  $p < 0.001$ ). Similar analyses were conducted for condom carrying. The TPB variables yielded an  $R$  of 0.44, with attitude and intention being significant predictors. Anticipated regret, DN and personal norm did not make an additional contribution ( $\Delta R^2 = 0.02$  ns.). When habit was entered the model was significantly improved ( $\Delta R^2=0.22$ ,  $p < 0.001$ ), and all betas of other predictors were significantly reduced. Finally, IS did not improve the explained variance ( $\Delta R^2=0.001$  ns), but the interaction term did ( $R=0.69$ ,  $\Delta R^2=0.06$ ,  $p < 0.001$ ).

*Discussion* The study shows that psychological mechanisms may differ for PBs of condom use. Moreover, buying and carrying may be more important than communication. Finally, PBs seem largely habitual, but a planned approach is likely when intentions are stable.

### **ON PLANNING, PREPARING AND WILLINGNESS TO TAKE RISKS IN THE CONTEXT OF SAFE SEX**

van Empelen, Pepijn, Kok, Gerjo; The Netherlands

*Objectives* It has been suggested that in the context of condom use, the intention-behavior relationship may be mediated by preparatory behaviors (PREP, Sheeran *et al.*, 1999; Bryan *et al.*, 2002). In the present study it is hypothesized that especially among young people AV where

sexual experience is limited – the mediating role of preparatory behaviors may depend on the type of sexual relationship. In steady relationships, where preparatory behaviors may have been automated, the intention–behavior relationship is expected to be mediated by preparatory behaviors. In casual relationships intention is expected to predict condom use directly, as sexual experience is low. Moreover the role of habits and behavioral willingness (BW, Gibbons *et al.*, 1998) are explored.

*Methods* Written surveys were completed by 399 secondary school students at Time1 and Time 2 (3 months after T1). Participants who reported having had any sexual experience at T2 were included in the present study. At T1, intention, habit, past behavior and BW were assessed. At T2, condom use was assessed.

*Results* Condom use with steady sex partners was predicted by habits ( $\beta = 0.32$ ), PREP ( $\beta = 0.47$ ), and BW ( $\beta = -0.21$ ,  $p < 0.10$ ). The indirect effect of intention on condom use was mediated by PREP ( $z = 2.19 < 0.05$ ). The overall model had an adequate fit ( $f^2(6, N = 57) = 3.42$ , ns.; CFI = 1.00; RMSEA = 0.00). Intention and BW were independent predictors ( $r = 0.01$ ).

Condom use with casual sex partners was predicted by intention ( $\beta = 0.32$ ) and BW ( $\beta = -0.21$ ), not by PREP ( $\beta = 0.10$ ). Habit was not related to condom use, but to intention ( $\beta = 0.24$ ). The overall model had an adequate fit ( $f^2(4, N = 108) = 4.53$  ns.; CFI = 0.97; RMSEA = 0.04). Intention was not related to PREP ( $\beta = 0.13$ ) and BW.

*Conclusions* Preparation is an important mediator of the intention–action relationship, but only in context where the behavior is likely to happen frequently, such as in steady sexual relationships. When behavior lacks planning and is reactive in nature, such as with casual sex for young people, intention may predict condom use, when there is opportunity to use condoms, as well as, behavioral willingness may reduce condom use.

## THE ROLE OF PERSONAL NORMS IN CONDOM USE INTENTIONS AMONG HIV-POSITIVE MEN WHO HAVE SEX

van Kesteren, Nicole, M.C., Hospers, Harm, J., Kok, Gerjo, van Breukelen, Gerard; The Netherlands

*Aims* Determinants of condom use behaviour among HIV-positive men who have sex with men (MSM) were examined using the Theory of Planned Behaviour (TPB). Given the proposition that safer sex behaviour among HIV-positive people is likely to be affected by altruism, the present study extended the general framework of the TPB with Schwartz's norm-activation theory. Other theoretically important variables, such as anticipated regret, empathy and emotional intimacy, were also investigated.

*Method* Data were collected by means of self-administered questionnaires. Participants were recruited through hospitals in the Netherlands. A total of 1050 questionnaires were distributed, of which 296 were completed and returned (28.2%).

*Results* Results demonstrated that a relatively high percentage of variance in intention to use condoms with steady and casual sex partners could be explained by the TPB (52% for steady and 50% for casual partners). However, inclusion of variables based upon the norm-activation theory and earlier empirical research significantly improved the prediction of behavioral intentions with 8 and 19%, respectively. For steady partners, condom use intention was found to be a function of personal norms. For casual partners, condom use intention was found to be a function of personal norms, self-efficacy, awareness of consequences for self, emotional intimacy and personal characteristics. Additional analyses suggested that the effect of the TPB variables on condom use intention with steady and casual partners was mediated by personal norms.

*Conclusion* One important finding is the strong effect that personal norms have on intention to use condoms with steady and casual partners. This supports the results of earlier studies that found that moral concerns or feelings of personal responsibility are important predictors of the motivation of HIV-positive MSM to practise safer sex and the proposition that condom use behaviour among HIV-positive MSM is, to some extent, a form of altruistic behaviour.

### **ILLNESS PERCEPTIONS AND QUALITY OF LIFE IN PATIENTS WITH VENOUS THROMBOSIS**

van Korlaar, Inez, Vossen, Carla, Rosendaal, Frits, The Netherlands; Bovill, Edwin, USA; Kaptein, Ad; The Netherlands

*Objectives* The aim of this study is to describe the quality of life and the illness perceptions of patients with venous thrombosis and to examine their role in the quality of life of these patients.

*Methods* In a cross-sectional design, the Short-Form 36 (SF-36) and the Illness Perception Questionnaire-Revised (IPQ-R) were used as measures for quality of life and illness perceptions, respectively. The study sample was taken from the thrombosis clinic at the University of Vermont (Burlington, VT, USA), where 70 eligible patients were invited to participate, of which 45 (64%) returned the mailed questionnaire.

*Results* Compared with population norms of the general U.S. population, venous thrombosis patients scored significantly lower on all subscales of the SF-36. Patients who attribute more symptoms to venous thrombosis, see their illness as more chronic, or perceive more serious consequences of their illness, have lower scores on the SF-36. Patients who see their illness as uncontrollable score significantly lower on the mental health and emotional role limitations subscales and the mental health summary score of the SF-36. A low belief in treatment control is associated with a lower physical health summary score. Regression analyses show that illness perceptions explain a significant amount of variance in quality of life scores.

*Conclusions* Patients with venous thrombosis have an impaired quality of life on all subscales of the SF-36. Illness perceptions are associated with quality of life scores. Health care providers should be sensitive to the illness perceptions of patients, in order to improve their quality of life.

### **DIFFERENCES BETWEEN WOMEN WITH CHRONIC PAIN DIFFERENTIATED BY MOOD, IN A SUB-CHRONIC AND CHRONIC PHASE**

van Mens-Verhulst, J., Bronsink, C., van Dijkum, C., Peters, M.L., Sorbi, M.J.; The Netherlands

*Objectives* To achieve a better understanding of the chronification of pain, how differences in mood influence the coping of women experiencing complaints without a clear physical basis for shorter respectively longer than 12 months, labeled as a subchronic (SC-)phase and chronic (C-)phase respectively has been studied.

*Methods* We analysed the electronic diaries of 59 women who reported their pain-intensity, appraisal, self-blame, psychological well-being and coping for 4 weeks 6 times a day. For both phases the differences in the diary scores between women with a negative affect (NA-women) and with a positive affect (PA-women) were tested using ANOVA, Kolmogorow-Smirnow-tests and Crosstabs.

*Results* NA-women and PA-women differed in a different way in the SC-phase and the C-phase. The NA-women scored significantly higher on pain-intensity, fear of movement, secondary

appraisal and self-blame than the PA-women in the SC-phase, but not in the C-phase. In the SC-phase, NA- and PA-women did not differ in ignoring their pain, but in the C-phase they did. In the C-phase NA- and PA-women differed more strongly in how much rest they took.

*Conclusions* It is often found that chronic pain patients (men and women) with a positive affect score lower on pain-intensity, fear of movement, negative appraisal and self-blame. Our study could not confirm these findings for the C-phase.

Theoretically and practically, it makes sense to differentiate between women with a negative and a positive affect as mood may influence their self-regulation dynamics. A brief exploration of analogue male diaries suggests that this distinction would not be relevant for men in the same way.

### **THE LONGITUDINAL RELATIONSHIPS BETWEEN REDUCED WORK HOURS, ROLE CONFLICT AND BURNOUT: REDUCED WORK HOURS – AN ADAPTIVE AND PREVENTIVE STRATEGY**

van Rijswijk, K., Bekker, M.H.J., Rutte, C.G.; The Netherlands

Cross-sectional research has shown reduced work hours to be related to role conflict and well-being. However, cause and consequence are not clear. That is, do people reduce their work hours in order to prevent role conflict from happening? Or do people reduce their work hours in order to lower high levels of role conflict? Furthermore, how is this related to burnout? In order to examine these questions, a full panel design was administered, investigating the longitudinal relationships between reduced work hours, role conflict, and burnout. By means of Structural Equation Modeling (Amos 4.01) we were able to investigate several linking mechanisms simultaneously, for a sample of 184 administrative employees in the Netherlands. Within this study we distinguished between work-to-home conflict and home-to-work conflict. Controlling for gender, negative affectivity, workload, homeload, having a partner, and having children, it was found that respondents adapted their work hours to high levels of work-to-home conflict. On the other hand, work hours were reduced in a preventive way following childbirth. Apart from these preventive and adaptive strategies, we found reduced work hours to be associated with lower levels of work-to-home conflict and burnout over time. Furthermore, work-to-home conflict, home-to-work conflict and burnout were only related cross-sectional and not over time. Thus, providing partial support for the mediating role of work-to-home conflict in the relationship between work hours and burnout. In Conclusion, this longitudinal study builds on earlier cross-sectional research and shows us that there are several linking mechanisms between work hours, role conflict and burnout. It strengthens the belief that reduced work hours can be a useful tool in preventing or treating high levels of role conflict and burnout.

### **PRECARIOUSNESS AND HIERARCHIZATION OF VALUES**

Vasconcelos, Maria de Lourdes, Tap, Pierre, Santos, Rui, Sordes-Ader, Florence; Portugal

In the context of the role of values in the dynamic of social integration and its links with socio-economic precariousness and psychosocial vulnerability, recent research has made possible a better determination of how important the values are for individuals in a difficult situation (Nunes *et al.*, 1998; Vinay *et al.*, 2000, 2002; Nunes, 2001).

We took 20 values from a list of 211 (personal, social, cultural, professional, and others).

Taking the findings, and based on factor analysis (Analysis of Principal Components, with Varimax rotation), three bipolar factors emerged, with each of the values significantly associated to one or another of these factors. The six dimensions that regrouped the 20 values proposed yielded the following aspects: hedonistic fulfilment is strongly related to, in decreasing order of importance, country (the Portuguese classified this type of value better), political convictions and lack of religious convictions; socio-affective fulfilment emerged as strongly associated with country (for the French), philosophical convictions, to a low degree of stress, the practice of an artistic activity, the lack of religious convictions and age (younger people valorize this type of fulfilment more); pragmatic commitment is related to country (the French), sex (females), lack of family continuity (older individuals) and socio-economic status (precariousness); community commitment is linked to country (the Portuguese) and to philosophical convictions; traditional security is associated with country (the French), stable families, the positive appreciation of family relations, religious convictions and a feeling of social usefulness; idealizing aspiration appears mostly in an interaction with religious convictions, a negative assessment of family relations and a lack of political convictions.

### **THE SOCIAL CONCEPTS OF OPTIMISM, PESSIMISM, AND REALISM**

Weber, H., Vollmann, M., Westmeyer, H.; Germany

There is substantial empirical evidence that optimism is associated with better physical and mental health, whereas pessimism was found to be detrimental to health and well-being. Optimism and pessimism are usually defined in terms of generalized outcome expectancies, but the relationship between the two concepts is still open to debate. An even more intriguing question is how optimism and pessimism relate to realism, considering that optimism may be only adaptive as long as positive expectations are oriented at reality. The major goal of our research was to analyze the three concepts, in particular realism, and their relationship in more detail. To this end, we investigated the social concepts of optimism, pessimism, and realism. Using a modified version of the act frequency approach, we examined the prototypical thoughts, feelings, goals, and actions that laypersons assign to optimists, pessimists, and realists. Our research proceeded in a series of three studies. First, subjects ( $N=67$ ) were asked to nominate acts (feelings, cognitions, goals, actions) thought to be manifestations of optimism, pessimism, and realism when dealing with two stressful situations. Subsequently, the generated acts were rated by an independent sample ( $N=152$ ) with respect to their prototypicality. Finally, a third sample was recruited ( $N=208$ ) in order to provide validity data for the act-based conceptualizations. Results showed that the three concepts could be clearly distinguished by their prototypical acts. Convergent findings emerged for act-based concepts and established measures of optimism and pessimism. Overall, the results suggest that an extended view incorporating the trichotomy optimism–realism–pessimism might provide a refined methodological and theoretical framework for studying the health-related consequences of optimism, pessimism, and realism.

### **OUTCOME EVALUATION OF A SEX EDUCATION INTERVENTION FOR HIGH RISK PORTUGUESE WOMEN**

Veiga-Costa, Eleonora, McIntyre, Teresa; Portugal

*Objectives* The objective of this study is the outcome evaluation of a sex education intervention (HIV Prevention standard information) in a sample of 60 Portuguese women with specific risk criteria for HIV infection.

*Methods, Sample and Procedures* Women were recruited from a youth gynecological consult in the Portuguese Institute of Youth. Their ages ranged between 16 and 29 years ( $X = 20$ ). A sample of women received a one session sex education intervention focused on HIV prevention (Kamb *et al.*, 1998). A control group of 30 women (no intervention) was also included.

*Instruments* Pre- and pos-test measures were taken using questionnaires on condom negotiation, general perceived self-efficacy, perceptions of risk, reasons for not practicing safer-sex, loss of resources, depression, alcohol and drug use, current safer sex practices and STD markers. Follow-up is planned for 3 months.

*Intervention* The intervention is one-to-one and is based on two informative brochures read by a psychologist guided through a manual with standardized information about HIV/AIDS. This intervention is based on one session of 60 min. The first brochure defines AIDS and has a risk behaviour list to review with the women (e.g., number of sexual partners, condom use, partner associated risk, sexual practices) as well as information related to myths and beliefs about HIV/AIDS, and epidemiological data about HIV/AIDS in Portuguese women. The second brochure has the most frequent questions and answers about HIV/AIDS.

*Results* Statistical analysis are still being conducted. We predict an improvement in the experimental group (intervention) in the psychosocial variables evaluated and in sexual knowledge after the intervention, which in contrast no significant change is expected for the control group.

*Conclusions* The results will be interpreted in terms of determining the impact of this kind of educational intervention in changing attitudes, knowledge and behaviour related with HIV risk in Portuguese women.

## THE INFLUENCE OF VIRTUAL COACHING ON SOCIAL PRESENCE AND MOTIVATION IN HOME FITNESSING

Westerink Joyce, de Jager, Marko, van Herk, Jan, de Kort, Yvonne, Ijsselsteijn, Wijnand;  
The Netherlands

*Objective* Many people try to improve their health by exercising at home with fitness devices, yet often find it difficult to remain motivated. We explored whether the application of a virtual coach would aid motivation. We focussed on effects of the coach's appearance and communication style on the motivation and social presence experienced by the users.

*Method* The experiment followed a  $2 \times 2$  within-subjects design. Twenty-four participants cycled through an interactive virtual landscape, projected in front of them, using a stationary exercise bike with tracked handlebars. Participants received feedback on measured heart rate through a text message or a graphic animation of a female virtual coach in a corner of the screen with a voice-over of the message. Also, the communication style of the message varied between 'directive' (e.g. 'your heart rate is too low, cycle faster'), and 'non-directive' (e.g. 'this is your heart rate' with a graphic heart-rate indication).

After each of these four conditions participants completed the Intrinsic Motivation Inventory, measuring factors such as 'interest/enjoyment' and 'perceived control'. After conditions with a virtual coach, participants also completed a custom-made questionnaire on social presence.

*Results* We found a marginally significant interaction effect of appearance  $\times$  communication style on interest/enjoyment, favouring the non-directive virtual coach (REMANOVA,  $F(1, 23) = 3.39$ ,  $p = 0.08$ ). Further, we found significant effects on perceived control: a main effect of appearance, favouring the virtual coach ( $p = 0.02$ ) and a marginally significant



interaction effect with communication style, favouring the non-directive virtual coach ( $p = 0.09$ ). In addition, we found that the coach's social presence increases with a directive communication style (Paired T-test,  $p < 0.009$ ).

*Conclusion* We found indications that a virtual coach helps to enhance motivation in home fitnessing, but its perceived control and social presence depends on its appearance and communication style.

### **EXPERIMENTAL PILOT-TESTING OF PUBLIC HEALTH CAMPAIGN MATERIALS: AN EVALUATION OF A DUTCH SAFE SEX CAMPAIGN**

Whittingham, Jill, R.D., Ruiter, Robert, A.C., Zimbile, Filippo; The Netherlands

*Aims* The present study aims to demonstrate the merits of experimental pilot testing of new prevention materials in the phase of intervention development (in contrast to the regular qualitative pretesting by means of focus group discussions).

*Methods* The tested campaign is a multimedia campaign launched by Netherlands' Foundation for STI (sexual transmitted disease) Control. The purposes of the campaign are emphasizing the personal chance on HIV, and promote condom use as a safe way to minimize the chances of HIV infection. Different kinds of materials were developed and tested in the present study: a storyboard version of the TV commercial, four different posters, and four slogans.

Participants were technical school learners (mean age = 15.22 years) who were randomly assigned to two conditions, a control and an experimental condition. Subjects in the control condition filled out a questionnaire that measured psychosocial determinants of condom use (e.g., risk perception, attitude, and intention) before seeing the TV commercial. Participants in the experimental condition first saw the TV commercial and then filled out the questionnaire. Both groups then saw the four different versions of both the posters and the slogans and evaluated these versions on likeability and perceived effectiveness.

*Results* The analyses showed that the TV commercial had positive effects on risk perception of STD/HIV transmission and intention of carrying condoms. There were no significant differences in the evaluation of the four posters. However, there were significant differences between the evaluations of the different slogans; all differences indicated a preference for a specific slogan.

*Conclusions* The purpose of pretesting is obtaining a good estimate of the expected effects of new materials. To do this, appropriate measures and designs are necessary to draw conclusions about effects. Qualitative research lacks important features, for example, opinions are not objective and cannot predict future effects. Studies with an experimental, quantitative character gain more insight into the objective effects of materials. This way, decisions can be made that help programme developers in creating effective materials.

### **HEALTH AND ENVIRONMENTAL EDUCATION AMONG SMALL CHILDREN**

Vienola, Vuokko; Finland

*Objectives* This study is a part of a larger research for environmental education. The main idea behind the research is sustainable development, which is near the concept of health promotion.

During health education it is an attempt to develop voluntary health behavior (e.g. healthy habits, ability to enjoy nature, to relax during walk and sport). (Schwarzer and Gutierrez-Dona, 2000).

*Methods* The study have been a multicase research during five years in Savonlinna, Finland and in Saku, Estonia. The research is mainly qualitative. The data was collected by records, videos, diaries, interviews and small surveys. These have been analyzed by content analysis with the key concepts of health psychology (e.g. maintenance of health, prevention and treatment of illness).

*Results* Main idea is that educational project have made children's self confidence better than earlier, because they know how to behave, survive and manage in the forest and in the street. Children know, how trash and dirt make environment uncomfortable or unhealthy. They have also learned, that they can pick tea, berries e.g. and these are healthy for them. The adults (at home and in the kindergarten) have also noticed that children have been less stressful, slept and eaten better after nature trips.

*Conclusions* Health psychology has concentrated now-a-days mainly on the adults' health and illness and small childre's health has been less studied in health psychology. The basic health habits shall develop during childhood, and environmental education gives one possibility to develop these.

### **THE LONG-TERM EFFECTIVENESS OF A TRAINING AND SUPPORT PROGRAMME (TSP) FOR CARERS OF CHILDREN WITH DISABILITIES**

Williams, Hannah, Cullen, Lesley, Barlow, Julie; UK

*Background* Previous evaluations of the TSP have demonstrated short-term improvements in psychological well-being and self-efficacy of carers. The purpose of this study was to compare adherers (carers continuing to massage their child at follow-up) and non-adherers (carers no longer using massage at follow-up) in terms of psychological well-being and self-efficacy and to determine whether demonstrated improvements are sustained over longer periods of time.

*Methods* The participants ( $n=82$ ) were all carers of children with disabilities. Of the 82 carers, 76 were mothers, 4 fathers and 2 grandmothers.

A between-groups design was used to compare adherers and non-adherers on measures of psychosocial well-being and self-efficacy. For adherers, within groups comparisons were made to examine change in scores over time.

Data were collected using standardised self-report questionnaires. Psychological well-being was measured by the Hospital Anxiety and Depression Scale (HADS) and carer's self efficacy to manage their child's psychosocial well-being and to carry out the massage on their child was measured by a Parent's Self-Efficacy Scale (PSES).

Between groups analyses of variance were used to compare mean scores on study variables between adherers and non-adherers. Repeated measures of  $t$ -tests were used to compare mean scores of adherers over time.

*Findings* Twelve months after participation in the TSP, adherers reported significantly higher levels of self-efficacy to manage their child's psychosocial well-being ( $F(1, 81)=3.26$ ,  $p<0.001$ ) and to carry out massage ( $F(1, 81)=4.87$ ,  $p<0.001$ ) as well as significantly lower anxiety ( $F(1, 81)=26.70$ ,  $p<0.001$ ) and depression ( $F(1, 81)=12.41$ ,  $p<0.001$ ) levels when compared to non-adherers. Comparisons over time were not statistically significant, although trends towards further improvements in the expected direction were observed.

*Discussion* This first long-term evaluation of the TSP suggests that carers who continue to massage their children derive substantial and prolonged benefits in terms of perceived ability to manage their child's' psychosocial well-being and improved psychological well-being.

### **THE PSYCHOLOGICAL WELL-BEING, PERCEIVED SELF-EFFICACY LEVELS AND SATISFACTION WITH LIFE OF CARERS OF CHILDREN WITH FRIEDRICH'S ATAXIA**

Williams, Hannah, Cullen, Lesley, Barlow, Julie; UK

*Objectives* Previous research in both Europe and the USA has shown that carers of children with disabilities are at greater risk of psychosocial distress compared with mothers of non-disabled children. Furthermore, studies have shown that parents of disabled or chronically ill children often have lower levels of self-efficacy than parents of non-disabled children. Despite this, no research has been conducted with carers of children with Friedrich's Ataxia. Therefore, the aim of this study was to explore the psychological well-being and self-efficacy levels in this group.

*Methods* The participants in this study were all the main carers of children with Friedrich's Ataxia. Data were collected by self-report questionnaire comprised of the Hospital Anxiety and Depression Scale (HADS), Generalised Self-Efficacy Scale (GSES), Parent's Self-Efficacy Scale (PSES) and Satisfaction with Life Scale (SWLS). Data were analysed using Pearson product moment correlation.

*Results* Of the participants, 20% were male and 80% female. Mean anxiety and depression scores were 11.16 ( $SD=3.98$ ) and 7.63 ( $SD=4.06$ ), respectively. 80% of the sample was found to be at risk of clinical anxiety and 50% at risk of clinically depressed mood. Mean general self-efficacy and parental self-efficacy scores were 27.53 ( $SD=4.74$ ) and 32.32 ( $SD=7.49$ ). Mean satisfaction with life score was 17.89 ( $SD=6.45$ ). A strong positive correlation was found between anxiety and depression ( $p<0.01$ ) and there was also a strong negative correlation between general self-efficacy and depression scores ( $p<0.01$ ). Negative correlations were also found between satisfaction with life and anxiety scores ( $p<0.05$ ) and satisfaction with life and depression scores ( $p<0.05$ ).

*Conclusions* These findings are consistent with previous studies and demonstrate that carers of children with Friedrich's Ataxia are at risk of psychological distress and also have low levels of self-efficacy. It is proposed that carers of children with Friedrich's Ataxia could benefit from an intervention to increase self-efficacy, which may then, in turn, lower their risk of psychological distress.

### **ENVIRONMENTAL INFLUENCES ON EATING IN STUDENTS**

Vinck, Jan, Meganck, Jeroen; Belgium

*Aims* Recent evidence shows that motivational and environmental variables play an important role in the regulation of food intake. In this study we examine the relation between what is eaten and the place where food is consumed.

*Method* 83 students (42 female, 41 male) recorded what they ate during 4 days, where they ate (home, student's residence, cafeteria of university, restaurant, elsewhere) and who prepared the meal (self, friend/family, professional).

*Results* For female students the consumption of 10 out of 30 health relevant nutrients is significantly different at different locations; for male students this effect of location is found for 11 of 30 nutrients. Also, we find a relation between the location of eating and who prepared the meal, meaning that the amount of control over what is consumed is related to the place where food is consumed.

*Conclusion* Consumption of health relevant nutrients differs significantly across locations. This is probably related to the fact that the consumer has a different amount of control over preparation and composition of meals in different locations. Interventions should pay attention to environmental determinants of eating, including locations and those who are responsible for the preparation of food.

### **JEALOUSY RELATED PARTICULARITIES ON A ROMANIAN SAMPLE OF YOUNG ADULTS**

Vintila, Mona; Romania

*Objectives* The present study started as being a part of a very large cross-cultural jealousy study performed in over 100 countries, conducted by a team from the University of Vienna. Using the data obtained from the investigation of Romanian subjects; we also tried to establish some features regarding jealousy of our subjects non-comparatively.

*Methods* We tested a number of 300 subjects through a standard jealousy questionnaire. All the subjects were healthy adults. The data was processed through SPSS.

*Results* The work on the data is still in progress. From the until now available results, we observed that educational and social background are important influencing factors of jealousy-related attitude. A healthy family environment is crucial, as is a normal non-hyperprotective attitude of parents regarding their children. Hyperprotection leads to a higher degree of jealousy at those subjects later on. Also, these subjects' jealousy will be focussed on the physical relationship and not on the emotional one. A sexual relationship has higher chances to lead to an emotional implication at women, than by men.

*Conclusion* The lack of sexual education in our schools is obvious, as is the lack of information subjects get in the intrafamilial environment regarding sexuality, relationships, expectancies and realities.

### **PARTICULARITIES OF PSYCHIC CHANGES AT MENOPAUSE IN ROMANIAN WOMEN**

Vintila, Mona; Romania

*Objectives* The present study tried to assess the level of anxiety, depression and self-esteem of women at menopause and the way in which these parameters might influence the sexual relations the women are involved in.

*Methods* Both the subjects of the study group (30) and those of the witness group (30) were tested by Catell anxiety test, Beck depression inventory and Rosenberg self-esteem scale and a self conceived questionnaire.

*Results* We found a significant correlation between the level of anxiety and the intensity of transpiration and fatigability. We also found a significant link between anxiety and vaginal burning and irritation, these will induce a correlation between the level of anxiety and the

pain felt during sexual contact. The level of anxiety is not correlated with weight gaining in this period. The level of depression proved to be higher for women at menopause. At sexual level this is translated through a lack of sexual satisfaction. Just 33.3% of women at menopause are pleased with their sexual life, in comparison with young women who in 93.3% of the cases affirm that they are sexually satisfied. Also the frequency of sexual contacts is diminished for women at menopause. A significant difference was noted regarding communication with the partner on sexual issues. Most menopausal women do not discuss with their partners about their sexual life or they do it seldom.

*Conclusion* The level of self-esteem of women at menopause depends on their level of anxiety and depression. Physical aspect proved to be an important topic, which can induce high levels of depression in this period and a low level of self-esteem.

### **THE HEALTH PSYCHOLOGY OF PREMATURELY BORN SUBJECTS UNDER PARENTAL INFLUENCE**

Vintila, M.; Romania

*Objectives* We tried to establish the extent of the parental influence on their prematurely born children concerning their health attitude. This was an interesting fact to observe, as it is well known that usually teenagers tend to deny most of the parental influence.

*Methods* We tested 536 adult students through a general questionnaire and a Multidimensional Health Questionnaire. Between the tested subject we found 60 prematurely born subjects, which constituted the study group, which was always compared with a control group built of term born subjects.

*Results* The chance-luck item in health control presents a reverse correlation with maternal smoking, which means that both the subjects and their mothers who are convinced that their physical health does not depend on chance or luck will not smoke. We also have a reverse correlation between the score on the management scale and the mother's anterior births. If a subject has one or more brothers he develops a better control over his own health status. Also, if the mother of the subject has more than one partner then the child will be more independent. On the scale for health control by significant others we have a reverse correlation with paternal alcohol consumption. Preventing illnesses is negatively correlated with the number of abortions the mother of the subject had; a high score on this scale is correlated with the decrease of abortions. We found an association between the health monitoring and frequent maternal diseases.

*Conclusions* The influence of parental education is obvious. If the parents are confident in themselves in the fact that they are able to control their physical health status, they will transmit their attitude to their children.

### **SMOKERS' BELIEFS ABOUT NICOTINE REPLACEMENT THERAPY: A QUALITATIVE STUDY**

Vogt, Florian, Hall, Sue, Marteau, Theresa; UK

*Objectives* Nicotine replacement therapy (NRT) can double the chance of stopping smoking. However, only a minority of smokers use it in a quit attempt. The aim of this qualitative study was to provide some understanding of why many smokers do not use NRT.

*Methods* Twenty-seven adult smokers were recruited from a general practice in a deprived part of London. Social cognitive theory informed the semi-structured interviews. Data were analysed using the framework method of qualitative data analysis, characterised by a systematic process of sifting, charting and sorting material according to key issues and themes.

*Results* Smokers held a range of views about the outcomes of using NRT. Three main themes emerged about the effectiveness of NRT: (i) NRT has no role in smoking cessation for me because I am not addicted to nicotine; (ii) NRT is irrelevant to smoking cessation because willpower is the core ingredient in stopping; (iii) NRT does not stop cravings for cigarettes. Two main themes emerged concerning the negative consequences of using NRT: (i) NRT is addictive, and harmful and could cause cancer; (ii) using NRT would undermine the sense of achievement that quitting without it would bring.

*Conclusions* Perceptions of the effectiveness of NRT in assisting stopping smoking reflect smokers' causal models of smoking, and stopping smoking Perceived negative outcomes, which included both physical and self-esteem assaults. Addressing these perceptions may increase the use of NRT in smokers attempting to stop.

### **PHYSICAL EFFICIENCY AND QUALITY OF LIFE ASSESSED IN EARLY REHABILITATION IN PATIENTS WITH CORONARY-ARTERY BYPASS GRAFTS (CABG)**

Wójcicka, Mariola, Smolis-Bak, Edyta, Tylka, Jan, Kazimierska, Barbara, Kowalska, Monika; Poland

*Introduction* Rehabilitation, which follows cardiac surgery aims towards the best-possible restoration of the patient's physical and mental well-being.

Physical efficiency is an important factor in the patient's subjective assessment of their quality of life (Tylka, 1977; Eysymontt, 2001)

*Aim* Evaluation of relationship between exertion tolerance and patients' subjective assessment of their life quality subsequent to coronary-artery bypass grafts.

*Patients and Methods* The study involved 36 patients, 28 men and 8 women aged 46 to 73 (mean age 60.8 years), who were treated and rehabilitated in the Institute of Cardiology, Second Department of Coronary Disease. Patients with infection of post-operative wounds, persistent arrhythmias and conditions preventing exercise were precluded from the study. All studies were performed on the 14th post-operative day. We used the following methods. All patients were administered the J.E. Ware & C.D. Scherbourne questionnaire 'Quality of Life SF – 36' polish version elaborated by J. Tylka and were subjected to the three-phased Bassey walking test modified by E. Smolis-Bak. The walking test measured in each patient their heart rate and the time needed to cover a definite distance (90 m) at a different walking pace. The patients walked the distance three times: at their own pace, and at a pace slower and then faster than their own. The physical efficiency index for this test is the heart rate attained with the standard walking pace of 4 km/h (HRs). The patients were divided into two groups: group A – those with a low HRs index (mean 72.6), and group B – with a high HRs index (mean 88).

*Results* On the basis of the performed studies (comparison of the mean scores of the SF-36 questionnaire), it was concluded that there are statistically significant differences in the assessment of the quality of life between groups A and B. Patients with a lower HRs (higher physical efficiency) more highly assess their global life quality ( $p < 0.01$ ), their physical functioning ( $p < 0.05$ ) and also think their somatic complaints to be better ( $p < 0.05$ ). They have better average scores on a social functioning scale ( $p < 0.01$ ). In the entire group

there were statistically significant correlations between higher physical efficiency and global quality of living ( $r=0.39$ ,  $p < 0.05$ ). Likewise, good tolerance of exertion by the patients correlated significantly statistically with the scores on the physical functioning scale ( $r=0.38$ ,  $p < 0.05$ ), mental health scale ( $r=0.4$ ,  $p < 0.05$ ) and general perception of well-being ( $r=0.37$ ,  $p < 0.05$ ).

*Conclusion* Patients with a higher physical efficiency assess the quality of their lives more highly than those showing a lower physical efficiency.

### **UTILIZATION OF PUBLIC HEALTH RESEARCH AND THE IMPACT OF HEALTH PROMOTION POLICY: RESULTS OF A EUROPEAN POLICYMAKER STUDY**

von Lengerke, Thomas, Germany; Rütten, Alfred, Germany; Vinck, Jan, Belgium

*Objectives* Conditions under which public health research utilization leads to a high health promotion policy impact are an important issue for health psychology as an applied health science. Based on models of policy determinants, this analysis tests the assumption that research utilization is positively associated with policy impact only if both political will (i.e., policy opportunities) and social strategies (in intervention and implementation) are strong.

*Methods* Within the Biomed2-project MAREPS, a mail-questionnaire survey of 719 policy-makers involved in four policies (early detection of breast cancer, smoking prevention, physical activity promotion, creating healthy environments) was conducted in Belgium, Finland, Germany, the Netherlands, Spain and Switzerland (response rate: 52.1%). Policy impact was defined as output (program implementation) and outcome (effects on behavior).

*Results* First, regression models show that political will is the strongest predictor of policy impact (OR = 2.6 [95% CI: 1.8–3.7] and OR = 2.5 [1.8–3.5], for high vs. low policy output and outcome, respectively; OR for research utilization and social strategies: <2). Second, and contrary to expectation, models with interaction terms show that utilization is associated with policy output only if political will is lacking (OR for little and strong social strategies: OR = 2.6 [1.3–5.1] and OR = 2.4 [1.1–5.4]), and not if it is strong (OR = 0.6 [0.2–2.0] and OR = 1.1 [0.3–3.8]); for policy outcome, research utilization is predictive only given low political will and strong social strategies (OR = 3.2 [1.2–9.1]).

*Conclusions* While political will is a stronger determinant of health promotion policy impact than social strategies and research utilization, the latter is positively associated with policy impact not if political will is favorable, but if it is poor. Thus, the study contributes to the “research utilization”-field by showing that utilization may partially compensate for lack of, rather than depend on, political will.

### **QUALITY OF LIFE, HEALTH LOCUS OF CONTROL, SENSE OF COHERENCE AND SOCIAL NETWORK IN OBESE VERSUS NORMAL-WEIGHT PARTICIPANTS OF THE KORA-SURVEY 2000 (AUGSBURG, GERMANY)**

von Lengerke, Thomas, John, Jürgen, Janßen, Christian; Germany

*Objective* To determine psychosocial correlates of obesity by analyzing inter-individual differences between over- and normal-weight adults regarding health-related quality of life, multidimensional health locus of control, sense of coherence, and social networks.

*Methods* In the KORA-Survey 2000 (Cooperative Health Research in the Region of Augsburg/Germany),  $N = 947$  adults aged 25–74 and sampled via a design stratified for sex, age and BMI were interviewed as a follow-up (response rate: 80.1%) to a large-scale, population-based health survey. Analyses of co-variance adjusting for age and socio-economic status tested for differences between over- and normal-weight men and women on the SF-12, MHLC-Scales, SOC-13, and Berkman-Social Network Index.

*Results* Significant differences between over- and normal-weight respondents were found along none of the psychological dimensions (SF-12 mental health:  $F(3, 920) = 0.25$ ,  $p = 0.89$ ; internal HLC “self-control”:  $F(3, 926) = 0.45$ ,  $p = 0.72$ ; internal HLC “self-blame”:  $F(3, 921) = 0.79$ ,  $p = 0.50$ ; external HLC “chance/luck”:  $F(3, 922) = 0.90$ ,  $p = 0.44$ ; SOC-13:  $F(3, 893) = 1.37$ ,  $p = 0.25$ ). An exception was the HLC-subscale “significant others/doctors” ( $F(3, 923) = 3.28$ ,  $p = 0.02$ ) in that obese women ( $BMI \geq 30$ ) and extremely obese men ( $BMI \geq 35$ ) tended to score comparatively high; regarding social networks, results tended to be curvilinear and inconclusive. In contrast, obesity strongly covaries with SF-12 physical health ( $F(3, 920) = 7.16$ ,  $p < 0.0001$ ): obese women and extremely obese men reported lower quality of life.

*Conclusion* Obesity was not associated with psychological dysfunction in terms of poor mental health, low internal HLC and low SOC. However, obese women and extremely obese men reported poorer physical health, most notably in comparison with the normal-weight group. In sum, this study underlines the invalidity of the “jolly fat”-hypothesis and underscores the need to treat and prevent obesity in order to restore and enhance physical health-related quality of life.

## THE IMPORTANCE OF SELF-REGULATION AND EXPERIENCES OF AGING FOR HEALTH IN THE SECOND HALF OF LIFE

Wurm, Susanne; Germany

Numerous studies show that mechanisms of self-regulation like self-efficacy influence health positively. There are still heterogeneous results about the question, and it is not clear whether the importance of self-regulation stays the same during the aging process or if other cognitions become more important. The purpose of this study is to compare the importance of control beliefs and cognitions about the aging process for health. Data analyses were based on the nationally representative German Aging Survey, a longitudinal study of over 1500 adults from 40 to 91, which was carried out in 1996 and 2002. By means of Lisrel analyses (cross-lagged panel design) the results show that for all considered age groups positive age-related cognitions (aging as personal development) are more predictive for later health than are control-beliefs. In addition age-related cognitions predict control-beliefs but not vice versa. These results are discussed vis-a-vis the question of to what extent positive age-related cognitions are a unique part of control-beliefs or whether they should continue to be conceptualized as an independent form of cognition.

## PLANNING AND STRATEGY USAGE IN THE IMPLEMENTATION OF HEALTH GOALS: A LIFE-SPAN VIEW.

Ziegelmann, Jochen, P.; Germany

*Objectives* Action theoretical approaches highlight the importance of both planning and strategy usage for successful self-regulation which is one of the criteria of successful aging. The aim of this study was to investigate the role of planning and strategy usage in the initiation and



maintenance of health goals in a sample of young, middle-aged and older orthopedic rehabilitation patients who were expected to adhere to a strict exercise regimen after discharge from rehabilitation.

*Methods* As part of a longitudinal study,  $N=379$  patients completed questionnaires assessing the extent of exercise planning and strategy usage after discharge and the amount of physical activities performed pre-rehabilitation as well as 6 and 12 months after discharge. Planning was subdivided into two constructs: action planning (planning when, where, and how to exercise) and coping planning (planning how to exercise in the face of barriers such as health-related problems or conflicting interests). Strategy usage entailed selection, optimization, and compensation (SOC).

*Results* Hierarchical regression analyses indicate that baseline physical activity, action planning and coping planning are predictive of physical activity at 6 and 12 months after discharge. SOC strategy usage was predictive of physical activity over and above baseline activity and both planning concepts. Neither age nor age by strategy or planning interactions emerged as significant predictors.

*Conclusions* Results indicate that the exercise specific strategies of SOC are useful in the prediction of health behavior change in the exercise domain in addition to the more established planning construct. The effectiveness of planning and strategy usage with regard to physical activity seems not to be age dependent. Interventions fostering strategy usage and planning might be effective regarding exercise adherence across all age groups. Suggestions for such interventions specific for rehabilitation patients will be made.

## OPTIMISTIC *VERSUS* PESSIMISTIC FUTURE TIME-PERSPECTIVE IN HEALTH-RELATED SELF-REGULATION

Ziegelmann, Jochen, P., Lippke, Sonia; Germany

*Objectives* Subjective life expectancy reflects the future time perspective of individuals and is seen as primary motivational space in human self-regulation. Socioemotional Selectivity Theory states that perception of time is linked to the selection and pursuit of social goals. This seems also to be true in the context of health-related self-regulation as it has been demonstrated that a pessimistic subjective life expectancy is linked to risk behaviours whereas an optimistic subjective life expectancy is associated with health behaviours such as performing regular physical exercise.

*Methods* As part of a longitudinal study,  $N=284$  orthopaedic rehabilitation patients who were prescribed to perform regular physical exercise were assessed at 6 and 12 months after discharge from rehabilitation. Patients completed questionnaires assessing subjective life-expectancy, risk perception, exercise outcome expectancies, exercise self-efficacy, intention to exercise and exercise planning as well as goal attainment in the domain of physical exercise.

*Results* Patients with a more pessimistic subjective life expectancy reported lower levels of exercise planning and higher levels of risk perception when compared to patients with a more optimistic future time perspective. In addition, patients with a more pessimistic future outlook reported both lower levels of physical exercise and lower levels of subjective goal attainment in this domain at follow-up one year after discharge.

*Conclusions* Optimistic patients differ from pessimistic patients on variables relevant for health behaviour change and report a more favourable outcome regarding the level of physical exercise

performed and report higher goal attainment. In contrast to chronological age, self perceptions of future time can be targeted by interventions which might be particularly beneficial for patients with a pessimistic or unclear future time perspective.

### **SENSE OF COHERENCE AND ALTERATION OF HEALTH BEHAVIOR IN PATIENTS AFTER CARDIAC INFARCT**

Zycinska, Jolanta; Poland

The main aim of the study is to determine the influence of sense of coherence (SOC) on alteration of health behavior in patients after cardiac infarct.

The study comprised 50 subjects (16 females and 34 males) over 30 after first cardiac infarct without serious accompanying ailments. A. Antonovsky's Sense of Coherence Questionnaire (SOC-29) was utilized alongside an originally developed questionnaire used to examine health behavior as recommended for this group of patients. The examinations were of prospective character and were conducted in two stages. The first stage (2–3 days after cardiac infarct) took place at the hospital and included evaluation of the SOC level as well as health behavior prior to cardiac infarct. The second stage consisted in follow-up measurements of health behavior carried out three months after cardiac infarct.

The obtained results did not confirm the assumption that SOC had an impact on health behavior in patients after cardiac infarct, including behavior harmful to health (tobacco smoking, alcohol consumption). The resulting statistical  $F$  values calculated for all factors simultaneously appeared statistically significant only for the within-groups variations (12.709,  $df = 1$ ,  $p = 0.0001$ ), which indicated that intensification of health behavior differed between measurements. Statistically significant were favorable changes in the following groups of behavior: nutrition, use of tobacco or alcohol, mental hygiene and regular check-up. Physical activity and relaxation was not intensified after cardiac infarct.

The results of the study indicate that health behavior after cardiac infarct is related to the situational factor, i.e. disease and not the personal factor, i.e. sense of coherence. Due to the lack of behavioral alteration connected with physical activity and relaxation it seems appropriate that anxiety should be included among the factors examined in the study.

### **PREDICTORS OF CHANGE IN SELF-RATED HEALTH IN A 'HEALTHY WORKER' GROUP: A LONGITUDINAL STUDY**

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*Aims* Self-rated health (SRH) has attracted research attention both as a predictor of mortality and health impairment, and as a variable which is itself influenced by social/biomedical factors and health behaviours; the present study sought to extend existing findings from community and clinical samples by assessing predictors of five-year change in SRH in a medically-fit 'healthy worker' group.

*Method* The data were obtained in 1995 and 2000 from 283 oil industry personnel working offshore during this period. A five-point single-item SRH measure was used. Job activity levels (sedentary; active; strenuous) were based on consensus ratings; other information was self-reported. Demographic factors, job activity level, smoking, body mass index (BMI), and negative affectivity were used to predict SRH change. Hypothesized linear and curvilinear/interactive relationships were tested.

*Results* Overall, SRH decreased ( $p < 0.005$ ) and BMI increased ( $p < 0.001$ ) between 1995 and 2000. In regression analyses, SRH change was treated as the dependent variable, with control for baseline SRH. In the main effects model, the significant predictors were job activity level ( $p < 0.05$ ), change in BMI (controlled for initial BMI) ( $p < 0.001$ ), negative affectivity ( $p < 0.05$ ), and smoking habits ( $p < 0.02$ ). Over and above this additive model, curvilinear/interactive terms involving age and BMI change contributed incrementally ( $p < 0.05$ ) to SRH change: among younger participants ( $-1SD$  for age), decreased BMI predicted increased SRH, while among older participants ( $+1SD$  for age), increased BMI predicted decreased SRH.

*Conclusions* In this 'healthy worker' group, five-year decrease in SRH was associated with strenuous jobs, with starting or continuing smoking, with negative affectivity, and with increased BMI, but this latter effect depended on age. These results highlight the need to consider complex models of personal and occupational factors (including non-linear relationships) in SRH research.