

# **Work, family, and happiness**

**Essays on interdependencies within families,  
life events, and time allocation decisions**

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# **Work, family, and happiness**

## **Essays on interdependencies within families, life events, and time allocation decisions**

Werk, gezin en geluk

Opstellen over wederzijdse beïnvloeding binnen huishoudens,  
levensgebeurtenissen en tijdsbestedingsbeslissingen  
(met een samenvatting in het Nederlands)

### **Proefschrift**

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aan de Universiteit Utrecht  
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*Babette Pouwels*

*Nijmegen, 4 december 2010*

# Contents

List of tables	9
List of figures	9
<b>Chapter 1 Introduction</b>	<b>11</b>
1.1 Work, family, and happiness	13
1.2 Theories of happiness	14
1.3 Empirical evidence	17
1.3.1 Do actual life circumstances and events matter?	17
1.3.2 Can people successfully predict their future happiness?	18
1.4 Three pathways for progress: interdependencies within families, life events, and time allocation decisions	20
1.5 Research questions	20
1.5.1 Interdependence within families and happiness	21
1.5.2 Life events and happiness	22
1.5.3 Time allocation decisions and happiness	22
1.6 Data	25
1.6.1 The German Socio-Economic Panel (GSOEP)	25
1.6.2 The Time Competition Survey 2003	26
1.7 Outline of the book	27
<b>Chapter 2 So happy together: A study of happiness homogamy in married couples</b>	<b>31</b>
2.1 Introduction	33
2.2 Marriage and happiness	34
2.3 Spousal similarity in happiness	35
2.4 Why does happiness come in couples?	36
2.4.1 Shared restrictions	36
2.4.2 Spouse selection	37
2.4.3 Mutual influencing	38
2.4.4 Homogamy in health and employment status	39
2.5 Data and method	40
2.5.1 Sample	40
2.5.2 Measures	40
2.5.3 Analytic strategy	41
2.6 Results	44
2.6.1 Does happiness come in couples?	44
2.6.2 Shared restrictions, spouse selection, or mutual influencing?	45
2.7 Conclusions and discussion	52
<b>Chapter 3 Happy with the kids? The impact of time allocation decisions and domain satisfaction on happiness around the birth of the first child</b>	<b>57</b>
3.1 Introduction	59
3.2 Having children and happiness	62
3.3 Theory	64
3.3.1 Happiness as a consequence of life circumstances that offset each other	64
3.3.2 Happiness as a consequence of stable personality traits and processes of adaptation	66
3.4 Conceptual framework	67
3.4.1 The birth of a first child and changes in actual life circumstances: hours of work, housework, and childcare	68
3.4.2 Happiness and changes in hours of work, housework, and childcare	68
3.4.3 The birth of a first child and domain satisfactions	71
3.5 Data and sample	72
3.6 Analytic strategy	73
3.7 Sub-study 1: Time use and happiness before, during, and after the birth of the first child	77
3.7.1 Measures	77
3.7.2 Method	79
3.7.3 Results for men	80
3.7.4 Results for women	87
3.8 Sub-study 2: Domain satisfactions before and after the birth of a first child	94
3.8.1 Measures	95
3.8.2 Method	95

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3.8.3 Results	96
3.9 Conclusions and discussion	112
Appendix A	117
Appendix B	118
<b>Chapter 4 Income, working hours, and happiness</b>	<b>123</b>
4.1 The underestimated effect of income on happiness	125
4.2 An interaction model	125
4.3 Data and method	126
4.4 Results	126
4.5 Conclusions	127
<b>Chapter 5 Time allocation, time pressure, and happiness: Work makes people happy, time pressure doesn't</b>	<b>131</b>
5.1 Introduction	133
5.2 Time allocation, time pressure, and happiness	134
5.2.1 Time allocation	134
5.2.2 Time pressure	137
5.2.3 Happiness	138
5.3 Data and method	141
5.3.1 Data	141
5.3.2 Analytic strategy	141
5.3.3 Dependent variables	142
5.3.4 Independent variables	143
5.3.5 Control variables	144
5.4 Results	145
5.4.1 Descriptive statistics	145
5.4.2 Time allocation, time pressure, and happiness	145
5.5 Conclusions	152
<b>Chapter 6 Firms' time greediness and the division of labour in the household</b>	<b>155</b>
6.1 Introduction	157
6.2 Theory	158
6.2.1 Explaining the division of labour in the household	158
6.2.2 Employer demands	161
6.2.3 Governance practices	162
6.2.4 Other factors influencing the division of labour	167
6.3 Data and method	167
6.3.1 Sample	167
6.3.2 Dependent variables	169
6.3.3 Independent variables	169
6.3.4 Analytic strategy	172
6.4 Results	173
6.4.1 The division of paid work	173
6.4.2 The division of household work	177
6.5 Conclusions and discussion	184
<b>Chapter 7 Summary and discussion</b>	<b>189</b>
7.1 Introduction	191
7.2 Main findings	191
7.2.1 Spousal similarity in happiness	191
7.2.2 Happiness around the birth of a first child	193
7.2.3 Income, working hours, and happiness	196
7.2.4 Time allocation, time pressure, and happ	198
7.2.5 Time allocation decisions within the family	199
7.3 Theoretical and policy implications	200
7.3.1 Theoretical implications	201
7.3.2 Policy implications	203
7.4 Limitations and suggestions for future research	206
<b>Samenvatting</b>	<b>211</b>
<b>References</b>	<b>227</b>
<b>Curriculum Vitae</b>	<b>239</b>

## List of Tables

Table 1.1	Overview of the book	28
Table 2.1	Descriptive statistics for the variables in the analysis	42
Table 2.2	Husbands' happiness by wives' happiness	44
Table 2.3	Association between the happiness of wives and husbands	45
Table 2.4	Correlations of partners' happiness by marital duration	46
Table 2.5	Ordered probit analysis explaining the happiness of husbands	48
Table 2.6	Ordered probit analysis explaining the happiness of wives	49
Table 2.7	Residual correlations of partners' happiness, based on four ordered probit models explaining happiness	51
Table 3.1	Characteristics of the total population of the German Socio-Economic Panel and the first birth sample (1984-2005)	74
Table 3.2	Multilevel regressions predicting individual change in happiness around the birth of a first child - Men	84
Table 3.3	Multilevel regressions predicting individual change in happiness around the birth of a first child - Women	88
Table 3.4	Multilevel regressions predicting individual change in satisfaction with household income, leisure time, housing, and health around the birth of a first child - Men	98
Table 3.5	Multilevel regressions predicting individual change in satisfaction with household income, leisure time, housing, and health around the birth of a first child - Women	102
Table 3.6	Multilevel regressions predicting individual change in overall happiness around the birth of a first child by domain satisfactions - Men and women	106
Table 4.1	Ordered probit analysis to explain happiness: a household interaction model	128
Table 5.1	Descriptive statistics for the variables in the analysis for all employees (n = 762) and for female (n = 361) and male (n = 401) employees separately	146
Table 5.2	Unstandardized regression (B) coefficients and path coefficients ( $\beta$ ) from OLS predicting time allocation, time pressure, and happiness	148
Table 5.3	Direct, indirect, and total effects of time allocation on happiness	151
Table 6.1	Descriptive statistics of the variables in the analyses	174
Table 6.2	Multilevel regression analysis predicting the woman's relative share in paid work	178
Table 6.3	Multilevel regression analysis predicting the woman's relative share in household work	182

## List of Figures

Figure 2.1	Residual correlations for partners' happiness net of shared restrictions, spouse selection, and mutual influencing	43
Figure 3.1	Average hours of paid work per week around the birth of a first child (men and women)	75
Figure 3.2	Average hours of housework per weekday around the birth of a first child (men and women)	75
Figure 3.3	Average hours of childcare per weekday around the birth of a first child (men and women)	76
Figure 3.4	The distribution of happiness in the first birth sample (n = 16,031 person-year observations)	77
Figure 3.5	Happiness before and after the birth of a first child by working hours (men)	86
Figure 3.6	Happiness before and after the birth of a first child by working hours (women)	93
Figure 3.7	The two-layer model of overall happiness	97
Figure 3.8	Overall happiness around the birth of a first child	109
Figure 6.1	Effects of employer demands on the woman's relative share in paid work for employees with a high, average, or low degree of workplace governance.	180
Figure 6.2	Effects of employer demands on the woman's relative share in household work for households with flexible, average, or strict household rules.	184



# 1

## **Introduction**



## 1.1 Work, family, and happiness

Almost everyone wants a happy life. But what makes people happy? Questions about how we can become happy and how we can create happy nations have become increasingly popular, both in the popular press, with politicians and policy makers, as well as with social scientists. Happiness is an important individual goal for many people in our modern society and we are eager to know how individuals can maximize happiness over their life courses and how nations can produce the greater happiness for their citizens.

Over the last decades, the lives of people in Western countries have changed. Women and men tend to postpone or put off family formation, marry later (or not at all), have fewer children, and separate more often. The traditional family, consisting of a male full-time breadwinner and a female full-time homemaker, is no longer the standard. Women have increased their labour market participation tremendously and partners are increasingly combining work and care (Blossfeld and Drobnič, 2001; Schippers, 2001). Furthermore, educational levels have risen, people have become wealthier, and there is a societal shift towards more egalitarian gender relationships. On the whole, the life course biographies of women and men have become more varied. The standard path of education, marriage, the birth of children, full-time employment (men) or full-time caring (women), and retirement, has been replaced by a life course biography in which personal choice and autonomy are leading in deciding which transitions to make and when (Román, 2006; Van der Lippe, Dykstra, Kraaykamp, & Schippers, 2007).

There are various convincing views of how these developments in the domains of work and family can affect happiness. A positive view is that the increased freedom of choice in how to live one's life, combined with the increased wealth and higher standards of living, will make individuals happier. A negative view is that the current complex organization of daily life, with its heavy workloads and the conflicting demands of jobs and households, leads to perceived time stress and a distorted work-life balance (Hamermesh & Lee, 2007; Hochschild, 1997; Jacobs & Gerson, 2001; Schor, 1993) which is bad for happiness. A more neutral view claims that neither the gains nor the losses of these developments will permanently affect happiness because happiness is thought to be primarily determined by genetics and personality. According to the latter view, changes in circumstances and the occurrence of major events may cause temporary boosts or drops in happiness, but after a period of

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adaptation, people will return to their baseline levels of happiness (Easterlin, 1974; Heady & Wearing, 1989; Lykken & Tellegen, 1996).

This thesis examines the effects of work and family on individual happiness.<sup>1</sup> The aim is to gain deeper insight into the mechanisms responsible for individual happiness over the life course. In doing so, we will focus on three relatively underexplored issues: i) interdependencies within the family, ii) effects of life events, and iii) effects of time allocation decisions.

## 1.2 Theories of happiness

Several appealing but conflicting theories are pointed out in the literature that may explain the relationship between people's actual life circumstances (such as income, employment, or household composition), major events in their lives (such as finding a partner, having a baby or quitting work), and happiness.

One theoretical approach, widespread in economics, predicts that actual life circumstances will have lasting effects on happiness. More is assumed to be better and individuals are believed to actively strive for the greatest happiness. In this view, people can increase their happiness by achieving better circumstances. Major life events may bring changes in objective circumstances and thus also have permanent effects on happiness. According to this view, increased free choice for individuals in how to live their lives implies increased opportunities to maximize their happiness.

Other theories, in contrast, assume that neither good nor bad circumstances can permanently affect happiness. A first theory within this line of theorizing is psychologists' *set point theory* (Heady & Wearing, 1989; Lykken & Tellegen, 1996). Adult individuals are believed to have a fixed *set point* around which happiness fluctuates. This set point is mainly innate and determined by hereditary factors and personality. People may initially react to changes in actual life circumstances or the occurrence of major life events, but effects are only transitory. After a certain period, people will 'adapt' to the new situation. The initial increase or decrease in happiness caused by this new situation eventually diminishes and is replaced by neutral feelings. 'Adaptation' thus refers to a reduction of the happiness-effects originally evoked by changed life circumstances and events with the passage of time (Frederick & Loewenstein, 1999). This adaptation process causes people's happiness eventually to revert to

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<sup>1</sup> We use the terms "happiness", "life satisfaction", and "subjective well-being" as interchangeable.

their set point level. The idea of biologically predetermined set points implies that happiness levels will remain stable over time and that neither individuals nor societies can do anything to improve their happiness.

A second theory predicting that happiness levels will not lastingly be affected by changing circumstances in life is the economic theory of *rising expectations* (Easterlin, 1974). The theory suggests that happiness does not depend on absolute material achievements, but on the gap between these achievements and people's aspirations. When material achievements increase, aspirations will rise accordingly. Better material conditions will initially increase happiness, but the increase will be offset by higher aspirations, leaving net happiness levels unchanged. Two key mechanisms shape people's aspirations: *social comparison* and *adaptation*. The first refers to people's tendency to compare themselves to significant others when evaluating their lives and living conditions (in particular with respect to income and social status). If members of their reference group are better off, people tend to be less happy with their own life circumstances. The second refers to the tendency of individuals to adapt to changes in objective life conditions (similar to the above-mentioned adaptation process of *set point theory*). As a result, better circumstances will only produce a transient boost in happiness. In this view, people's relative rather than absolute circumstances matter to happiness. This may explain why happiness levels will remain stable over time, even when objective circumstances have changed (Easterlin, 1974, 1995, 2001).

Apart from the claims of the above theories that life circumstances and events may have permanent or temporary effects on happiness, some researchers argue that individuals are poor at predicting how happy or unhappy various life circumstances and events will make them. In this perspective, people are believed to make systematic mistakes in their personal decisions because they cannot always accurately predict the outcomes in terms of well-being of the various life course options they have (Frey & Stutzer, 2008; Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006; Stutzer & Frey 2010). Labels that are used in the literature to describe this phenomenon are *focusing illusion* (Kahneman et al., 2006), *misprediction of utility*, or *overvalued choice options* (Frey & Stutzer, 2008). Kahneman et al. argue that people tend to exaggerate the effect of specific circumstances on happiness. Take, for instance, the desire for a higher income: "When someone reflects on how additional income would change subjective well-being, they are probably tempted to think about spending more time in leisurely pursuits such as watching a large screen plasma TV or playing golf,

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but in reality they should think of spending a lot more time working and commuting and a lot less time engaged in passive leisure” (Kahneman et al., 2006: 1910).

When making decisions, Frey and Stutzer (2008) maintain, people tend to value extrinsic desires, such as material possessions, income or social status and prestige, over intrinsic ones, such as spending time with family and friends or leisure activities. They distinguish four major causes of systematic over- and undervaluation of choice options: i) people tend to underestimate the fact that they will – partly or completely – adapt to life events and past circumstances, ii) they have distorted memory of past experiences, iii) they tend to rationalize past decisions, and iv) have false intuitive theories about what will make them happy (Frey & Stutzer, 2008). Similarly, it can be argued that people tend to underestimate the influence of relevant others on their personal happiness. Not only may they underestimate the effect of social comparison, they may also underestimate the effect of direct and indirect influences of others, such as their partner and children, on their own happiness.

In sum, the above-mentioned theories explain how and why actual life circumstances and life events may or may not affect happiness and how people’s decision-making processes might play a role. There is a sharp contrast between the theoretical approach assuming that people’s life circumstances and life events can change happiness and *set point theory* and the *theory of rising expectations*, which imply that happiness levels will remain stable over time due to genetic dispositions or processes of adaptation and social comparison. The perspectives of *focusing illusion* and *misprediction of utility* acknowledge that happiness depends on actual life circumstances, but also recognize the importance of processes of adaptation and social comparison. It is only that people tend to overvalue future happiness from extrinsic attributes relative to intrinsic attributes.

The extent to which these theories find empirical support may have serious implications for both public policy and happiness research. If happiness is a stable trait, as set point theory assumes, and if individuals completely adapt to changed circumstances, there is little people can do to become happier. Nor will economic development or public policies of societies aimed at raising their citizen’s well-being be effective. Likewise, there would be little left to study for happiness research once the major personality traits that affect initial happiness levels had been identified (Easterlin, 2006; Heady, 2010).

We will use these theoretical perspectives to analyse the issues that are central to the thesis.

### 1.3 Empirical evidence

The number of empirical studies on the causes and correlates of happiness at the individual level is large and growing. This research has produced many valuable findings. There is, for instance, a comfortable consensus that happiness is high among women, the married, the healthy, the higher educated and among those with high income and many friends. Happiness is particularly low among the unemployed, the poor and those who are (recently) divorced, separated or widowed. Also children do not add to happiness. We also know that happiness is U-shaped over the life course. Another important finding is that character and personality traits seem to play a role in the production of happiness. For recent reviews we refer to Blanchflower (2008), Di Tella and MacCulloch (2006), Dolan, Peasgood, and White (2008), Frey and Stutzer (2002), and Layard (2005).

The theories of happiness discussed above paint different pictures of whether happiness can change under the influence of changing life circumstances and events. Empirical evidence is mixed.

#### 1.3.1 Do actual life circumstances and events matter?

Until recently, strong support was found for the idea that the effects of actual life circumstances on happiness are weak, both for individuals and for nations. Diener, Suh, Lucas, and Smith (1999), for instance, claim that life circumstances account for little variance in happiness, while personality has a strong correlation with happiness. Lykken and Tellegen (1996) demonstrate that happiness is for a large part hereditary. Easterlin's influential early study (1974; see also 1995) about the effects of income on happiness shows that people adapt to the changes in their income situation. After an initial boost in happiness right after the increase in income, sooner or later people will get used to the new situation. They will no longer derive additional happiness from the extra amount of income and their happiness levels will return to former levels. As a result, individual happiness levels remain stable after pecuniary gains. Furthermore, the study showed that people tend to compare their objective status to the status of relevant others. If an individual's income increases but

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the income of others increases accordingly, the income gains will not make him or her happier. The material norms on which people's feelings of happiness are based increase as much as the income of others in society. These findings are known as the *Easterlin-Paradox* which argues that income growth in a nation does not increase the happiness of its citizens.

Many of these empirical studies supporting set point theory, however, relied on cross-sectional data and compared happiness of different groups of individuals or nations at the same point in time. With the availability of longitudinal data, individuals and nations can be followed over longer periods of time, so that changes in their happiness levels can be assessed. Recent longitudinal research provides evidence that happiness of individuals and nations can change. Results, however, are not always consistent.

A new, small literature has begun to address individual change in happiness. Results make clear that some life events have lasting effects on happiness, such as unemployment (Clark, Diener, Georgellis, & Lucas, 2008; Lucas, Clark, Georgellis, & Diener, 2004) and disability (Lucas, 2007; Oswald and Powdhavee, 2008). Also Easterlin's later work (2005), in which he examines to what extent changes in happiness are due to changes in the domains of family and health, shows that people's happiness only partially adapt to changes in these domains. Some other studies, in contrast, found that the effects of family events like widowhood (Clark et al., 2008; Lucas, Clark, Georgellis, & Diener, 2003) and the birth of a first child (Clark et al., 2008) are only temporary and that people's happiness levels rebound completely after a few years. Effects of marriage and divorce on happiness are mixed as well. Some studies find that marriage (Zimmermann & Easterlin, 2006) and divorce (Lucas, 2005) have enduring effects on happiness, while other results indicate that the effects disappear after a few years (Clark et al., 2008; Lucas & Clark, 2006). More consistently, research shows that effects of financial shocks tend to be transient (Easterlin, 2005).

Recent macro-studies using large time series data show that happiness in many nations rises with national income (Hagerty & Veenhoven, 2003; Veenhoven & Hagerty, 2006) and with the extent to which citizens perceive that they have free choice (Inglehart, Foa, Peterson, & Welzel, 2008).

### **1.3.2 Can people successfully predict their future happiness?**

There is some empirical evidence that supports the 'focusing illusion' or 'misprediction of well-being' hypothesis. Hamermesh and Lee (2007), for

instance, found that people with higher incomes experience more stress and time pressure than people with lower incomes. This supports the idea that overvaluation of income and social status relative to (leisure) time will lead to feelings of time pressure and a distorted work family balance instead of greater happiness. Another example is the study of Stutzer and Frey (2008), which shows that people who spend more time commuting report lower levels of happiness because they are not fully compensated for the burden of commuting by a higher salary or a better living environment. This is consistent with the idea that people will overestimate the effects of a new job and their present place of living on future happiness relative to time available for family, social contacts and hobbies. Also, Easterlin (2005) illustrates that people tend to allocate a disproportionate amount of time to activities that raise their income, sacrificing health and time with family, and making them less happy than they could have been. His findings are in line with the notion that most people will not foresee that their income aspirations will change due to processes of adaptation and social comparison when their real income increases.

In sum, the empirical evidence presented above suggests that none of the three theories can satisfactorily describe and explain how changing life circumstances and events may affect happiness (see also Easterlin (2006) and Inglehart et al. (2008)). As we have seen, both life circumstances and personality traits are important for happiness. Some changes in circumstances and some life events can lastingly change people's happiness levels, while other circumstances and events will only have transitory effects. In addition, findings suggests that people overvalue income over time, which will lead to reduced time for family and leisure, increased perceived time pressure, and, consequently, lower happiness. In recent research, the focus seems to shift from identifying factors that may affect happiness to examining under which *conditions* life circumstances and events will or will not lastingly affect happiness.

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## 1.4 Three pathways for progress: interdependencies within families, life events, and time allocation decisions

The domains of work and family have been widely accepted as determinants of happiness. Employment status, marital status, and the presence of children are typically included as control variables in happiness analyses. The major share of previous research into the effects of work and family on happiness, however, is based on cross-sectional data and has focused mainly on unemployment, marriage, and divorce. To expand our knowledge of the effects of work and family on happiness, we will not introduce another set of causes and correlates into the analysis. Instead, we will address three new, relatively underexplored issues that recently gained attention in the field.

A first issue is about *interdependencies within the family*. While previous research has mainly focused on individuals, possible interdependencies between family members, such as effects of partners and children on each other's happiness, have received much less attention. A second issue concerns the dynamics of happiness. Researchers have only recently begun to study the short-term and long-term effects of *life events*. Little is known about the conditions under which these life events may or may not have lasting effects on happiness. A third issue is the role of *time allocation decisions* in the production of individual happiness. While numerous studies have focused on the effects of income on happiness, few have addressed the role of time allocation decisions in the production of individual happiness. The issue of "time" has become increasingly important as ever larger numbers of working people report a shortage of time in which to complete all the tasks necessary and desired. This goes in particular for working couples who are trying to combine their work with housework and care.

In this thesis, we intend to contribute to the current literature on happiness by examining the role of i) interdependencies within families, ii) life events, and iii) time allocation decisions in the production of happiness.

## 1.5 Research questions

As stated above, few studies have explicitly investigated how and why happiness of family members is interrelated, under which conditions life events will have lasting effects on happiness, and to what extent the time people spend on work

and family affect their happiness. In the next sections, we will discuss these three themes and introduce our research questions.

### 1.5.1 Interdependencies within families and happiness

Sociological research has shown that families, and partners in particular, are important for various individual positions in life, such as employment and occupational status (Henkens, Kraaykamp, & Siegers, 1993; Ultee, Dessens, & Janssen, 1988), careers (Verbakel, 2008), and health and health-related behaviours (Clark & Etilé, 2006; Monden, 2007), because partners may profit from each other's socio-economic resources and behaviour. To what extent are family members also important for each other's happiness? A relatively new branch of research within happiness studies is starting to investigate whether happiness levels of family members are interdependent and if so, why.

Winkelmann (2005), for example, examines happiness of parents and children in Germany. He finds strong correlations of long-term happiness between parents and children, siblings, and spouses. Using the British Household Panel Study (BHPS), Powdthavee (2009d) investigates whether one partner's happiness directly influences the happiness of the other partner (*spill-over effects*) and finds that happiness in couples indeed runs from one partner to the other. Booth and Van Ours (2007, 2009, 2010), examine how partners' working hours affect each other's happiness in the UK, Australia, and the Netherlands (*cross-partner effects*). Results for the three countries are mixed. In the UK, no cross-partner effects are found. In Australia, women's happiness increases if their male partner works full-time, but work hours of female partners do not matter for men's happiness. For the Netherlands, results are the opposite: the happiness of Dutch women is not really affected by the working hours of their partner, but Dutch men become happier if their partner works in a part-time job compared to if their partner works more hours or has no job. Once household income is accounted for, however, men's life satisfaction is unaffected by their partners' hours.

In this thesis, we will study the mutual relationship between partners' happiness levels and examine to what extent this relationship can be explained by the fact that partners share the same environment (*shared restrictions*), by the fact that they tend to marry a partner who is close in age and social status (*spouse selection*), and by the fact that partners may profit from each other's socio-economic resources (*mutual influencing*). This leads to the following research question:

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1. *Do partners resemble each other in happiness? And if they do: To what extent can this resemblance be explained by i) partners' shared restrictions, ii) spouse selection, and iii) mutual influencing?*

### **1.5.2 Life events and happiness**

Recently, a small but growing empirical literature has shown that life events can have lasting effects on happiness. This research on the long-term effects of labour market and family events has mainly focused on processes of adaptation of happiness levels to life events. Events that have been studied include unemployment (Clark, 2006; Clark et al., 2008; Powdthavee, 2009b) and marriage and divorce (Lucas et al., 2003; Lucas & Clark, 2006; Zimmermann & Easterlin, 2006). A recent study of Clark et al. (2008), however, also examines anticipation and adaptation of happiness to layoff, widowhood, and the birth of a child.

This thesis aims to shed more light on the circumstances under which certain life events have lasting effects on happiness. We will focus on the event of first childbirth. The reason for studying the effects of first childbirth on happiness is twofold: first, the effects of the birth of a first child on happiness have received little attention so far (Clark et al., 2008 is an exception), and second, the birth of the first child is one of the events that are unmistakably connected with changes in time use patterns.

First of all, we will examine how changes in parents' time allocation to work and care play a role in explaining the long-term effects. Furthermore, we will explore how changes in parents' satisfaction within different life domains, such as the income or leisure domain, play a role in explaining the long-term effects. The second set of research questions therefore is:

- 2a. *To what extent does happiness change before, during, and after the birth of a first child?*  
2b. *To what extent can changes in time allocation to work, housework, and childcare - which often accompany the event of first childbirth - explain these changes in happiness?*  
2c. *To what extent can changes in domain satisfaction - which often accompany the event of first childbirth - explain these changes in happiness?*

### **1.5.3 Time allocation decisions and happiness**

Income, work, and family are main sources of happiness (Layard, 2005). They have, however, also a cost side: work and home production activities such as

tidying up the house, doing laundry, and taking care of children, take up time. These are activities that are typically associated with negative well-being outcomes. A study of Kahneman, Krueger, Schkade, Schwarz, and Stone (2004) examining the pleasantness of daily activities among working women in Texas shows that working, commuting, doing housework and taking care of children belong to the most unpleasant daily activities, while leisure activities, such as having intimate relations, socializing with friends, relaxing, and exercising, appear most enjoyable. Time spent on work and home production activities thus might diminish the positive aspects of having a high income, a job, and a family. After all, for every hour we spend in the labour market or on housework, we have to give up one hour of leisure time.

The time costs may become even higher if we bear in mind that people tend to mispredict future happiness and overestimate the happiness that specific life circumstances (such as high income) or events (such as having children) will yield. As Kahneman et al. (2006) state, this may lead to a misallocation of time in the sense that people may choose to spend more time in unpleasant activities, such as work and commuting, and accept that they have to sacrifice more enjoyable activities, such as time for socializing with family and friends. Moreover, as Stutzer and Frey (2008, 2010) argue, the valuation of income over leisure time may lead to increased time pressure and poor work-family balance.

Few studies have explicitly addressed how time allocation decisions influence overall happiness. Notable exceptions are Booth and Van Ours (2007, 2009, 2010) and Golden and Wiens-Tuers (2006). In the same three studies in which they examine interdependencies between partners (see section 1.5.1), Booth and Van Ours also investigate the relationship between part-time work and family happiness. Again, results are mixed. In the UK neither men's nor women's happiness is affected by their hours of work. Happiness of Australian women is reduced when they are working full-time or more than that, while happiness of Australian men, on the contrary, increases if they work full-time or more. For Dutch women, work hours have no effect on their happiness. Dutch men, in contrast, are happiest if they have a large part-time or a full-time job. Golden and Wiens-Tuers examine the effect of working long hours on happiness. They find that working long hours increases stress and work-family imbalance but not happiness.

In this thesis, two aspects of time allocation and happiness will be examined. First, we will examine the impact of the *time costs* of work and family on

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happiness. We will focus on the costs of having children and earning an income. Children increase the demand for time and money in the household: they raise parents' workload levels in paid work, housework, and childcare and reduce time for leisure activities. Earning an income in the labour market requires working time, implying a reduction of leisure time as well. The time costs of having children have already been addressed in research question 2b (see above), which examines the relationship between the birth of a first child and happiness when changes in time allocation to work, housework, and care (i.e. the time costs), are taken into account. With respect to the time costs of earning labour income, our research question is the following:

*3. What are the effects of income on happiness when working hours are taken into account?*

The second aspect of time allocation we will investigate is the relationship between time allocation to work and care, and happiness. It has been argued that many employed people spend more time on paid work than they desire because of constraints and demands from their workplace (Clarkberg & Moen, 2001), economic necessity, or misallocation of time due to a focusing illusion or the misprediction of happiness (Kahneman et al., 2006; Stutzer & Frey, 2010). In some cases, this may lead to chronic shortage of time to spend by themselves or with family and friends, which may result in time stress, and increased difficulty to balance work and family (Hochschild, 1997; Schor, 1993). Consequently, this may lead to lower happiness. In this thesis, we will examine the role of time pressure in the relationship between time spent on work and care and happiness. This leads to the fourth set of research questions:

*4a. To what extent does time spent on paid work and housework affect happiness?*

*4b. To what extent does perceived time pressure mediate this relationship?*

As an important part of this thesis is about the role of time allocation to work and care, our last research question will entirely focus on pathways to these time allocation decisions within households. We will address the impact of employers, the freedom of employees at work in making decisions about their working hours, locations, and schedules, and the strategies of couples at home to manage, or 'govern', the often conflicting time demands of work and family. The aim is to gain further insight into the factors that affect time allocation decisions and into the mechanisms through which these time allocation

decisions may cause or prevent both perceived time pressures and a distorted work-family balance. Perceived time pressures and a distorted work-family balance may, in turn, decrease happiness. The last set of research questions reads:

- 5a. *To what extent can the division of work and care between partners be explained by demands from work and family?*
- 5b. *To what extent is the relationship between the demands from work and the division of labour between partners moderated by partners' strategies at work and at home to manage these demands?*

## 1.6 Data

The data used in this thesis come from two surveys: various waves from the German Socio-Economic Panel (GSOEP) (Haisken-DeNew & Frick, 2005) and the Dutch Time Competition Survey 2003 (Van der Lippe & Glebbeek, 2003).

### 1.6.1 The German Socio-Economic Panel (GSOEP)

The GSOEP is a representative longitudinal sample of private households and persons aged 16 and over in Germany (Haisken-De-New & Frick, 2005). It started in 1984 in West Germany and covered 12,245 persons in more than 5,921 households in the first wave (Kroh, 2009). After the German reunification in 1990, households from East Germany were included in the sample from 1990 onward. Households are selected through a multi-stage sample: in a first step, regions are randomly selected and in a second step, households are randomly contacted within each region. Eight subsamples were included over the years: A West German sample (started in 1984), a sample of foreigners living in West Germany (started in 1984), an East German sample (entered in 1990), an immigrant sample (entered in 1994 and 1995), two refreshment samples (entered in 1998 and 2006), an innovation sample (entered in 2000), and a high-income sample (entered in 2002). Respondents are contacted yearly. Data are collected using face-to-face interviews.

The panel is designed mainly for economic and sociological research. The dataset is well suited to study the impact of work and family on happiness as it contains detailed annual information of individuals and couples about their work, family relations, time allocation, major life events, and happiness. The

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panel character of the data allows us to follow individuals for more than 20 years. The GSOEP is one of the main panels that have been used for research on happiness in the last decades.

### **1.6.2 The Time Competition Survey 2003**

The Time Competition Survey is a multi-stage sample of 1114 Dutch employees from 30 Dutch organizations (Van der Lippe & Glebbeek, 2003). The survey was designed to examine the causes and consequences of the growing competing time claims from the spheres of paid work and the household. Because time demands of the workplace are expected to occur especially in knowledge-based organizations, these were oversampled.

For the survey, both employees and their employers were interviewed. The management of the organization was asked to complete written questionnaires about the organizational characteristics and management structures within their organization. Within each organization, employees were approached with a request to participate. If employees were living with a partner (married or cohabiting), the partner was asked to take part in the survey as well. If the partner refused, the employee was not interviewed either. Upon their approval, employees and their partners, if any, took part in a standardized face-to-face interview and completed a written questionnaire. Employees and partners were interviewed simultaneously as well as separately in their homes. Prior to the interview, the employees and any partners had been asked to keep a weeklong journal about the way they spent their time.

The overall response rate was 28%. As far as we know, precise information about response rates of surveys with a similar design and sample is not available. In the Netherlands, the average response rate for written questionnaires for employees within organizations is about 40%. The response rate for face-to-face interviews of couples and singles in households ranges between 25% and 45% (Kalmijn, Bernasco, & Weesie, 1999. See also: Van der Lippe & Glebbeek, 2003). Taking into account the multi-stage and multi-actor character of the design, with multiple actors who had to agree with participation and with multiple opportunities for respondents to withdraw, a response rate of 28% seems reasonable. Non-response analyses show that households that did not cooperate were not significantly different on vital background characteristics (the employee's gender, educational level, working hours and family status) from households that did participate in the survey (Van der Lippe & Glebbeek, 2003). The Time Competition Survey 2003 provides a unique source for studying

influences of both the workplace and family on time allocation decisions within households and the consequences of these decisions for time pressure and happiness. We use data from the Time Competition Survey 2003 in chapters 4 and 5.

## 1.7 Outline of the book

The five research questions of this thesis are addressed in chapters 2 to 6. Chapter 2 answers the first question about interdependencies within the family. We describe and explain similarities in the happiness of married partners. Three possible explanations are taken into account: similarities may occur because partners share the same life circumstances, people tend to marry partners who are similar to them, and partners may influence each other. Chapter 3 deals with the second question about the long-run impact of life events on happiness. We examine under what conditions happiness changes around the birth of a first child. Two types of ‘conditions’ are addressed: the time costs of children and satisfaction within four major life domains, in particular the domains of income, leisure, housing, and health. The time costs of work are the focus of Chapter 4. Since income has to be earned and requires work effort, the effect of income on happiness is assessed while taking the time costs into account. Partner effects are also controlled for in this analysis. Chapter 5 studies the effects of time allocation on happiness and investigates the mediating role of time pressure. Chapter 6 investigates more deeply how time allocation decisions within households are shaped by demands of work and family and addresses the impact of strategies that employees have at their disposal at work and at home to ‘govern’ these demands. Two aspects of ‘household governance’ are distinguished: household rules and domestic quality standards. The concept ‘workplace governance’ comprises the extent to which employees are able to make their own decisions with respect to their work, and their working times and places. A summary and discussion of the findings are presented in Chapter 7. Table 1.1 presents an overview of the outline of the book.

**Table 1.1** Overview of the book

Ch.	Title	Interdependencies within the family: partner effects	Life events: birth of a first child	Time allocation decisions: time spent on work, housework and childcare	Happiness	Data source
2	So happy together	X			X	GSOEP 2005
3	Happy with the kids		X	X	X	GSOEP 1984 – 2005
4	Income, working hours and happiness	X		X	X	GSOEP 1999
5	Time use, time pressure, and happiness			X	X	Time Competition 2003
6	Firm's time greediness			x		Time Competition 2003





# 2

**So happy together:  
A study of happiness homogeneity  
in married couples**

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## Abstract

It is well documented that married people are happier than singles, widowers, or divorcees. There are, however, large happiness differences between married families. In this chapter we examine whether there is a relationship between happiness levels of wives and husbands. Are happy women married to happy men and unhappy women to unhappy men? We test whether such happiness homogamy may be a result of shared restrictions, spouse selection, or mutual influence. Data of 2,681 married couples from wave 2004 of the German Socio-Economic Panel show that spouses are indeed equally happy and that there is a strong accumulation of (un)happiness within households. The probability that one spouse is unhappy is almost seven times higher if the other spouse is also unhappy. Our hypotheses can only partly explain the observed (un)happiness homogamy. After controlling for shared restrictions, spouse selection, and mutual influence, happiness homogamy remains persistent. This finding suggests that other processes taking place after marriage account for (un) happiness homogamy or that partners select each other on the marriage market on basis of other characteristics, such as personality traits, which at the individual level have a strong relationship with their happiness.

*KEY WORDS: happiness, homogamy, married couples, selection effects, cross-over effects, inequality*

## 2.1 Introduction

It has been well established that partners within a household tend to resemble each other in many aspects. For example, spouses' labour market status and occupational attainment are found to be related (Bernasco, De Graaf, & Ultee, 1998; Henkens, Kraaykamp, & Siegers, 1993; Ultee, Dessens, & Jansen, 1988), partners prove to be alike with regard to health status, health-related behaviour, and disability (Clark & Etilé, 2006; Monden, 2007; Nieuwenburg & Siegers, 1981; Stolzenberg, 2001), and they appear to have synchronised time choices (Jenkins & Osberg, 2003).

In this study, we examine partners' resemblance in happiness. For many people, happiness is the ultimate goal in life. The things people usually strive for in life, such as a rewarding career, a loving family and friends, money, social status, or good health, are not so much goals in themselves, but rather instruments at their disposal to make them happier (Frey & Stutzer, 2002). Considering this, it is interesting to examine whether happiness accumulates within households and, if so, why some households are more successful in their pursuit of happiness than others. The occurrence of happiness homogamy (i.e. the tendency of happy women to be married to happy men and unhappy women to be married to unhappy men) would imply greater social inequality among households. The idea that happiness might come in couples has, however, rarely been tested empirically. By studying the relationship between partners' happiness levels and the underlying mechanisms we intend to gain insight into the distribution of happiness and unhappiness across households and deepen our understanding of social inequality in general. Furthermore, analyzing the different levels of happiness for different couples will help us better understand the determinants of well-being in marriage.

Following previous studies of intra-spousal correlations, three mechanisms can be distinguished that may account for partners' correlation in happiness: shared restrictions, spouse selection, and mutual influencing.

Firstly, the correlation between partners' happiness levels may occur because partners face the same restrictions. Couples in a household live in the same environment, share the same resources and go through some major life events together. If these shared restrictions have an effect on happiness at the individual level, it will result in a positive relationship between partners' happiness. Secondly, partner similarity in happiness may be a result of spouse selection. Individuals tend to select their partner on the matrimonial market

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based on characteristics, tastes, values or behaviour that they have in common. If these shared characteristics, tastes, values, and behaviour are also predictors of happiness at the individual level, it will lead to similarity in happiness. Thirdly, spouses may mutually influence each other. Characteristics, resources, and behaviour of one partner not only affect their own happiness, but also the happiness of their other half.

In this study, we aim to find out whether partners resemble each other in happiness, and if they do, to what extent this resemblance can be explained by (i) shared restrictions, (ii) spouse selection, and (iii) mutual influencing. We use data of 2,681 married couples from wave 2004 of the German Socio-Economic Panel (GSOEP) to analyse the relationship between the happiness of partners. Our analytic strategy is similar to that of previous studies of Ultee, Dessens, and Jansen (1988), Henkens, Kraaykamp, and Siegers (1993) and Monden (2007) who used residual correlation models to examine spousal similarity.

We will proceed as follows. In sections 2.2, 2.3 and 2.4 we shall present our theoretical assumptions. Section 2.5 will describe the data and measures. In Section 2.6, we will outline our analytic strategy. Section 2.7 reports the empirical results and section 2.8 contains the conclusions.

## **2.2 Marriage and happiness**

The standard and consistent finding in the academic literature is that married people are, on average, happier than those who are not married (Coombs, 1991; Kim & McKenry, 2002; Waite & Gallagher, 2000). Several mechanisms can explain the positive relationship between marriage and happiness. For example, married people are better off financially than people who are single, separated, divorced, or widowed. They tend to have higher wages and they profit from economies of scale and specialization of labour within the household (Becker, 1981; Korenman & Neumark, 1991). Apart from financial gains, marriage appears to have substantial health benefits. Married people are healthier, both physically and psychologically, and live longer than the non-married. Spouses can offer each other emotional support and they can care for each other in times of sickness or psychological distress. They may also provide one another with supportive social contact and companionship, which will shield them from loneliness (Stolzenberg, 2001; Waite & Gallagher, 2000). Although there is some evidence that happy people are more likely to get married than unhappy

people and that they are actually selected into marriage (Mastekaasa, 1992; Stutzer & Frey, 2006), longitudinal research has shown that there is at least some long lasting positive effect of marriage on happiness after controlling for effects of other, negative, life events (Zimmermann & Easterlin, 2006).

The married thus seem to have an advantage when it comes to happiness. On average, that is. Not everyone will be able to bring the benefits of marriage to full fruition (Frey & Stutzer, 2006; Hawkins & Booth, 2005). People may derive different levels of happiness out of their marriage depending on, among other things, their personal characteristics and resources, those of their partner's, the life events they have experienced, and the environment in which they live. Hence, not all married individuals will necessarily be equally happy. If happiness inequalities at the individual level tend to accumulate within households, for example when happy women have a tendency to be married to happy men and unhappy women to unhappy men, social inequality at the household level will occur.

### 2.3 Spousal similarity in happiness

There is little empirical evidence on spousal correlations of happiness. The few studies that have been conducted show positive associations between partners' happiness levels in very old and very young couples in the US and for a large representative sample of Norwegian couples. Bookwala and Schulz (1996), for example, found evidence of spousal similarity in life satisfaction in a study among more than 1,000 older adult couples (aged 65 and over) in the US. They reported substantial positive spousal correlations in satisfaction with the meaning and purpose of life ( $r = 0.30$ ) and in the feeling of life as a whole ( $r = 0.34$ ). Anderson, Keltner and John (2003) found positive partner correlations of various 'positive emotions', including happiness, among 38 young couples in the US. Additionally, they showed that dating partners were becoming emotionally more similar over time (spousal correlations increased from  $r = 0.34$  at the start of the study to  $r = 0.51$  six months later). Tambs and Moum (1992) reported high and stable spousal correlations in life satisfaction for a large sample of couples residing in one of the 19 Norwegian counties (between  $r = 0.33$  and  $r = 0.46$  for various marital durations). We expect to find a similar positive correlation between partners' happiness levels.

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## 2.4 Why does happiness come in couples?

To explain why happiness and unhappiness might come in couples, we draw on two distinct lines of research. The first line of research refers to studies of partner resemblance, or homogamy, and its consequences in terms of social inequality. This line of research does not specifically apply to happiness, but provides explanations for many types of partner resemblance. Within these homogamy studies, three hypotheses can be distinguished that may account for spousal similarity: the *shared restriction hypothesis*, the *spouse selection hypothesis*, and the *mutual influencing hypothesis*. The second line of research comes from happiness research and focuses primarily on the causes and correlates of individual happiness (for literature overviews see for example Argyle (1999), Dolan, Peasgood, and White (2008), Frey and Stutzer (2002), and Layard (2005)). Insight into the factors that affect happiness at the individual level is essential for explaining how exactly shared restrictions, spouse selection, and mutual influencing affect the accumulation of happiness and unhappiness within households.

### 2.4.1 Shared restrictions

First of all, spousal correlation in happiness might be explained by circumstances that the partners have in common (i.e. their *shared restrictions*). Partners who are sharing a household also share the same environment, and during their coupled life certain life events happen to them simultaneously. This environment and these life events may affect both partners' happiness in the same way. Examples of a couple's shared restrictions are household income, family composition, and their joint marital history.

Literature on individual happiness typically finds that income increases happiness (Clark, Frijters, & Shields, 2008). If a couple's household income increases, both partners can profit from this, which may lead to an increase in both partners' happiness. Having children may have two opposing effects on happiness. On the one hand, children, especially young children, cost time and money and they require effort, which may reduce individual happiness. On the other hand, children provide long-term intimate relationships, offer affection and prevent their parents from feeling lonely, which may increase happiness. The net effect of this negative "burden" and positive "affection" is unknown, as empirical studies into the effects of having children on happiness have presented mixed evidence. Some studies find no effects of children on happiness

while others find that people with children are happier than people without (Haller & Hadler, 2006). Additional circumstances can negatively influence this: if parents have a low income or if the child has certain health issues, children seem to have an extra negative effect on happiness (Dolan, Peasgood, & White, 2008). What is beyond doubt, though, is that if there are (young) children present in the household, their presence will affect both partners' happiness. A couple's joint marital history may also influence their happiness. There is evidence that the positive happiness effect of marriage varies depending on marital duration and that it is higher for people in first marriages. German panel studies find, for example, a "honeymoon" effect of marriage, in particular in first marriages (Clark et al., 2008; Zimmermann & Easterlin, 2006). In the first two years of marriage, people in first marriages become significantly happier. After this point, the level of happiness of people in these first marriages drops, but it remains higher than in the period before marriage (Zimmermann & Easterlin, 2006). Partners in first marriages may be happier than those in second or third marriages because those in their second or third marriages have been divorced or widowed at least once during their lifetime, which may have had a lasting negative effect on their happiness.

Given the ideas about shared restrictions and the empirical evidence about the determinants of individual happiness, we expect that part of the spousal correlation in happiness can be explained by the couple's household income, the presence of children in their household, the duration of their marriage, whether they are still in their 'honeymoon' or not, and whether the marriage is the first for both partners.

#### 2.4.2 Spouse selection

A second explanation for spousal similarity in happiness is *spouse selection*, or homogamous matching in the matrimonial market. Research on marriage and spouse selection shows that people tend to marry those who are close in status and that they choose their partners on basis of certain characteristics and behaviours they have in common (Kalmijn, 1998). If these common characteristics and behaviours are also strong predictors of happiness at the individual level, spousal correlations in happiness can be explained as a by-product of these other forms of spousal similarity (Henkens, Kraaykamp, & Siegers, 1993; Ultee, Dessens, & Jansen, 1988).

Various studies have shown that people tend to be married to partners of similar age, education, health, and employment status (Clark & Etilé, 2006;

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Kalmijn, 1998; Henkens, Kraaykamp, & Siegers, 1993; Monden, 2007; Ultee, Dessens, & Jansen, 1988). Similarities in age and education appear to be the most important criteria when choosing a partner, but similarities in health also play a role. Clark and Etilé (2006), for example, showed that correlations in smoking behaviour in British couples reflect partner selection on the matrimonial market. They conclude that smoking and, more generally, health and lifestyle are among the key domains over which spouse selection takes place (Clark & Etilé, 2006: 973-974).

At the individual level, happiness literature demonstrates that age, education, health, and employment status are important determinants of happiness. Happiness appears to vary with age. Findings are consistent and show higher happiness at younger and older ages and lower happiness at middle age (Blanchflower & Oswald, 2004; 2008; Easterlin, 2006). The better educated show higher happiness levels than people with lower levels of education (Blanchflower & Oswald, 2004). Explanations for the positive effect of education on happiness are that higher educated people have higher income, higher occupational status, and that they are more successful in fulfilling their aspirations for material goods (Argyle, 1999; Plagnol & Easterlin, 2008). There is a strong, consistent, positive relationship between health, both physical and psychological, and happiness throughout the life course (Easterlin, 2005; Dolan, Peasgood, & White, 2008). Involuntary unemployment severely reduces happiness (Clark & Oswald, 1994; Winkelmann & Winkelmann, 1998). Effects are long-lasting (Clark et al., 2008). Effects of part-time work on happiness are mixed. Some studies report that part-time work is associated with lower happiness for men than full-time work, while other studies find no relationship between part-time work and happiness (Booth & Van Ours, 2007).

These findings lead to the hypothesis that partners' resemblance in happiness is partly the result of spouse selection on the basis of age, education, health, and employment status.

### **2.4.3 Mutual influencing**

The final explanation for the correlation between partners' happiness looks at *mutual influencing*. Partners are important for each other's well-being. Their personal characteristics and behaviour not only affect their own happiness, but can also directly influence the happiness of their spouse. Effects can be both positive and negative. Some partners may improve the happiness of their spouse more than others. In pursuing their own goals, partners may profit from each

other's resources, such as their knowledge and skills, their socio-economic status, or their social network, which may improve their own happiness. Partners can, however, also be a burden on each other and negatively affect each other's happiness. For example, when one of them is sick for a long time and is in need of care, or when one of them becomes involuntarily unemployed.

We expect that processes of mutual influencing will partly explain spousal correlations in happiness. More specifically, we expect that spouses' happiness levels will be correlated due to the fact that the characteristics and behaviour of one partner – in particular his or her age, education, health, and employment status – affect the happiness of the other partner, and vice versa.

#### **2.4.4 Homogamy in health and employment status**

It should be noted that the mechanisms of shared restrictions, spouse selection and mutual influencing do not only produce happiness homogamy, but that they account for other forms of partner resemblance as well. These other forms of partner resemblance might also affect the happiness of individuals and thus cause spousal similarity in happiness. Examples are partner resemblance in employment status (Henkens, Kraaykamp, & Siegers, 1993; Ultee, Dessens, & Jansen, 1988) and health (Monden, 2007). Part of the employment homogamy and health homogamy may already exist at the beginning of the couple's marriage and lead to spousal correlations in happiness through processes of partner selection. Part of it, however, can also be explained by the mechanisms of shared restrictions, spouse selection, and mutual influencing. Spousal similarities in health may occur, for example, partly as a result from spouse selection on the basis of education; homogamy in employment status could well be the result of positive assortative mating on education or wages and partners' mutual influences that take place after marriage. Happiness homogamy may thus be an *indirect* result of the three mechanisms through other forms of spousal similarity. Whether health homogamy and homogamy in employment status are caused by spouse selection, shared circumstances, or mutual influencing is, however, not addressed here. We merely assume that the relationship between partners' happiness can be explained from an underlying health and (un)employment homogamy.

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## 2.5 Data and method

### 2.5.1 Sample

The data for the analyses in this chapter come from Wave 2004 of the GSOEP (Haisken-DeNew & Frick, 2005). The GSOEP is a longitudinal sample of private households and persons aged 16 and over in Germany. It was started in 1984 in the Federal Republic of Germany. After the German reunification in 1990, households from the former German Democratic Republic were included in the sample from 1990 onward. However, as East-German and West-German citizens were and are very different with respect to income, employment status, family transitions, and happiness, we will limit our analysis to West-German couples.<sup>2</sup> Immigrants, same-sex couples, and couples who do not share the same household are also excluded from our sample. In 2004, the West-German sample includes 3,605 heterosexual married couples, resulting in an analytic sample of 2,681 couples with complete information on all relevant variables. All partners are between 20 and 94 years old.

### 2.5.2 Measures

Our measure of happiness is captured by the ‘Cantril question’ *How satisfied are you at present with your life, all things considered?* (Cantril, 1965). The response runs from 0 (completely dissatisfied) to 10 (completely satisfied). Few people report being very dissatisfied with their lives, so we recoded the eleven categories into a four-point item, in which the responses 0 through 5 of the original questions are recoded into 1 ‘unhappy’, 6 and 7 are recoded into 2 ‘neutral’, 8 is recoded into 3 ‘happy’, and 9 and 10 are recoded into 4 ‘very happy’. Since Cantril developed this subjective question in 1965, it has been widely used in sociology, psychology, and economics to analyse individual happiness across countries and over time (see also Ferrer-i-Carbonell & Frijters, 2004; Kahnemann, Diener, & Schwartz, 1999). Previous studies have shown that the validity, reliability, and comparability of this kind of subjective questions are adequate and satisfactory (e.g. Frey & Stutzer 2002; Kahnemann, Diener, & Schwartz, 1999).

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<sup>2</sup> During the decade following the reunification, East-German citizens became considerably happier as a result of increased household income and improvement of personal freedom and public services. West-Germans, by contrast, became somewhat less happy during that period. Despite these changes, average happiness is still significantly lower in East-Germany than in West-Germany (Frijters, Haisken-DeNew & Shields, 2004). Furthermore, economic constraints and high unemployment rates after the reunification made East-Germans less likely to make transitions into and out of marriage (Cooke, 2005). This makes it complicated to put East-German and West-German married couples together when examining happiness homogeneity.

Explanatory variables are included to test whether happiness homogamy is a result of shared restrictions, spouse selection, or mutual influencing. These include household income, family size, the presence of children under 16 in the household, the couple's common marital history, and both partners' age, education, health, and employment status.

Household income is measured as the net household income per month (Euros). We use the logarithm of household income together with the logarithm of family size to control for economies of scale (cf. Schwarze, 2004). The presence of children under 16 is measured by a dummy variable (1 = *yes*, 0 = *no*). The couple's marital history is captured by three variables. Two dummy variables measure whether this marriage is the first marriage for both partners (1 = *yes*, 0 = *no*) and whether the couple got married this year or in the previous year (just married; 1 = *yes*, 0 = *no*). Marital duration is a continuous variable measuring the number of years that the couple has been married.

Age is measured in years. To account for the fact that happiness is likely to be U-shaped in age we include a quadratic term as well. Education is measured in years of formal education. Health is a self-reported measure of general health, measured on a 5-point scale (1 = *bad health*, 5 = *very good health*). Employment status is included as a series of 6 dummy variables, measuring whether respondents are employed full-time (reference category), employed part-time, involuntarily unemployed, voluntarily unemployed (including homemakers), retired, or engaged in other non-labour market activities, such as full-time education or military service (1 = *yes*, 0 = *no*). The descriptive statistics of all variables are presented in Table 2.1.

### 2.5.3 Analytic strategy

We start with the analysis of some simple correlations and odds ratios to examine the relationship between partners' happiness levels. Next, we test the hypotheses of shared restrictions, spouse selection, and mutual influencing using residual correlation models (see also Henkens, Kraaykamp, & Siegers, 1993; Monden, 2007; Ultee, Dessens, & Jansen, 1988). In such models, the residual correlation is regarded as an indicator of happiness homogamy. In other words, the residual correlation is the part of the correlation between the happiness levels of partners that is left unexplained and that must be attributed to unobserved characteristics. Figure 2.1 illustrates how happiness homogamy can be captured by partners' residual correlation in a model where shared restrictions, spouse selection, and mutual influencing have been taken into account.

**Table 2.1** Descriptive statistics for the variables in the analysis  
(n = 2,681 couples)

	Household (n = 2,681)		Women (n = 2,681)		Men (n = 2,681)	
	Mean	SD	Mean	SD	Mean	SD
Overall happiness <sup>a</sup>			7.06	1.70	7.02	1.69
Net household income (Euros/month)	2908.26	1450.67				
Family size	2.97	1.08				
Children < 16 in household (1 = yes)	0.59	0.92				
First marriage (1 = yes)	0.86	0.35				
Just married (1 = yes)	0.02	0.13				
Marital duration	25.98	15.35				
Age			51.76	14.09	54.42	14.31
Number of years of education			11.58	2.34	12.14	2.65
Health			3.29	0.92	3.27	0.94
Full-time employed (1 = yes)			0.14	0.35	0.58	0.49
Part-time employed (1 = yes)			0.34	0.47	0.03	0.18
Involuntarily unemployed (1 = yes)			0.02	0.15	0.03	0.17
Voluntarily unemployed (1 = yes)			0.26	0.44	0.04	0.20
Retired (1 = yes)			0.23	0.42	0.32	0.47
Other non-labour market activities (1 = yes)			0.00	0.04	0.00	0.03

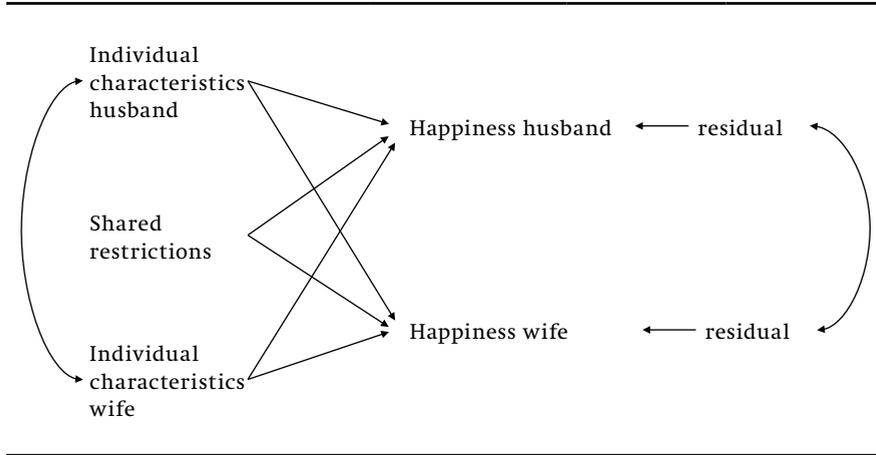
Data source: German Socio-Economic Panel, 2004.

<sup>a</sup> 11-point Cantril-item

For example, the shared restrictions and spouse selection hypotheses predict that partner resemblance in happiness will be the result of partners' resemblance in age, education, health, and employment, and the household, income, and marital history they share. If these hypotheses are correct, there should be no correlation left between the residuals of happiness for husbands and wives after controlling for these individual and shared characteristics.

The correlation between residuals is obtained in two steps. In the first step, the probabilities of being very happy, happy, neutral, and unhappy are estimated in a series of four ordered probit analyses. Model 0 is the empty model, that is, the model containing just the general mean. Model 1 tests the effect of shared restrictions by adding shared family circumstances and the couple's marital history. Model 2 assesses spouse selection and includes one's own age, education, health, and employment status. Model 3 considers mutual influencing by introducing the partner's age, education, health, and employment status. All models are estimated for husbands and wives separately.

**Figure 2.1** Residual correlations for partners' happiness net of shared restrictions, spouse selection, and mutual influencing



In the second step, the residuals are calculated for both spouses and are then correlated.<sup>3</sup> Our starting point is the residual correlation in the empty model.<sup>4</sup> If the residual correlation of a subsequent model drops when compared to the residual correlation of its former model, this means that the initial relationship between spouses' happiness can, at least partly, be explained by the underlying mechanism. If our hypotheses can fully account for the observed residual correlation, the residual correlation will drop to zero after controlling for the three mechanisms. If they cannot explain the observed spousal similarity in happiness at all, the residual correlation will be unaffected.

<sup>3</sup> Residuals are calculated by subtracting a person's estimated happiness level from her actual score on happiness. Since our happiness variable has four categories, four residuals are calculated for every respondent and, consequently, 4x4 residual correlations are calculated for every couple.

<sup>4</sup> Note that these are similar to the correlations of husbands' and wives' happiness in the four happiness statuses.

## 2.6 Results

### 2.6.1 Does happiness come in couples?

Table 2.2 shows the cross tabulation of couples' happiness levels. In half of the households, partners report being equally happy. Over 17% of these homogamous households consist of two unhappy partners while about 15% consist of partners who are both very happy.

**Table 2.2** Husbands' happiness by wives' happiness ( $n = 2,681$  couples)

The husband's happiness ( $n = 2,681$ )	The wife's happiness ( $n = 2,681$ )				Total
	Unhappy	Neutral	Happy	Very happy	
<b>Unhappy</b>	235 (48.3%)	161 (33.1%)	70 (14.4%)	21 (4.3%)	487 (18.2%)
<b>Neutral</b>	184 (19.1%)	472 (49.1%)	239 (24.9%)	66 (6.9%)	961 (35.8%)
<b>Happy</b>	66 (7.7%)	223 (26.1%)	441 (51.6%)	125 (14.6%)	855 (31.9%)
<b>Very happy</b>	19 (5.0%)	47 (12.4%)	107 (28.3%)	205 (54.2%)	378 (14.1%)
<b>Total</b>	504 (18.8%)	903 (33.7%)	857 (32.0%)	417 (15.6%)	2681 (100.0%)

*Data source: German Socio-Economic Panel, 2004.*

To illustrate the association between partners happiness, correlations and odds ratios are presented in Table 2.3. The overall correlation between partners' general happiness, measured on the original 11-point Cantril-item, is substantial: 0.51. The correlations between husbands and wives in the four dichotomous happiness statuses are also significant and positive and vary from 0.24 (for being 'neutral') to 0.43 (for being 'very happy'). The strength of these correlations is comparable to other types of spousal correlation found in previous research, such as education (between 0.40 and 0.50), health (between 0.13 and 0.31, depending on the health indicator), and labour market statuses (0.18) (Monden, 2007; Henkens, Kraaykamp, & Siegers, 1993).

The odds ratio of being very happy is 11.67. This means that the probability of one partner being very happy is almost 12 times higher if the other partner is very happy as well. Having an unhappy partner, on the other hand, increases one's risk of similar unhappiness by almost 7 times. These results provide support for the existence of happiness homogeneity.

**Table 2.3** Association between the happiness of wives and husbands  
( $n = 2,681$  couples)

	Correlation	Odds ratio	95% confidence interval
Overall happiness <sup>a</sup>	0.510		
Unhappy (0 = no, 1 = yes)	0.355	6.67	5.36 - 8.31
Neutral (0 = no, 1 = yes)	0.244	2.89	2.44 - 3.41
Happy (0 = no, 1 = yes)	0.288	3.61	3.04 - 4.29
Very happy (0 = no, 1 = yes)	0.432	11.69	9.13 - 14.96

Data source: German Socio-Economic Panel, 2004.

<sup>a</sup> 11-point Cantril-item

Partners' correlation in happiness may vary depending on the duration of their marriage. The longer partners are living together, the longer they share the same restrictions, the stronger they influence each other, and the more similar they are likely to be. To examine whether partners' correlations in happiness increase with marital duration, Table 2.4 shows the correlation coefficients for nine marital duration periods separately. The spousal correlations are all positive and almost all significant and substantial, except for couples that have been married for two years or less. Couples in their honeymoon period resemble each other much less with regard to happiness than couples who have been married for a longer time. For overall happiness as well as for the four dichotomous happiness statuses, partners' correlations of happiness seem to be higher in longer married couples. These results suggest effects of shared restrictions and mutual influencing.

### 2.6.2 Shared restrictions, spouse selection, or mutual influencing?

Table 2.5 and Table 2.6 show the ordered probit analyses explaining the happiness of husbands and wives, respectively. Model 1 shows that household income has a strong, positive effect on happiness for both husbands and wives.

**Table 2.4** Correlations of partners' happiness by marital duration  
(*n* = 2,681 couples)

Marital duration (years)	<=2	03-7	8-14	15-21	22-28	29-35	36-42	43-49	50+
Overall happiness <sup>a</sup>	0.27	0.48	0.41	0.53	0.39	0.59	0.59	0.54	0.65
Unhappy <sup>b</sup>	0.09 <sup>c</sup>	0.33	0.34	0.33	0.33	0.44	0.27	0.42	0.43
Neutral <sup>b</sup>	0.11 <sup>d</sup>	0.14 <sup>c</sup>	0.29	0.22	0.22	0.25	0.19	0.38	0.29
Happy <sup>b</sup>	0.12 <sup>d</sup>	0.30	0.37	0.31	0.19	0.19	0.28	0.30	0.45
Very happy <sup>b</sup>	0.30	0.37	0.38	0.40	0.26	0.53	0.50	0.51	0.55
<i>n</i>	100	249	426	409	329	331	354	290	193

Data source: German Socio-Economic Panel, 2004.

all correlations are significant at  $p < 0.01$ , unless otherwise specified

<sup>a</sup>11-point Cantril-item; <sup>b</sup>0 = no, 1 = yes; <sup>c</sup>significant at  $p < 0.05$ ; <sup>d</sup>not significant

Having a large family decreases happiness for both partners, but the presence of children under 16 in the household is associated with increased happiness. With respect to the couple's marital history, there is a clear, positive honeymoon effect: couples that married recently are happier. Women in their first marriage are more likely to be happy, while for men it makes no difference whether the marriage is their first or not. For men, the longer their marriage lasts, the happier they are.

Spouse selection is tested in the second model. The positive effect of household income and the negative effect of family size remain the same as in Model 1 for husbands and wives alike. The positive effect of the presence of young children at home, however, is now no longer significant. The effects of marital history have diminished and become insignificant. An exception is the honeymoon effect for women, which remains positive and significant. There is a U-shaped relationship between age and happiness for women and men, but education has no effect for either of them. Health has a strong, positive effect on the happiness of both partners. Women who are voluntarily unemployed or retired are more likely to be happy than women who work full-time. Men who are involuntarily unemployed are more likely to be unhappy than those who work full-time.

In the third model, mutual influencing effects are included. Again, the effects of income and family size remain the same, as does the honeymoon effect for women. The effect of one's own age becomes smaller, and, for women, insignificant. The effects of one's own health and labour market status do not

change compared to the second model. One exception where women are concerned is retirement, which was positively associated with happiness in the former model and has become insignificant in this one.

For both husbands and wives, their spouse's health and labour market status are important to their own happiness. The partner effects appear to be somewhat stronger for women. For them, strikingly, the effect of their husband's labour market status is even stronger than the effect of their own labour market status. The healthier a person is, the happier his or her spouse will be. Men who are married to a woman who is voluntarily unemployed are more likely to be happy compared to men whose wife has a full-time job. Other labour market positions of their wives have no effect. Women, on the contrary, are less happy when their husband is involuntarily unemployed compared to women whose husband has a full-time job. Since both men and women become happier when the wife is voluntarily unemployed and unhappier when the husband is involuntarily unemployed, it seems that husbands and wives have higher happiness levels the closer their labour market statuses match the traditional family model with a male full-time provider and a female full-time carer. These findings suggest that spousal similarity in happiness would be a product of *differences* in employment status rather than of similarities.

This matches Becker's assumption that the gains from marriage are generated by the household division of labour, with men specializing in market work and women in household work (Becker, 1981). However, the results can also be interpreted as a social norm effect. Through the gender norms internalized by women and men, women could feel that they should or want to do homework, and men that they should or want to work full-time in the labour market (cf. Bittman, England, Sayer, Folbre, & Matheson, 2003). Behaving according to these social norms gives a feeling of 'doing the right thing' which is an important source of happiness (Lindenberg & Frey, 1993).

Based on the ordered probit models, presented in Table 2.5 and 2.6 we estimated the predicted probabilities of each individual being unhappy, neutral, happy and very happy. For example, on the basis of model 3, we could calculate the predicted probabilities for a 48-year-old, healthy woman with a full-time job and almost 12 years of formal education. The woman in question has been married for more than 18 years to a 56 year old, healthy man who works full-time and has enjoyed 15 years of education. For the woman, it is her first marriage, for the man it is not. The couple has a child above 16 who is living at home and the family has a joint income of 4300 Euros net per month. The probability, according

**Table 2.5** Ordered probit analysis explaining the happiness of husbands  
(*n* = 2,681)

	Husbands		
	Coefficients ordered probit analysis (standard errors)		
	Model 1 <i>Shared restrictions</i>	Model 2 <i>Spouse selection</i>	Model 3 <i>Mutual influencing</i>
Log net yearly income ( <i>Euros/month</i> )	.459** (.051)	.349** (.062)	.351** (.065)
Log family size	-.380** (.094)	-.271** (.100)	-.260* (.102)
Children < 16 in household <sup>a</sup>	.225** (.073)	.148 (.077)	.116 (.079)
First marriage <sup>a</sup>	.121 (.064)	.029 (.077)	.004 (.080)
Just married <sup>a</sup>	.367* (.161)	.281 (.167)	.287 (.169)
Marital duration	.004* (.002)	.001 (.004)	.000 (.004)
Age		-.026* (.013)	-.040 (.023)
Age <sup>2</sup> /100		.036** (.011)	.043* (.020)
No years of education		-.003 (.009)	-.012 (.010)
Good health		.601** (.026)	.577** (.027)
Employment status			
Full-time employment <sup>a</sup> <i>ref. cat.</i>			
Part-time employment <sup>a</sup>		.194 (.126)	.183 (.127)
Involuntarily unemployed <sup>a</sup>		-.838** (.144)	-.808** (.146)
Voluntarily unemployed <sup>a</sup>		-.008 (.128)	-.056 (.130)
Retired <sup>a</sup>		.037 (.079)	.004 (.081)
Other non labour market activities <sup>a</sup>		-1.335 (.821)	-1.311 (.821)
Wife's age			.021 (.023)
(Wife's age <sup>2</sup> )/100			-.012 (.021)
Wife's years of education			-.010 (.012)
Wife's good health			.137** (.026)
Wife's employment status			
Wife full-time employed <i>ref. cat.</i>			
Wife part-time employed <sup>a</sup>			-.014 (.071)
Wife involuntarily unemployed <sup>a</sup>			.047 (.154)
Wife voluntarily unemployed <sup>a</sup>			.150* (.076)
Wife retired <sup>a</sup>			.112 (.096)
Wife in other non labour market activities <sup>a</sup>			-.747 (.517)
Cut points			
Cut point 1	2.597 (.407)	3.170 (.547)	3.795 (.576)
Cut point 2	3.629 (.409)	4.363 (.549)	5.000 (.579)
Cut point 3	4.622 (.411)	5.480 (.551)	6.128 (.581)
Likelihood ratio chi <sup>2</sup>	93.71	718.53	760.68
Pseudo R <sup>2</sup>	.013	.102	.108
Loglikelihood	-3487.422	-3175.013	-3153.939

Data source: German Socio-Economic Panel, 2004.

<sup>a</sup>0=no, 1=yes; \*\* *p* < 0.01; \* *p* < 0.05

**Table 2.6** Ordered probit analysis explaining the happiness of wives  
(*n* = 2,681)

	Wives		
	Coefficients ordered probit analysis (standard errors)		
	Model 1	Model 2	Model 3
	<i>Shared restrictions</i>	<i>Spouse selection</i>	<i>Mutual influencing</i>
Log net yearly income (Euros/month)	.447** (.051)	.392** (.058)	.327** (.065)
Log family size	-.310** (.093)	-.243* (0.10)	-.211* (0.101)
Children < 16 in household <sup>a</sup>	.238** (.073)	.077 (.078)	.084 (.079)
First marriage <sup>a</sup>	.182** (.065)	.050 (.078)	.021 (.080)
Just married <sup>a</sup>	.418** (.161)	.350* (.167)	.362* (.169)
Marital duration	.003 (.002)	.003 (.004)	.003 (.004)
Age		-.023 (.013)	-.011 (.023)
Age <sup>2</sup> /100		.029* (.012)	.015 (.021)
No years of education		.006 (.010)	.004 (.012)
Good health		.544** (.027)	.507** (.027)
Employment status			
Full-time employment <sup>a</sup> <i>ref cat.</i>			
Part-time employment <sup>a</sup>		.078 (.070)	.045 (.070)
Involuntarily unemployed <sup>a</sup>		-.182 (.155)	-.183 (.156)
Voluntarily unemployed <sup>a</sup>		.215** (.074)	.152* (.076)
Retired <sup>a</sup>		.224* (.092)	.168 (.095)
Other non labour market activities <sup>a</sup>		-.820 (.534)	-.892 (.542)
Husband's age			-.008 (.023)
(husband's age <sup>2</sup> )/100			.012 (.020)
Husband's years of education			.002 (.010)
Husband's good health			.202** (.025)
Husband's employment status			
Husband full-time employed <i>ref cat.</i>			
Husband part-time employed <sup>a</sup>			.009 (.126)
Husband involuntarily unemployed <sup>a</sup>			-.290* (.136)
Husband voluntarily unemployed <sup>a</sup>			.034 (.128)
Husband retired <sup>a</sup>			.021 (.081)
Husband in other non labour market activities <sup>a</sup>			.648 (.791)
Cut points			
Cut point 1	2.617 (.407)	3.615 (.519)	3.795 (.573)
Cut point 2	3.587 (.409)	4.696 (.521)	4.896 (.575)
Cut point 3	4.553 (.411)	5.750 (.524)	5.966 (.577)
Likelihood ratio chi <sup>2</sup>	97.31	555.48	630.42
Pseudo R <sup>2</sup>	.014	.078	.088
Loglikelihood	-3529.771	-3300.687	-3263.219

Data source: German Socio-Economic Panel, 2004.

<sup>a</sup> 0=no, 1=yes; \*\* *p* < 0.01; \* *p* < 0.05

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to the results of Model 3, is 3% that this woman is unhappy, 17% that she is neutral, 39% that she is happy, and 41% that she is very happy.

After these probabilities were calculated for each person in the dataset, residuals were calculated by subtracting a respondent's predicted probability from this respondent's observed score on happiness. After that, the residuals of wives and husbands were correlated. Table 2.7 presents the residual correlations of partners' happiness for the four different models. The first coefficient in each cell is the residual correlation in Model 0, which is the model with the general mean only. The second coefficient is the residual correlation after controlling for shared circumstances and shared life events; the third is spouses' residual correlation after taking into account age homogeneity, educational homogeneity, health homogeneity, and (un)employment homogeneity. The final coefficient is the residual correlation after the partner's characteristics have been added to the model. Changes in the residual correlations indicate to what extent shared restrictions, spouse selection, and mutual influencing contribute to spousal similarity in happiness.

Table 2.7 shows that the observed happiness homogeneity can only partly be explained by shared restrictions, spouse selection, and mutual influencing. The residual correlations for homogeneous couples (in the diagonal cells) are positive and large, especially for unhappy and very happy couples, and remain so after controlling for shared restrictions, spouse selection, and mutual influencing: in Model 3 too, the residual correlations are still substantial in every case. The largest reduction between Model 0 and models 1, 2, and 3 was found for couples with two unhappy partners. Shared restrictions (Model 1) and spouse selection (Model 2) explain almost one fifth of the unhappiness homogeneity in these couples. Mutual influencing (Model 3), however, does not lead to a significant additional reduction. For the neutral, happy, and very happy couples, shared restrictions and spouse selection can account for 8%, 11%, and 10% of the resemblance in their respective levels of happiness. Again, mutual influencing does not lead to a significant additional reduction in spousal correlation.

The residual correlations for non-homogeneous couples (outside the diagonal cells) are much smaller and almost all negative. This means that spouses with different happiness levels have a lower probability to be married to each other. One exception is the combination of an unhappy wife and a neutrally happy husband. It appears that there is no significant relationship in this case. The

**Table 2.7** Residual correlations of partners' happiness, based on four ordered probit models explaining happiness ( $n = 2,681$  couples)

The husband's happiness ( $n = 2,681$ )	The wife's happiness ( $n = 2,681$ )			
	Unhappy	Neutral	Happy	Very happy
Unhappy	.355**	-.006	-.178**	-.146**
	.338**	-.010	-.168**	-.130**
	.288**	-.042*	-.120**	-.085**
	.291**	-.041*	-.120**	-.088**
Neutral	.007	.244**	-.114**	-.179**
	.003	.243**	-.113**	-.176**
	-.022	.224**	-.100**	-.147**
	-.021	.225**	-.099**	-.150**
Happy	-.194**	-.110**	.288**	-.018
	-.182**	-.107**	.282**	-.030
	-.141**	-.092**	.257**	-.067**
	-.143**	-.090**	.257**	-.068**
Very happy	-.143**	-.182**	-.032	.432**
	-.131**	-.182**	-.034	.427**
	-.080**	-.149**	-.083**	.389**
	-.083**	-.153**	-.084**	.398**

Data source: German Socio-Economic Panel, 2004.

\*\*  $p < 0.01$ ; \*  $p < 0.05$

occurrence of the observed happiness heterogamy can be explained for a large part by the spouse selection hypothesis. More than 20% of the negative spousal correlation in couples with one unhappy spouse and one happy spouse and more than 30% of the negative correlation in couples with one unhappy spouse and one very happy spouse can be attributed to the fact that both partners are also different in age, employment status and health.

Comparing the model with the general mean (Model 0) to the models with shared restrictions (Model 1) and spouse selection (Model 2) we found that spouse selection has the most explanatory power when explaining happiness homogamy. After introducing shared restrictions to the equation, the residual correlations drop only slightly, ranging from .001 in couples with two neutrally happy partners (which is a reduction of 0.5%) to .017 in couples with two unhappy partners (which is a reduction of almost 5%). By contrast, the

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contribution of spouse selection causes much more substantial drops in the residual correlations: drops range from .019 in neutrally happy couples (which is an additional reduction of almost 8%) to .050 in unhappy couples (which is an additional reduction of more than 14%).

Introducing mutual influencing to the model does not change the residual correlations significantly, indicating that partner's age, education, health, and labour market status do not explain spousal similarity in happiness on top of processes of shared restrictions and spouse selection.

## 2.7 Conclusions and discussion

In this chapter, we examined spousal similarity in happiness. Using residual correlation models on a sample of 2,681 married couples from the German Socio-Economic Panel in 2004, we were able to study the extent to which happiness homogamy can be explained by shared circumstances, spouse selection, and mutual influencing. Partners are indeed inclined to have similar happiness levels. More than half of the couples in our study are equally happy. The risk of being unhappy is almost seven times higher if one has an unhappy spouse than if one has a spouse who is not. The probability of being very happy is even more substantial: the likelihood of being very happy is almost 12 times higher if one's partner is also very happy. The accumulation of wanted and unwanted characteristics within households is thus not only displayed by homogamy in age, education, health, and labour market statuses, but also by spousal correlations in happiness.

We formulated three hypotheses to explain this positive relationship between partners' happiness levels: shared restrictions, spouse selection, and mutual influencing. The hypotheses could only partly explain the observed partner resemblance in happiness. Spouse selection, or the tendency of individuals to be married to a partner who has the same age, education, health, or labour market status, provided the most important explanation. Sharing a household and undergoing the same (marital) life events had much less explanatory power, but could nonetheless account for some of the spousal correlation in happiness. Partners' mutual influence on each other's happiness through age, education, health, or labour market status could not explain spousal similarity in happiness on top of the two other mechanisms.

Overall, *unhappiness* homogamy was somewhat better explained by the

underlying mechanisms than the other forms of happiness homogamy; 20% of the unhappiness homogamy could be explained by shared restrictions and spouse selection, while only 10% of the homogamy in being very happy could. After controlling for shared circumstances, spouse selection, and mutual influencing, we found that a considerable part of happiness homogamy remains persistent ( $r = 0.29$  and  $r = 0.40$  for being unhappy and very happy, respectively). This unexplained residual correlation could be caused by three factors.

Firstly, the reported happiness for both spouses in each couple could have a common source of measurement error. Secondly, there may be variables missing from our model. Partners may, for example, select each other on the matrimonial market on the basis of other characteristics that are common causes for both the wife's and husband's happiness, such as a similar genetic blueprint or personality traits. In line with this, direct spouse selection on basis of happiness might play a role. Individuals who are born with a happy nature may attract partners who also have a happy nature (i.e. positive assortative mating for happiness). The idea behind this is that the happiest individuals are at the front of the 'partner queue' on the marriage market (cf. job and person queues on the labour market (Thurow, 1975)). They will be the first to choose a partner and will tend to select someone who is also in the front of the queue, while less happy individuals will be lower in the partner queue and will be selected later.

Another aspect that could not be included in the model is related to mutual influencing processes that take place after marriage. The reason we were not able to do so is that the variables necessary to analyse these effects were not available in the data set. Perhaps one of the most salient of these is (perceived) relationship supportiveness. The (perceived) level of emotional and instrumental support that partners give to each other appears to be an important source of their happiness. Receiving support from one's partner provides comfort and makes one feeling loved, which increases happiness (see for example Piña & Bengtson (1993) who find for the US that greater feelings of support from husbands are linked with wives' higher levels of happiness). But not only getting, but also giving help contributes to people's happiness. Several studies find that helping others, either with money or tasks, leads to higher happiness (Konow & Earley, 2008; Meier & Stutzer, 2008; Thoits & Hewitt, 2001). There is also some evidence that partner support is reciprocal and that the level of relationship supportiveness between partners is positively correlated (Howard & Brooks-Gunn, 2009). Helping one's partner, of course, costs time and energy,

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but can also increase happiness. There are several ways in which spousal support might be rewarding (cf. Meier & Stutzer, 2008):

- (i) Providing support may generate rewarding outcomes. In return from helping, people receive love, warmth, and fondness from their spouse and it may increase mutual affection between partners, which positively influences individual happiness;
- (ii) Providing support may also be an investment. Supportive behaviour can strengthen the relationship and might act as 'insurance' for the future by increasing the probability for receiving future support from the spouse. This increased expected future help from one's spouse influences happiness positively;
- (iii) Independently of the outcomes, helping one's partner and caring for his or her welfare may be rewarding in itself. Helping may enhance self-determination, increase feelings of competence, and give a feeling of 'doing good', which have a positive effect on individual happiness.

Thirdly, the observed spousal correlation could be due to the result of mutual causation between partners' happiness. In other words, the relationship between partners' happiness may well be a result of a direct *spill-over* of the wife's happiness to the husband's and vice versa. The idea behind this is that to a certain extent partners are altruistic and that they care for each other's happiness. The happiness of one partner then directly positively affects the happiness of the other (cf. Becker, 1974, 1981; see also Bruhin and Winkelmann (2008), Schwarze and Winkelmann (2005), and Winkelmann (2005) who describe and explain interdependencies of well-being between parents and their adult children).

Future research has to shed light on these alternative explanations of spouse selection based on happiness and fixed personality traits. It could try to assess how mutual influencing processes that take place after marriage, such as the reciprocal supportive behaviour of partners, affect spousal similarity in happiness. Complementary research could also try to reveal to what extent *spill-over* effects between partners (i.e. the happiness of one partner affects the happiness of the other partner) might play a role.

Our study could be extended by examining historical developments in spousal correlations of happiness and by studying changes in happiness homogeneity within couples throughout their marriage. It would be interesting to examine the extent to which possible changes in happiness homogeneity will

be the result of major life events. Since happiness seems to be what people value most in life and since individuals have a tendency to strive for the greatest possible level of happiness throughout their lives, more profound insight into the existence of happiness homogamy and the subsequent unequal distribution of happiness and unhappiness across households may be crucial to understanding social inequality.



# 3

**Happy with the kids?**

**The impact of time allocation decisions  
and domain satisfaction on happiness  
around the birth of the first child**

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## Abstract

Although it may seem counterintuitive, many empirical studies have shown that children do not contribute to their parents' happiness. In this chapter we use longitudinal data from the first twenty-two waves of the German Socio-Economic Panel to investigate whether people's happiness changes around the birth of a first child and if so, why. We conduct two sub-studies. In the first sub-study we examine how people's happiness reacts and adapts to the birth of a first child and test to what extent these changes can be explained by changes in time allocation, which often accompany the transition to parenthood. In the second sub-study, we examine what happens to satisfaction within different domains of life after the birth of a first child and we assess to what extent these changes can account for changes in overall happiness. In line with previous research, we find that becoming a parent raises one's happiness levels, but only temporarily. Almost immediately after the birth of the child, happiness levels drop and both mothers and fathers become unhappier than they were before. Our results show that the happiness patterns of (future) mothers are explained by different mechanisms than the patterns of (future) fathers. Sub-study 1 shows that women's happiness patterns can be explained by changes in time use and by processes of adaptation and habituation. Sub-study 2 reveals that men's happiness patterns are explained by diminishing satisfaction with household income and leisure time.

*KEY WORDS: happiness, life events, children, time allocation, domain satisfaction, adaptation*

### 3.1 Introduction

“Children do not add to happiness.” This counterintuitive conclusion was drawn in 1984 by Veenhoven (1984: 15) on the basis of his analysis of 150 publications, reporting altogether 156 research projects covering 245 populations. For many of us, this finding seems puzzling and in conflict with our personal experiences and beliefs. In fact, most parents consider their children as a source of love, joy, and personal growth. They believe that their children provide a sense of meaning and purpose to their lives and that the benefits of parenting are far greater than the costs. Many future parents have a bright and optimistic view about parenthood as well. Although they know children will demand time, money, and energy, they tend to look at prospective parenthood through rose-colored glasses and assume that having children will bring them great happiness (McLanahan & Adams, 1989; Powdthavee, 2009a; Umberson & Gove, 1989; White, Booth, & Edwards, 1986).

These are not only common-sense expectations. In explaining fertility behaviour, rational choice approaches, for instance, have also argued that individuals derive utility from having children. They assume that people will decide to have children if the expected utility gains outweigh the gains that could have been derived from the amount of time, income, and energy that is necessary to invest in raising these children (Becker & Barro, 1988; Becker, 1991 [1981]; see also Kohler, Behrman, & Skyttne, 2005).

Empirical studies, however, have tended to paint a different picture. Since Veenhoven published his results in 1984, numerous studies have supported the finding that the well-being effects of children are absent or even negative (see Blanchflower (2008), Dolan, Peasgood, and White (2008), and McLanahan and Adams (1987) for reviews).

Two contradicting views appear in the literature to explain the negative and non-significant relationships. A first approach, common in sociology and economics, states that having and raising children is connected with both pleasures and sorrows that may offset each other. In this view, happiness is seen as the net result of good and bad circumstances that might be influenced by life events, such as the birth of a child (see for example Haller & Hadler, 2006; Nomaguchi & Milkie, 2003; Umberson & Gove, 1989). In contrast, *set point theory* (or adaptation theory), which has its roots in psychology, assumes that happiness levels do not change at all over the life course because people are able to *adapt* to almost all sorts of life events. According to this idea, individuals

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have a set point level of happiness that is primarily determined by their personality traits and genetic dispositions. This set point level of happiness remains stable over time. In the long run, objective life conditions and circumstances do not matter. Although life events, such as marriage, divorce, unemployment, or the birth of a child may temporarily affect happiness, effects will not last long. The increased feelings of happiness or unhappiness evoked by the new situation will fade away as people 'adapt' or 'get used' to the new situation. In the end, the extra pleasures and sorrows of the new situation will be replaced by neutral feelings and happiness will return to its initial *set point* level due to processes of adaptation (Headey & Wearing, 1989; Lykken & Tellegen, 1996).<sup>5</sup>

In the present study, we adopt an integrated approach based on these two points of view. Using twenty-two waves (1984 - 2005) of the German Socio-Economic Panel (GSOEP), we examine how people's happiness reacts and adapts to the birth of a first child while controlling for changes in actual life circumstances that usually coincide with first childbirth. In addition, we explore what happens to satisfaction within different domains of life, such as one's household income, leisure time, health, and housing, after the transition to parenthood and we will assess how these domain satisfactions contribute to changes in overall happiness.

In many of the previous empirical studies into happiness, the effect of children has not been the main focus. Child characteristics, such as presence, number and ages of children, were simply included as control variables in analyses originally designed for other goals (see for example Alesina, Di Tella, & MacCulloch, 2004; Booth & Van Ours, 2009; Phelps, 2001; Stutzer & Frey, 2006). Other prior work that did address the topic has primarily relied on cross-sectional data to analyse happiness differences between parents and nonparents. Although these studies provide valuable information about the relationship between children and happiness, they do not reveal anything about the dynamics of happiness around the birth of a child. Two recent exceptions are Keizer, Dykstra, and Poortman (2010) and Clark et al. (2008).

Using large-scale, German panel data (GSOEP), Clark et al. (2008) evaluate the degree of adaptation of happiness to six life events, including the birth of a

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<sup>5</sup> By 'adaptation' we mean the tendency of people to experience a decrease of the happiness-effects that were initially evoked by changed life circumstances and events as time goes by (Frederick & Loewenstein, 1999). For instance, an employee who gets a pay raise may feel extra happy at first, but as time passes, she will get used (adapt) to this extra monthly amount of money; her salary will become 'normal' and she will not feel especially happy about it anymore.

child. They find that adaptation to the birth of a child is rapid and complete: after a short happiness boost around the arrival of the child and a sharp drop in the years immediately following, both parents appear just as happy as they were before by the time their child has reached age 5. Keizer, Dykstra, and Poortman (2010) use two waves of Dutch panel data (Netherlands Kinship Panel Study) to assess whether the effect of entering parenthood on well-being can be explained by accompanying changes in objective life conditions, such as partner status and working hours. Analysing multiple dimensions of well-being, they find that the transition to parenthood is both a joy and a tribulation for women. For men only negative well-being consequences are found. In all cases, however, changes in partner status and working hours that happen simultaneously could account for the impact of entering parenthood on well-being.

The present study builds on the previous work of Clark et al. (2008) and Keizer, Dykstra, and Poortman (2010) by further investigating the mechanisms behind the dynamics of happiness around the birth of the first child. We contribute to the existing literature in two ways. First, we include changes in objective life conditions that often accompany the transition to parenthood into the analysis of the way happiness adapts to the birth of a first child. By controlling for these changes in objective conditions, we can better understand under what circumstances happiness does or does not change after the birth of a first child and, if it does, to what degree. Our focus will be on some of the major changes that tend to take place after entering parenthood: changes in time spent on paid work, household work, and childcare, respectively. Second, we examine whether the adaptation of happiness to the birth of a first child also occurs in other domains of life and whether this has consequences on overall happiness. By examining these adaptation effects in different life domains, we may gain a deeper insight into the process of adaptation and the consequences for happiness. Our main research questions in this chapter are:

1. *To what extent does happiness change before, during, and after the birth of a first child and to what extent do individuals return to some baseline level of happiness after the event?*
2. *To what extent can changes in time use, which often accompany the birth of a first child, explain these happiness dynamics?*
3. *To what extent do satisfactions with different domains of life change after the birth of a first child and to what extent can these changes account for changes in overall happiness?*

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The first question is also addressed by Clark et al. (2008). The second and third question are novel to the research of children and happiness. To our knowledge, effects of time use on the adaptation of happiness to the birth of a first child have never been explored before. Clark et al. (2008) have examined adaptation effects, but they did not include changes in time use in their analysis. Keizer, Dykstra, and Poortman (2010) addressed the influence of working hours, but they did not test explicitly for adaptation effects. Furthermore, the relationship between domain satisfactions and overall happiness has not been applied to the case of first childbirth before.

Our method and models to study the dynamics of happiness are similar to those of Lucas et al. (2003), Lucas (2005), Lucas and Clark (2006), Zimmermann and Easterlin (2006) and Lucas (2007), who examined adaptation to marriage and disability. These multilevel models for individual change allow us to simultaneously address adaptation effects and control for changes in objective life conditions.

We proceed as follows. In section 3.2 we briefly review the literature. Sections 3.3 and 3.4 present theoretical approaches, the conceptual framework, and hypotheses. Section 3.5 describes the data and sample that are used for the studies in the present chapter. Section 3.6 outlines the overall analytic strategy. Section 3.7 reports the results of our analyses about the role of objective life conditions in the process of adaptation (Sub-study 1), while section 3.8 describes the findings of the analyses of adaptation in different life domains (Sub-study 2). Section 3.9 contains general conclusions and discussion.

## **3.2 Having children and happiness**

Previous literature consistently shows that the correlation between having children and happiness is either zero or negative (Blanchflower, 2008; Dolan, Peasgood, & White, 2008; McLanahan & Adams, 1987; Veenhoven, 1984). The many studies that included the presence or the number of children as a control variable in their analysis, find that effects vary with – amongst others – partner status, gender, personality traits, time spent on childcare, and income. The negative effect of children is, for example, larger for single parents than for married couples (Frey & Stutzer, 2000). Furthermore, women tend to experience diminishing marginal utility from children, while this result holds for men with an altruistic personality only. This effect seems attributable to the fact

that altruistic men are more likely to share childcare tasks equally with their partner and, consequently, experience the same pressures as women do (Phelps, 2001). In addition, a high income can reduce the negative effects of worries, stress, and hard work that are associated with raising children, as it makes the outsourcing of some of the childcare tasks more feasible (Alesina, Di Tella, & MacCulloch 2004).

Several studies focusing specifically on the impact of children on well-being confirm the finding that the impact of children on happiness depends upon socio-economic characteristics. On the basis of a review of the literature, Dolan, Peasgood, and White (2008) conclude that children are an extra burden to their parents' well-being if other circumstances unfavourable. This is the case for single parents, divorced mothers, the poor, those who have recently moved, or parents of a sick child that needs more than average care. Umberson and Gove (1989) find that parenting has similar effects for mothers and fathers, but that the effects vary by family status: married empty-nest parents are most satisfied with their lives, while divorced parents with children at home are least satisfied.

The availability of panel data combined with the use of sophisticated statistical techniques in the last decade has led to a series of studies examining the effects of children on happiness while controlling for unobserved characteristics of individuals, such as their personality and genetic blue print. When unobserved factors are taken into account, some of the initial results seem to change. Several findings suggest selection effects of those who eventually get children. Stutzer and Frey (2006) demonstrate for Germany that the correlation between happiness and having up to three children is small but positive in a pooled estimation, but that effects become negative for having one or more children when controlling for fixed effects. Using Australian panel data, Booth and Van Ours (2009) find in a cross-sectional analysis that the recent birth of a child in the household makes mothers happier. Fathers become happier too when a child is born, but only if they are in good health and have a high household income. Once fixed effects are introduced, however, the effects of a recent birth of a child are no longer significant. The authors conclude from these results that intrinsically more satisfied women and men are found in households where a child was born recently.

Kohler, Behrman, and Skyttke (2005) are able to control for unobserved characteristics using Danish data on identical twins. They find that the birth

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of a first child increases happiness for women, but not for men (controlled for partner status). Additional children beyond the first child have a negative effect on subjective well-being for women, while there is no effect for men. For women and men aged 50-70 years, whether or not they had had any children, has no effect on happiness.

To summarize, the literature suggests that the relationship between having and raising children and happiness is either zero or negative, but that this relationship varies by socio-economic characteristics such as gender, partner status, employment status, and income. If life circumstances are less favourable, children will have a more detrimental impact on happiness. Unobserved characteristics such as personality also seem also important for happiness. Furthermore, fixed effects analyses suggest selection effects in the sense that people who eventually have children already seem to be happier during their pre-child years than their counterparts who remain childless.

### 3.3 Theory

Explanations for the zero and negative correlations between children and happiness are mixed. In the literature, two conflicting theoretical approaches are commonly found. A first approach claims that parenthood has both detrimental and rewarding effects on happiness that offset each other. A second approach argues that happiness levels do not change substantially during the life course because people are able to adapt to almost all life events.

#### 3.3.1 Happiness as a consequence of life circumstances that offset each other

This approach assumes that happiness depends on *actual life circumstances*. A higher income, good health, a partner, and a job, for instance, make people happier, just as affectionate relationships and social contacts. Similarly, bad circumstances and negative emotions such as unemployment, divorce, stress, worries, and conflicts, make people unhappy. As a result of the birth of a child, some of these circumstances are likely to change, and should thereby alter happiness as well. On the one hand, children bring daily stress and worries, increase demands on their parents' time, their energy, bring financial costs, and increase conflicts. On the other hand, they produce moments of enjoyment, can intensify affectionate relationships and social ties, and improve parents' self-esteem.

The non-significant or negative relationships between having children and happiness observed in the literature are then explained by the fact that the positive and negative consequences outweigh each other. In general, the negative experiences are assumed to put higher strains on parents' happiness because they tend to occur more frequently and take up a lot of daily time. The positive aspects, though often considered to be more meaningful and rewarding, tend to be relatively rare. Parents usually spend more time, for example, on regularly returning unpleasant tasks, such as wiping noses, managing behaviour, getting up in the middle of the night, and cleaning up children's mess around the house, than on the more rewarding aspects like hearing their baby's first words or watching its first steps (Dolan, Peasgood, & White, 2008; Powdthavee, 2009a).

Various empirical studies support the view that the costs and benefits of having children offset each other. McLanahan and Adams (1987, 1989), for instance, show that parents with children at home often report lower levels of happiness and life satisfaction than nonparents because they worry more and experience higher levels of anxiety and depression. There has been an increase in mothers' worries over the years that can be accounted for by changes in employment and increased divorce rates. Although employment generally has a positive effect on happiness, the effect for mothers is negative, possibly because employment increases their dual burden. Fathers tend to experience a similar increase of stressfulness, but this cannot be accounted for by changes in employment or marital status. Nomaguchi and Milkie (2003), who compare new parents with their childless counterparts in the US, also conclude that parenthood comes with both costs and benefits and that the net effect varies greatly with gender and partner status. The highest gains of parenthood are found for married women, whereas the biggest losses are found for unmarried men. Married women who become a mother experience more conflicts with their spouse, but have also a better mental health compared to married women who remain childless. Married men, on the contrary, experience few changes in costs and benefits when entering fatherhood. Both unmarried mothers and fathers report lower self-efficacy than their childless counterparts, but on top of that, unmarried fathers report also higher rates of depression.

Recent evidence comes from the study of Keizer, Dykstra, and Poortman (2010). Using Dutch panel data, they find that the transition into parenthood does not change overall life satisfaction, but that it does have an impact on various other dimensions of well-being. The transition into motherhood has

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both costs (decreased partnership satisfaction and more conflicts) and benefits (less negative affect, i.e. feeling less tense, downhearted, or miserable). The transition to fatherhood, in contrast, seems to come at a price (increased feelings of loneliness, decreased positive affect, i.e. decreased calmness, peacefulness, and happiness, and decreased partnership satisfaction). In all cases, however, the well-being effects of becoming a parent can be explained by changes in partner status and working hours.

In sum, these studies show that the net effect of the costs and benefits of having and raising children tends to vary with gender, partner status, employment, and working hours.

### **3.3.2 Happiness as a consequence of stable personality traits and processes of adaptation**

An alternative approach is the *set point theory of happiness*. The main assumption in this approach is that happiness depends on personality traits that remain stable over the life course. Life events, such as the birth of a child, may temporarily have an effect on happiness, but sooner or later people will adjust to the changed situation and return to their happiness set point level, which is predetermined by their personality and genetic mark-up (Headey & Wearing, 1989; Lykken & Tellegen, 1996). The impact of life circumstances is assumed to be negligible (Myers, 2000). The fact that objective circumstances can only account for a small part of the variance in happiness, while personality traits appear to be strongly correlated with happiness is thought to support this view (Diener et al., 1999). The theory predicts that the birth of a first child will not have a lasting effect on parents' happiness as adaptation will fairly quickly return them to their baseline level of happiness.

Nevertheless, there is also empirical evidence that happiness varies over the life course (Lucas, 2007; Veenhoven, 1994), that the adaptation of happiness differs across individuals (Lucas, 2007), and that adaptation is not necessarily complete for all life events (Easterlin, 2005; 2006). Recent longitudinal evidence has shown that at least some events, such as unemployment (Clark et al., 2008; Lucas et al., 2004) and disability (Lucas, 2007; Oswald & Powdthavee, 2008), do have lasting effects. The results for the adaptation of happiness to marriage are mixed: some studies find that adaptation to marriage is complete (Clark et al., 2008; Lucas et al., 2003; Lucas & Clark, 2006), others find enduring positive effects of marriage (Zimmermann & Easterlin, 2006).

The adaptation of happiness to the birth of a child has not received much

empirical attention yet. A seminal paper of Clark et al. (2008) is a notable exception. They find that people's happiness in the period around the birth of a child shows the following average pattern (on average): in the year prior to the birth of a child, happiness levels rise for both women and men. In the year of the arrival of the child, however, men's happiness starts to drop and at the time of their child's first birthday, men have become significantly unhappier than they were before their child was born. Although with one year delay, women's happiness trajectory traces the same path. Both women and men remain less happy than they were before the child was born until the child is 4 years old. By the time the child has reached age 5, adaptation is complete and both parents appear just as happy as they were before their child was born.

### 3.4 Conceptual framework

In this chapter, we adopt an integrated approach to explain how and under which circumstances people's happiness levels adapt to the birth of their first child. This integrated approach will reflect upon both objective life circumstances and processes of adaptation. We do so in two ways.

First, we incorporate changes in objective circumstances into the analysis of adaptation of happiness to the birth of a first child. Our aim is to examine whether the adaptation still occurs if changes in objective conditions that accompany first childbirth are taken into account.

Second, following Van Praag, Frijters, and Ferrer-i-Carbonell (2003), Van Praag and Ferrer-i-Carbonell (2004), and Easterlin (2006), we employ a *life domain approach* to examine to what extent people adapt to the birth of a first child in other areas of life and to what extent this affects overall happiness. In such a life domain approach, happiness is viewed as an aggregate of individual satisfaction with various domains of life, such as income, leisure, and health. These subjective domain satisfactions, in turn, are thought to depend on objective life conditions. With the birth of a first child, objective circumstances like household income or leisure activities may change. These changes may have consequences for people's satisfaction within specific domains, such as satisfaction with one's household income or leisure time. Satisfaction in some domains may rise, while satisfaction in other domains may drop. The balance effect on overall happiness will depend on i) the objective life circumstances before, around, and after the birth of a first child and ii) the subjective

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evaluations of the experienced costs and benefits and the relative weights individuals put on the particular domains in the period after childbirth.

### **3.4.1 The birth of a first child and changes in actual life circumstances: hours of work, housework, and childcare**

Perhaps one of the most salient changes in new parents' lives is the change in their time use patterns. This is also the focus of our study. As children increase the demand for time and money in the home, parents' workloads tend to expand substantially (e.g. Gjerdingen & Center, 2005) while time available for leisure and joint activities declines. In addition, the division of labour between partners in the household tends to become more traditional after the birth of the first child, with women becoming responsible for the lion's share of housework and childcare, and men providing the largest part of market work (e.g. Baxter, Hewitt, & Haynes, 2008; Kluwer, Heesink, & Van de Vliert, 2002). Women tend to retreat from the labour market or reduce their work hours significantly (Gjerdingen & Center, 2005; Hynes & Clarkberg, 2005; Vlasblom & Schippers, 2006) and increase their hours of housework when they become a mother (Baxter, Hewitt, & Haynes, 2008; Sanchez & Thomson, 1997). Men's working hours, on the contrary, tend to increase or stay constant (Astone, Dariotis, Sonenstein, Pleck, & Hynes, 2010; Gjerdingen & Center, 2005; Van Gaalen, 2003). The transition to fatherhood does not lead to significant changes in hours of housework (Baxter, Hewitt, & Haynes, 2008; Gjerdingen & Center, 2005; Sanchez & Thomson, 1997). Both first-time mothers and fathers experience an increase in their net workload, which is mainly attributable to increased childcare responsibilities. On top of that, mothers tend to take care of the largest part of the increased amount of housework (Gjerdingen & Center, 2005).

### **3.4.2 Happiness and changes in hours of work, housework, and childcare**

#### *Hours of work*

The literature is clear: employment is good for happiness. Less evidence is available, however, about the relationship between the number of hours worked and happiness (see also Dolan, Peasgood, & White, 2008). Relatively few studies have investigated how time spent on paid work influences happiness. An exception is the Australian study of Booth and Van Ours (2009). They show that the impact of working hours on happiness is large and that there are significant

gender differences. Working full-time, especially for more than 40 hours a week, reduces happiness for partnered women. For partnered men, effects are exactly the opposite: their happiness increases if they are working full-time or more (35-50 hours). The results remain the same when controlled for fixed effects.

Why are women happier with part-time work? Booth and Van Ours (2009) explain this finding with the aid of the *gender identity hypothesis* of Akerlof and Kranton (2000), which assumes that the division of paid work and household work is determined by gender specific utility. Unlike gender neutral theories of comparative advantage (e.g. Becker, 1965), which predict that in partnered households one partner will specialize in paid work (usually the one with the highest wage rate) and the other in household work and care, the gender identity hypothesis is based on the assumption that the division of labour, and people's satisfaction with it, are shaped by society's prescriptions (i.e. norms and values) about appropriate behaviour for women and men. Housework and childcare, for instance, are traditionally viewed as 'women's work', while providing for one's family is seen as a 'man's job'. If people deviate from these social and cultural standards, the hypothesis predicts they might experience a loss of identity, and consequently suffer happiness. This explains, Booth and van Ours (2009) argue, why men will be happier in full-time jobs while women will be happier in part-time jobs or as full-time homemakers.

Hakim (1998; 2002; 2003) stresses the importance of attitudes, values, and aspirations with regard to work and family. She argues that the desire for children and paid work may differ between women. In an empirical study, she identifies three categories women with distinct life style preferences: home centred, work centred and adaptive women.<sup>6</sup> Women are happiest, Hakim states, if they are able to achieve a good match between their life style preferences and their actual behaviour.

#### *Hours of housework and childcare*

Evidence about how time spent on housework and childcare affect happiness is scarce. Most literature reviews do not address the topic (e.g. Argyle, 1999; Dolan, Peasgood & White, 2008; Kahnemann, Diener & Schwartz, 1999; Layard, 2005). The majority of the previous work concentrates on the division of household tasks and the impact on domain satisfactions, such as marital satisfaction or satisfaction with the division of labour. In general, doing larger amounts of routine and repetitive housework is associated with increased depression (Glass

<sup>6</sup> Adaptive women prefer to combine work and family

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& Fujimoto, 1994) and a more balanced division of housework is associated with higher marital satisfaction for women (Coltrane, 2000). Some researchers have pointed out that autonomy seems essential for well-being and that care tasks severely reduce this (see Dolan, Peasgood, & White, 2008).

If set point theory is correct and changes in time use do not matter for happiness, adaptation to the birth of a first child should be complete within a few years, regardless of whether changes in time use are controlled for or not. However, if time use patterns do affect happiness, possible adaptation effects may be explained away by hours spent on work, housework, and childcare. We expect that initial happiness trajectories will change once changes in time use after first childbirth are taken into account. The effects of these changes in time use on men's and women's happiness, however, are unclear *a priori*.

On the one hand, the net increase in workload after the birth of a first child might cause stress and time pressure, which may have negative consequences for happiness. Hours of paid work, housework, and childcare can cause negative well-being outcomes because they reduce leisure time and decrease autonomy which are both essential conditions for happiness. On basis of these considerations, we hypothesize that increased hours of paid work, housework, and childcare resulting from the birth of a child will decrease happiness and that these negative effects will overshadow the positive impact of the birth on happiness. We also expect that this will occur for both men and women. As a result, we expect that the effect of the birth of the child on happiness will be less negative, or even turn positive, once we control for changes in time use after the first birth. Instead of complete adaptation to the birth of a child, as found by Clark et al. (2008), we do expect a lasting, positive effect of parenthood on happiness for men and women.

On the other hand, given the gender identity hypothesis of Akerlof and Kranton (2000), the empirical evidence provided by Booth and Van Ours (2009), and the dominant belief in society that the responsibility for housework and childcare predominantly rests with women and that men are mainly responsible for the household income, we expect that effects of time use on happiness will be gendered. We predict that women will be happier if they work fewer hours and spend more time on housework and childcare, while men will be happier if they work full-time and spend fewer hours on housework and childcare. Under the assumption that most German women scale back their working hours and increase their hours of housework and childcare after the birth of their first child, we predict that women's happiness patterns around the birth of the first child do not change because these new time use patterns are in line

with their new identity as a mother. The same logic holds for men: under the assumption that men keep working full-time after the birth of their first child and only modestly modify their hours of housework and start spending a small amount of time on childcare, we predict that men's happiness patterns do not change because these time use patterns are in line with their identity as a father. On the basis of these considerations, we predict that changes in time allocation will not have an effect on men's and women's happiness trajectories around the birth of their first child.

There are two other important changes in actual life circumstances that usually accompany the birth of a first child and that have an effect on happiness: changes in partner status and changes in household income. Partnership formation, cohabitation, and marriage often closely precede the transition to parenthood. From previous research we know that partnership formation and starting a household together especially have a positive influence on happiness (e.g. Zimmermann & Easterlin, 2006). There is also evidence for a 'honeymoon effect', that is, married couples experience a short but sharp happiness boost in the years immediately following marriage (Lucas et al., 2003). Furthermore, net household income is inclined to decrease after first childbirth because one of the partners tends to scale back his or her working time (usually the female partner). Concurrently, expenses increase when babies are born. The decreased income and the increased costs are expected to affect the happiness of parents negatively. In order to account for these effects on happiness, we will control for changes in partner status and household income in our analyses. We will also control for changes in age and health.

### **3.4.3 The birth of a first child and domain satisfaction**

Empirical evidence about the effects of the birth of a child on domain satisfaction is basically limited to the domain of marital satisfaction. In general, these studies find that parents are less satisfied with their partner relationship than non-parents (Twenge, Campbell, & Foster, 2003) and that partner satisfaction decreases after childbirth (Keizer, Dykstra, & Poortman, 2010). These studies, however, do not adopt a life domain approach in the sense that they relate partner satisfaction to overall happiness.

We are not aware of studies that examine the effects of the birth of a first child on changes in other domain satisfactions and the relationship of these with overall happiness. There is recent research that addresses the question of changes in satisfaction with different life domains after unemployment (Powdthavee, 2009b)

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and disability (Powdthavee, 2009c). These life events have a different impact on different domains and that the amount of adaptation is not necessarily equal for all domains. This may apply to the birth of a first child as well.

We hypothesize that the birth of a first child will have different effects for different domains. Two types of effects can be distinguished. First, changed life circumstances may change satisfaction within a specific domain. We expect that the transition to parenthood reduces satisfaction with the household income because of a decreased net household income and increased financial costs. The birth of a first child is also expected to have a negative effect on parents' satisfaction with leisure time because of the increased workload. In addition, the birth of a child may cause new parents' health to deteriorate as a result of sleep deprivation, loss of leisure time to exercise or to recover from duties, and chronic fatigue. Second, the same circumstances may produce changed feelings of satisfaction. For example, we expect satisfaction with one's place of dwelling to decline after the birth of the first child because of changed priorities: parents will probably prefer a larger or more suitable home or a child friendly neighbourhood once their child is born.

### 3.5 Data and sample

This chapter contains two sub-studies. We use the same data and sample selection for both studies. The data come from waves 1-22 of the GSOEP. The GSOEP is a longitudinal sample of private households and persons aged 16 and over in Germany (Haisken-De-New & Frick, 2005). The entire sample consists of 41,902 respondents who participated in one or more waves and includes 319,588 person-year observations.

For our sample selection, respondents were recruited from seven subsamples: a West German sample (started in 1984), a sample of foreigners living in West Germany (started in 1984), an East German sample (started in 1990), an immigrant sample (started in 1994 and 1995), a refreshment sample (started in 1998), an innovation sample (started in 2000), and a high-income sample (started in 2002).<sup>7</sup> Adults who started the survey without children and whose first child was born in one of the years under study were selected for the

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<sup>7</sup> Respondents from the high income sample eventually fell out of the analytic sample because the time period 2002-2005 appeared to be too small to obtain the desired number of observations per person through the years.

analysis. We include only those respondents who were 45 or younger at the time their first child was born and for whom data were available for at least two years prior to the birth of their first child, for the year of first childbirth, and for at least two years afterwards. Older respondents were excluded because it is less likely that they will become a first-time parent after 45. This yields in an analytic 'first birth sample' of 1,130 respondents and 16,031 person-year observations. On average, respondents participated in 14 waves (range = 4 – 22 waves).

As Table 3.1 shows, the persons in our first birth sample are, not surprisingly, younger than in the GSOEP population as a whole (they are about 11 years younger on average). Younger people tend to be better educated and healthier and have higher chances to be employed or in full-time education. This is also the case for our first birth sample. The respondents in the first birth sample are also married more often, have higher incomes, and are somewhat happier. On average, they spend more time on paid work and childcare, but a little less on household work.

Figure 3.1 to Figure 3.3 show the mean hours of paid work, housework, and childcare of the men and women in our first birth sample in the years around the birth of the first child. Women's average time use patterns change considerably after entering motherhood: their working hours diminish greatly, while their hours of housework and childcare increase. Men's average hours show much less variance. A few years before fatherhood, men's average paid working hours increase slightly, to remain constant after they have become a father. Their hours of housework remain stable over time. When the first child is born, their net workload increases due to some extra hours of childcare. The results are consistent with previous research.

### 3.6 Analytic strategy

To test how and why happiness changes around the birth of a first child, we use multilevel models for individual change in which observations ( $j$ ) are nested within individuals ( $i$ ) (Bryk & Raudenbush, 1992; Hedeker, 2004; Singer & Willett, 2003; Steele, 2008); the models were analysed using MLwiN (Rasbash, Steele, Browne, & Prosser, 2005); parameters were estimated by means of full maximum likelihood estimation. Multilevel models for change allow us to

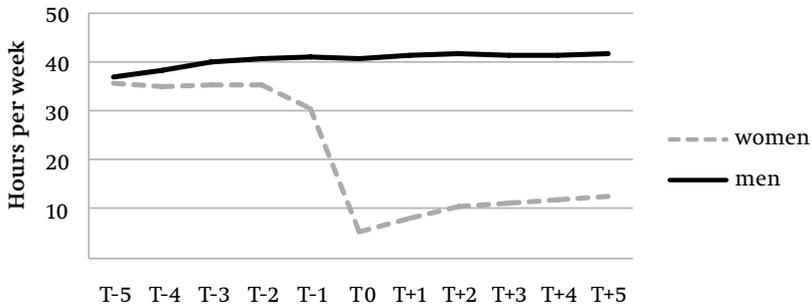
**Table 3.1** Characteristics of the total population of the German Socio-Economic Panel and the first birth sample (1984-2005)

	GSOEP			First birth sample		
	% Total	% Women	% Men	% Total	% Women	% Men
<b>Panel A</b>						
Female	51			52		
Education higher than secondary education <sup>a</sup>	20	17	22	31	30	32
Employed <sup>b</sup>	73	66	81	98	97	100
Married <sup>c</sup>	64	63	65	93	94	93
Disabled <sup>d</sup>	14	12	15	5	4	5
<b>Panel B</b>						
	GSOEP			First birth sample		
	Total	Women	Men	Total	Women	Men
	Mean	SD	Mean	SD	Mean	SD
Age (years)	44.44	17.18	45.08	17.66	43.75	16.64
Post-government household income (Euros per year x1,000)	29.83	21.94	28.63	21.53	31.11	22.29
Happiness <sup>e</sup>	7.01	1.85	7.00	1.87	7.02	1.83
Highest education (years)	11.40	2.56	11.17	2.45	11.65	2.65
Health (1=bad, 5=very good) <sup>f</sup>	3.42	0.96	3.37	0.97	3.48	0.95
Working hours (actual hours per week)	22.56	21.53	16.22	19.08	29.37	21.93
Housework (hours per weekday)	2.81	2.40	4.03	2.44	1.49	1.50
Childcare (hours per weekday)	1.13	2.96	1.77	3.84	0.45	1.25
Satisfaction with net household income <sup>e</sup>	6.30	2.31	6.33	2.34	6.27	2.28
Satisfaction with leisure time <sup>e</sup>	6.89	2.34	6.88	2.36	6.91	2.32
Satisfaction with housing <sup>e</sup>	7.56	2.14	7.60	2.17	7.53	2.12
Satisfaction with health <sup>e</sup>	6.73	2.30	6.62	2.33	6.85	2.27
Age at birth of first child (years)						
Education at birth of first child (years)						
n persons	41,902	21,356	20,546	1,130	582	548
Mean number of waves interviewed	7.63	7.72	7.53	14.19	14.15	14.22

Data source: German Socio-Economic Panel, 1984-2005

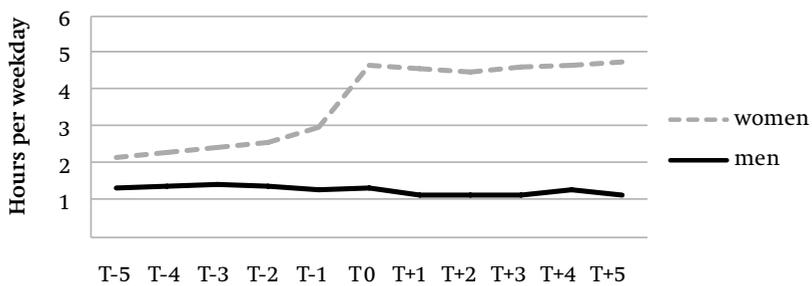
<sup>a</sup> Highest education during sample period, <sup>b</sup> percentage of respondents who were employed or in vocational training at least once during the sample period, <sup>c</sup> percentage of respondents who were married at least once during the sample period, <sup>d</sup> percentage of respondents who were disabled at least once during the sample period, <sup>e</sup> responses run from 0=completely dissatisfied to 10=completely satisfied, <sup>f</sup> sample size is smaller (n = 35,535 persons in GSOEP and n = 1,118 in the first birth sample)

**Figure 3.1** Average hours of paid work per week around the birth of a first child (men and women)



Data source: German Socio-Economic Panel, 1984-2005

**Figure 3.2** Average hours of housework per weekday around the birth of a first child (men and women)

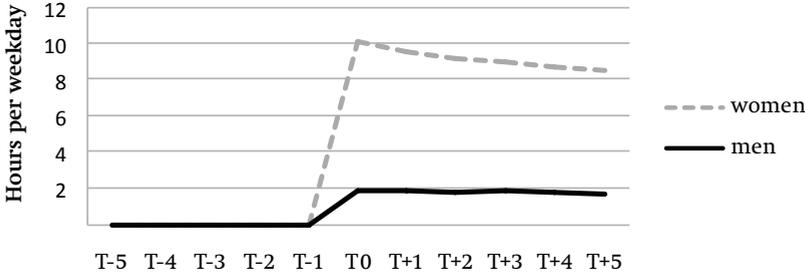


Data source: German Socio-Economic Panel, 1984-2005

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**Figure 3.3** Average hours of childcare per weekday around the birth of a first child (men and women)

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Data source: German Socio-Economic Panel, 1984-2005

assess within-person and between-person effects simultaneously. A within-person model (level 1 model) describes how each person's happiness changes after the birth of a first child and assesses which time-varying covariates affect these changes. A between-person model (level 2 model) describes whether changes in happiness differ between people and assesses which time-invariant characteristics of the person moderate the within-person changes in happiness (Singer & Willett, 2003).

Our models distinguish between three phases surrounding first childbirth: a *baseline* period, covering the two years preceding the transition to parenthood (or longer), a *reaction* period, involving the year before childbirth, the year of the arrival of the child, and the year immediately after the birth of the child, and an *adaptation* period, comprising the period from two years after the birth onwards (cf. Lucas, 2007; Lucas & Clark, 2006; Zimmermann & Easterlin, 2006).<sup>8</sup>

Multilevel models for individual change do not require a balanced design. Individuals may therefore vary in their number of observations. Our models can include all individuals that completed at least one wave in each of the three time periods (under the assumption that data are missing at random).

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<sup>8</sup> On average, respondents participated in 4.8 waves during the baseline period ( $t_2$  and before), 2.9 waves in the reaction period ( $t_{-1}$ ,  $t_0$ ,  $t_{+1}$ ), and 7.5 waves in the adaptation period ( $t_2$  and thereafter).

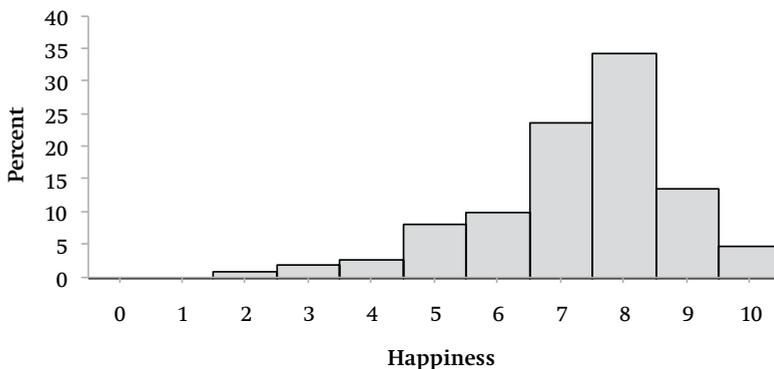
### 3.7 Sub-study 1: Time use and happiness before, during, and after the birth of the first child

The focus of the first sub-study is on the development in happiness surrounding the birth of a first child, and in particular on the role that changes in time use that can accompany this transition play. The research questions for Sub-study 1 read: i) *To what extent does happiness change before, during, and after the birth of the first child?* and ii) *To what extent can changes in time use, which often accompany the birth of a first child, explain these happiness dynamics?*

#### 3.7.1 Measures

For each individual, a set of three dummy variables indicates whether a specific year of observation falls into the *baseline*, *reaction*, or *adaptation period*. The baseline dummy is coded 1 in all years that are at least two years prior to first childbirth ( $t_{-2}$  and before) and coded 0 in all other years. The reaction dummy is coded 1 in the year before the first birth, the year of the birth, and the year immediately following it ( $t_{-1}$ ,  $t_0$ ,  $t_{+1}$ ) and 0 in all others. The adaptation dummy is coded 1 in all years that are at least two years after the first childbirth and 0 in all others ( $t_{+2}$  and thereafter).

**Figure 3.4** The distribution of happiness in the first birth sample ( $n = 16,031$  person-year observations)



Data source: German Socio-Economic Panel, 1984-2005

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The dependent variable in this study, *happiness*, is assessed using a single question: “How satisfied are you at present with your life, all things considered?” Responses run from 0 (completely dissatisfied) to 10 (completely satisfied). Figure 3.4 shows an overview of the happiness responses in our first birth sample. As often found in happiness research, the distribution is slightly skewed to the left, with a mean value of 7.28 and a modal response of 8.00.

To account for differences between the subsamples and for time trends in happiness (for example associated with the German reunification), scores were centred within each subsample and within each year in the original GSOEP population. As a result, a value of ‘0’ represents the average happiness within a certain year and subsample of the total German population. Likewise, a value of +0.500 indicates that happiness is half a point higher than the value of the German population as a whole.

The explanatory variable of main interest in this study is *time use*. We distinguish between time spent on paid work, household work, and childcare. Our measure of *time spent on paid work* is based on individuals’ self reported actual hours worked per week, including any paid and unpaid overtime. To allow for non-linear effects of paid working time, we include a set of six dummies indicating whether respondents are non-working (reference category), working in small part-time jobs (1-12 hours per week), medium-sized part-time jobs (13-24 hours per week), large part-time jobs (25-35 hours per week), working full-time (36-45 hours per week) or more than full-time (more than 45 hours per week) (1=yes, 0=no). *Time spent on household work* is measured by the logarithm plus 1 of the hours respondents spend on housework (such as cleaning, cooking, and doing the laundry), shopping, and running errands on an average weekday. *Time spent on childcare* is measured by the logarithm plus 1 of the hours respondents spend on childcare on an average weekday. During the baseline period, all respondents were still childless. Therefore, time spent on childcare is set to zero in this period.

Time-varying controls include marital status, ‘honeymoon period’, household income, health, and age.<sup>9</sup> *Marital status* is entered as a series of four dummy variables, indicating whether respondents are married and share the same household with their spouse (reference category), cohabiting, have a steady partner who is not living in the same household, or are single (1=yes,

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<sup>9</sup> We restricted the time-varying controls to variables that could reasonably be included in models of both overall happiness and the domain satisfactions used in Sub-study 2.

0=no). Being in one's *honeymoon period* is a dichotomous variable indicating whether the couple got married in the year under study or in the previous year (1=yes, 0=no). To measure *household income* we use log-transformed post-government household income (in Euros) from the Cross-National Equivalent File (CNEF). This variable is the annual sum of total household income from labour earnings, plus income from investments and savings, social security pensions, and public and private transfers, minus total net household annual taxes (Grabka, 2008). Questions on *health status* were not asked in GSOEP before 1992. Instead, we include a proxy for health: the *degree of disability*, measuring the respondent's self-reported extent of disability in percentages. Scores range from 0 (not disabled) to 100 (fully disabled). *Age* is measured in years.

Time-invariant controls include age and highest education at the time of first childbirth (both measured in years). Household income, age, and age and education at first birth are entered in the analysis as grand-mean centred.

### 3.7.2 Method

To test whether and how people's happiness rises and falls after the birth of the first child and to what extent changes in time use accompanying the transition to parenthood can explain these happiness dynamics, we estimated a series of five multilevel models (models A-E).

The first two models to fit the data are simple unconditional models: the *unconditional means model* (Model A) and the *unconditional growth model* (Model B). Both models allow us to assess whether there is variation in happiness and if so, how much of this variation can be attributed to differences within persons (level 1) and between persons (level 2). They are used as a benchmark to evaluate successive models. In Model A, there are no predictors and change over time is not yet modelled. The model's intercept reflects the grand mean in happiness across all individuals and measurement occasions. In Model B, the three time parameters are introduced into the analysis. Substantive other predictors, however, are still absent. The inclusion of these time parameters allows us to assess whether individuals experience higher levels of happiness around the birth of a first child and whether they revert to their baseline level of happiness thereafter. The *baseline* dummy serves as the reference category, so that the model's intercept reflects the average happiness of individuals during their baseline period. Because the dependent variable 'happiness' is centred around the annual mean of each GSOEP-subsample, the intercept measures the average *added* happiness (or subtracted happiness in case of a negative sign) during the

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baseline period compared to the happiness of the German population as a whole. The *reaction* dummy measures the average change from baseline in the reaction period while the *adaptation* dummy measures the average change from baseline that occurs during the adaptation period.

In order to control for the fact that changes in happiness around the birth of the first child might be due to changes in age, marital status, being in one's honeymoon period, household income, or health, we add these socio-economic characteristics as time-varying controls at level 1 in Model C. In addition, we add age and education at the time of first birth as time-invariant controls at level 2 to this model. This way we can check whether differences between individuals in initial happiness or the rate of change are due to their age or education at the time of first birth.

The effects of time use are tested in Models D and E. Time spent on paid work, household work, and childcare are added as time-varying covariates at level 1 as a first step to examine how changes in time use affect happiness, even after controlling for socio-economic characteristics (Model D). As this model includes only the main effects of the three time periods and the time use variables, the happiness trajectories are constrained to be parallel. Interactions of time use and the three time periods are added as a second step (Model E).<sup>10</sup> Model E allows us to determine to what extent the impact of time use varies in the distinct stages around the birth of a first child.

In all models the intercept, reaction, and adaptation terms are entered as randomly varying, meaning that individuals can vary in their intercepts and rates of change. All other variables are entered as fixed effects into the model. All models are estimated for men and women separately.

### 3.7.3 Results for men

Table 3.2 shows the results of our analyses for men. Model A, the unconditional means model, shows that average happiness in the first birth sample is 0.256 points higher than in the GSOEP population as a whole. The model informs us that 61% of the variation in men's happiness is attributable to variation within persons over time. Model B, the unconditional growth model, shows the average trajectory of happiness before and after the birth of the first child. The model

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<sup>10</sup> Note that for time spent on childcare we only add the interaction with adaptation period. This is due to the fact that hours of childcare were set to zero during the childless years in the reaction period. When interpreting the effects, the adaptation period must be compared to both the reaction and baseline period.

fit has improved significantly compared to Model A. The men in our first birth sample are already happier on average than the total German population before they enter fatherhood. Note, however, that Model B does not control for socio-economic characteristics. There could be a selection effect: the men in our first birth sample apparently are distinct with regard to socio-economic characteristics and/or personality traits that make them happier *and* more likely to get children. Happiness increases in our sample in the years surrounding first childbirth by 0.120 points and drops back to by 0.163 points below baseline two years after the child is born. Becoming a father temporary raises happiness, but has a negative effect on happiness in the long run.

Comparing the within-person variance of Model B with that of Model A, we find a decline of 10% (from 1.512 to 1.359). This means that 10% of the within-person variation is associated with the time periods surrounding first childbirth. There is still substantial variation left at the within-person level, suggesting that it will be fruitful to introduce time-varying predictors at level 1 to the model. The level 2 variance components also demonstrate significant unpredicted variability in both initial status and rates of change during the reaction and adaptation period. This indicates that it might be worth to add time-invariant predictors at level 2 to explain these differences between persons.

While Model B examines long-term changes in men's happiness after the birth of a first child, it does not estimate the precise changes per year or the peaks and dips in happiness. To determine these precise change rate and peaks and dips in happiness, we also tested a quadratic change model. Results are presented in Appendix A. These results indicate that happiness levels increase in the period before the birth of the first child, peaking in the year prior to the birth of the child and in the year of birth itself. Peaks lie around a value of 0.502 above the average level of the total GSOEP population. Immediately after the birth of the child, happiness drops sharply (0.221 points), but still remains above the average level of the general German population. From then on, happiness continues to decline until the child is about 7.5 years old. For reasons of convenience and ease of interpretation of the subsequent models, we continue with the simpler Model B in which the three periods are captured by the dummy variables *baseline*, *reaction*, and *adaptation*.<sup>11</sup>

<sup>11</sup> Another reason to continue with Model B is that, except for the intercept which was treated as randomly varying, all other variables had to be treated as fixed. This was due to estimation problems with the quadratic change model for women (discussed further on). To be able to compare results between men and women, we prefer to use the same model for both.

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Including socio-economic controls to model B leads to a better model fit and shows a markedly different picture of the dynamics of happiness around the birth of the first child (Model C). The happiness peak during reaction period has vanished and the decline in men's happiness in the adaptation period has become 1.5 times bigger. This could indicate that the increase in men's happiness we found in the unconditional growth model is primarily due to transitions in partner status, especially the transitions to cohabitation or marriage which often precede the birth of a first child, and the increase in household income and economies of scale that usually are a consequence of starting a household together. This conclusion is reinforced by the statistically significant effects of marital status and income in Model C. Note that the baseline value in Model C represents the happiness scores for men for whom all other variables are zero. In this case, it represents happiness levels of those who are married, but not in their honeymoon period any longer, who are of average age, have an average household income, and who are not disabled. The baseline happiness of these fathers-to-be is significantly higher than the average happiness of the general German population. Happiness is even higher for future fathers with higher incomes and slightly higher for future fathers who are in their honeymoon period and who had finished tertiary education. Married men in this period approaching fatherhood are also much happier than single men. The baseline value of single men almost equals the average happiness of the general population. Happiness decreases somewhat when men get older.

To explain the happiness trajectory described above, we add time use in models D and E. The inclusion of time-varying time use at level 1 in Model D does not affect the shape of men's happiness trajectory: happiness levels remain the same during the baseline and reaction period and decline afterwards. Men's paid working hours, however, do have a positive effect on their absolute happiness levels. The more hours they work, the happier they are. Men who work full-time (36-45 hours), for instance, are 0.646 points happier than non-working men. Hours of household work and childcare have no impact on happiness. The inclusion of time use improves the model fit significantly compared to model C.

Interactions between time use and the three periods around childbirth are added in model E, which again provides a better fit than the previous model. None of the interactions between time use and the reaction term are significant, which indicates that happiness levels in the years surrounding the birth of the

first child do not vary by hours of work, housework, or childcare. Regardless of time use, men's happiness during the reaction period is similar to their happiness during the baseline period.

In the adaptation period, time use does have an effect on happiness levels. The interactions between the adaptation term and working 25 hours or more are significant. So while a significant decline in happiness levels during this period persists for all men, this decline is less severe for men who work 25 hours or more. Hours of housework and childcare, on the other hand, do not have an impact on men's happiness patterns in any period around childbirth. These results contradict the *set point* hypothesis, which predicts that happiness will revert to their baseline levels after a certain amount of time has passed. Results provide some support for the hypothesis that changes in time spent on paid work, housework, and childcare will alter men's happiness trajectory around the birth of their first child. Controlling for changes in time allocation, the *shape* of men's happiness patterns remains the same; time allocation decisions do not explain why men's happiness levels decline two years after the birth of their first child. The *degree* of the decline, however, varies by time spent on paid work. Men who work 25 hours or more during the adaptation period face smaller declines of happiness than men who work fewer hours.

As with all interactions, effects can also be interpreted in another way. The significant interactions between working hours and the adaptation term indicate that the effects of time spent on paid work tend to vary between the three time periods. During the baseline period, men are happiest if they work full-time or longer. Men who work full-time during the baseline period are 0.360 happier than non-working men, for men who work more than 45 hours a week, the difference is 0.341 points. These effects remain similar during the reaction period, but become stronger during the adaptation period: men who work full-time during the adaptation period are 0.763 points happier than those without a paid job, men who work more hours are even happier: 0.816 points. Working in a large part-time job has an additional effect of 0.893 points on happiness during the baseline period. These results provide support for the gender identity hypothesis since men are happiest if they work full-time or more and these effects become even stronger when these men become fathers.

**Table 3.2** Multilevel regressions predicting individual change in happiness around the birth of a first child - Men ( $n = 548$  persons and  $n = 7,793$  person-year observations)

Men	Model A	Model B	Model C	Model D	Model E
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
<b>Fixed effects</b>					
Intercept (initial status)	.256*** (.044)	.315*** (.051)	.429*** (.069)	-.145 (.095)	.128 (.120)
Reaction		.120* (.048)	-.020 (.056)	-.017 (.059)	.147 (.177)
Adaptation		-.163** (.052)	-.258*** (.075)	-.240** (.079)	-1.019*** (.168)
<i>Time-varying covariates (level 1)</i>					
<b>Marital status</b>					
Married <i>ref. cat.</i>					
Single			-.442*** (.070)	-.400*** (.070)	-.424*** (.071)
Partner not living in household			-.180† (.095)	-.156 (.095)	-.168† (.095)
Cohabiting			-.025 (.062)	-.017 (.062)	-.014 (.062)
Honey moon			.099† (.055)	.092† (.055)	.093† (.055)
Age ( <i>centred</i> )			-.009† (.005)	-.010* (.005)	-.007 (.005)
Log net household income ( <i>centred</i> )			.173*** (.039)	.113** (.039)	.108** (.039)
Paid working hours			-.001 (.003)	.001 (.003)	.002 (.003)
Non-working <i>ref. cat.</i>					
1-12 hours				.340* (.145)	.208 (.211)
13-24 hours				.357† (.195)	.089 (.340)
25-35 hours				.577*** (.125)	.170 (.282)
36-45 hours				.646*** (.063)	.360*** (.090)
More than 45 hours				.641*** (.069)	.341*** (.102)
Log hours of household work				-.022 (.034)	-.026 (.062)
Log hours of childcare				-.015 (.033)	-.039 (.051)
<i>Level 1 interactions - time use x time</i>					
1-12 hrs x reaction					.466 (.420)
1-12 hrs x adaptation					.292 (.313)
13-24 hrs x reaction					.179 (.524)
13-24 hrs x adaptation					.693 (.441)
25-35 hrs x reaction					.228 (.407)
25-35 hrs x adaptation					.893** (.324)
36-45 hrs x reaction					.155 (.155)
36-45 hrs x adaptation					.763*** (.135)

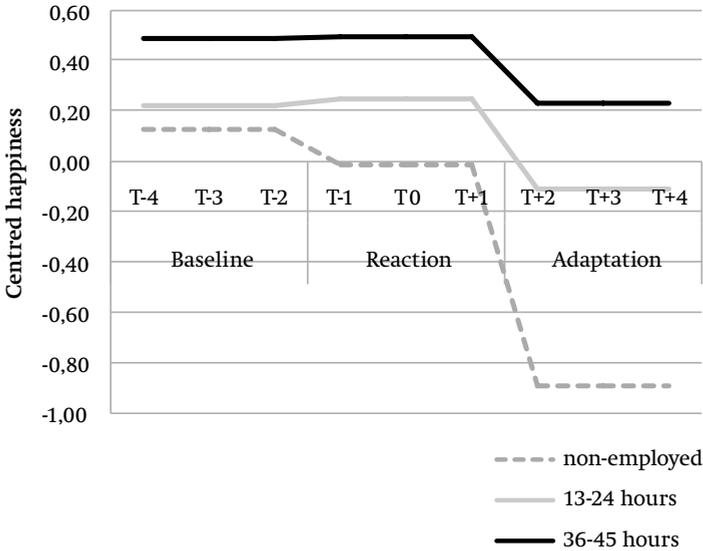
Table 3.2 Continued...

Men	Model A	Model B	Model C	Model D	Model E
	Estimate (SE)				
>45 hrs x reaction					.090 (.171)
>45 hrs x adaptation					.816*** (.149)
Log hours household work x reaction					.024 (.089)
Log hours household work x adaptation					.021 (.077)
Log hours childcare x adaptation					.064 (.065)
<i>Time-invariant covariates (level 2)</i>					
Education at birth of first child ( <i>centred</i> )			.028† (.016)	.037* (.016)	.032* (.016)
Age at birth of first child ( <i>centred</i> )			-.001 (.011)	-.003 (.011)	-.004 (.011)
<b>Random effects</b>					
<i>Level 2 variances - between persons</i>					
In intercept (initial status)	.954*** (.065)	.953*** (.083)	.903*** (.080)	.886*** (.079)	.893*** (.079)
Covar reaction with intercept		-.128* (.060)	-.105† (.058)	-.110† (.057)	-.112* (.057)
In rate of change in reaction period		.342*** (.076)	.316*** (.074)	.330*** (.074)	.328*** (.073)
Covar adaptation with intercept		-.254*** (.067)	-.239*** (.063)	-.230*** (.063)	-.242*** (.063)
Covar adaptation with reaction		.403*** (.067)	.376*** (.065)	.374*** (.064)	.375*** (.064)
In rate of change in adaptation period		.763*** (.088)	.712*** (.085)	.683*** (.082)	.685*** (.082)
<i>Level 1 variances - within persons</i>					
Within-person	1.512*** (.025)	1.359*** (.024)	1.349*** (.024)	1.329*** (.024)	1.321*** (.024)
<b>Fit statistics</b>					
Deviance (2*loglikelihood)	26563.7	26268.3	2617.4	26051.5	26008.5
ΔDeviance		295.4***	97.9***	119.0***	42.9***
Δdf		7	9	7	13
AIC	26569.7	26288.3	26208.4	26103.5	26086.5
BIC	26563.7	26268.3	26170.4	26051.5	26008.5
% of variance due to changes within persons	61%				

Data source: German Socio-Economic Panel, 1984-2005

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$

**Figure 3.5** Happiness before and after the birth of a first child by working hours (men)



Data source: German Socio-Economic Panel, 1984-2005

To illustrate, Figure 3.5 plots the happiness trajectories for men with different working hours.<sup>12</sup> Note that the model constrains the amount of time use to be constant over time. Because time use choices tend to vary over time, there are in fact many possible trajectories. If someone's time use remains constant in the periods before and after the birth of his first child, he stays on the same happiness trajectory; if his time use changes, he 'switches' trajectories. Full-time working men who reduce their working hours after the birth of their child, for example, will drop to a lower trajectory, while men who continue to work full-time stay on the same track. The figure clearly illustrates how the declines in happiness during the adaptation period vary for men with different working hours. Furthermore, the figure shows that men who work full-time are happier in absolute terms than those who work fewer hours and (particularly) those who do not work for pay.

<sup>12</sup> For reasons of readability we only present the trajectories for men who are non-employed, for men who work in medium-sized part-time jobs (13-24 hours a week) and for men who work full-time (35-45 hours a week).

In additional analyses (not shown) we examined whether the fact that someone's working hours increased, decreased, or remained the same after the birth of the first child might affect their happiness pattern. Results indicate that initial levels of happiness are the same for the groups that increase, decrease, or do not modify their work hours. The drop in happiness two years after first childbirth, however, is less severe for the group of men who increased their hours after the birth of their first child (by 0.236 points).<sup>13</sup>

### 3.7.4 Results for women

In Table 3.3, the results for women are shown. From Model A it becomes clear that the average happiness of women in the first birth sample is 0.358 points higher than that of the total German population. About 67% of the total variation in women's happiness is due to variation within persons over time.

Adding the three time periods in Model B improves the model fit significantly. Women in our first birth sample are, just like the men in that sample, already significantly happier during their baseline period. This indicates that the women in our first birth sample are selective with regard to socio-economic characteristics and/or personality traits. Without controlling for socio-economic characteristics, happiness "bumps up" 0.185 points in the years surrounding first childbirth and tends to decline below the baseline value two years thereafter.

Eleven percent of the variance within persons appears to be systematically associated with the three phases before, around, and after first childbirth (the within-person variance has decreased from 1.710 in Model A to 1.514 in Model B). The unexplained variance within and between persons, is still significant. This suggests that it might be useful to include covariates to the model. This way we may be more successful in explaining the changes within persons over time and the differences between persons.

Additional analyses testing linear and quadratic changes (Appendix A) show that happiness levels increase in the period shortly before motherhood, peak during pregnancy and in the year the baby is born, and fall afterwards. During

<sup>13</sup> *Change in working hours* after first childbirth is entered as a set of three dummy variables measuring whether respondents' working hours increased, decreased or remained the same (reference category) after their transition to parenthood (1=yes, 0=no). To capture the change in working hours, we compared the mean number of hours worked in the years before childbirth ( $t_2$  and before) with the mean number of hours worked after childbirth ( $t_2$  and later). When respondents had moved from one working time category to another, this was marked as a change. Working time categories were identical to the categories of the six paid working time dummies described above (non-working, working in small, medium, or large part-time jobs, working full-time, working more than full-time).

**Table 3.3** Multilevel regressions predicting individual change in happiness around the birth of a first child - Women ( $n = 582$  persons and  $n = 8,238$  person-year observations)

	Model A	Model B	Model C	Model D	Model E
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
<b>Women</b>					
<b>Fixed effects</b>					
Intercept (initial status)	.358*** (.041)	.379*** (.054)	.394*** (.070)	.298** (.102)	.031 (.147)
Reaction	.185*** (.052)	.11† (.066)	.11† (.057)	.199** (.066)	.757*** (.197)
Adaptation		-.106† (.056)	-.074† (.077)	.027 (.089)	.230 (.192)
<i>Time-varying covariates (level 1)</i>					
<b>Marital status</b>					
Married <i>ref. cat.</i>					
Single			-.289*** (.071)	-.325*** (.072)	-.316*** (.072)
Partner not living in household			-.124 (.094)	-.167† (.095)	-.159† (.095)
Cohabiting			-.107 (.064)	-.139* (.064)	-.142 (.064)
Honeymoon			.175** (.055)	.163** (.055)	.161** (.056)
Age ( <i>centred</i> )			-.016** (.005)	-.016** (.005)	-.014** (.005)
Log net household income ( <i>centred</i> )			.217*** (.035)	.194*** (.035)	.187*** (.035)
Paid working hours			-.002 (.003)	-.002 (.003)	-.002 (.003)
Non-working <i>ref. cat.</i>					
1-12 hours			.041 (.066)	.041 (.066)	.417† (.231)
13-24 hours			.067 (.058)	.067 (.058)	.310 (.227)
25-35 hours			.124† (.068)	.124† (.068)	.445** (.167)
36-45 hours			.210*** (.057)	.210*** (.057)	.557*** (.104)
More than 45 hours			.257*** (.095)	.257*** (.095)	.520*** (.142)
Log hours of household work			-.056 (.041)	-.056 (.041)	-.068 (.068)
Log hours of childcare			.018 (.024)	.018 (.024)	-.061 (.037)
<i>Level 1 interactions - time use x time</i>					
1-12 hrs x reaction					-.225 (.287)
1-12 hrs x adaptation					-.424† (.243)
13-24 hrs x reaction					-.555* (.268)
13-24 hrs x adaptation					-.225 (.235)
25-35 hrs x reaction					-.550* (.228)
25-35 hrs x adaptation					-.332† (.185)
36-45 hrs x reaction					-.608*** (.145)
36-45 hrs x adaptation					-.465*** (.138)

Table 3.3 Continued...

	Model A Estimate (SE)	Model B Estimate (SE)	Model C Estimate (SE)	Model D Estimate (SE)	Model E Estimate (SE)
<b>Women</b>					
>45 hrs x reaction					-.524* (.243)
>45 hrs x adaptation					-.203 (.216)
Log hours household work x reaction					-.036 (.103)
Log hours household work x adaptation					.028 (.091)
Log hours childcare x adaptation					.103* (.052)
<i>Time-invariant covariates (level 2)</i>					
Education at birth of first child (centred)			.052** (.017)	.051** (.017)	.053*** (.016)
Age at birth of first child (centred)			.003 (.011)	.002 (.011)	-.001 (.011)
<b>Random effects</b>					
<i>Level 2 variances - between persons</i>					
In intercept (initial status)	.853*** (.058)	1.141*** (.098)	1.033*** (.091)	1.005*** (.090)	.980*** (.088)
Covar reaction with intercept		-.334*** (.075)	-.289*** (.070)	-.280*** (.070)	-.267*** (.069)
In rate of change in reaction period		.477*** (.091)	.409*** (.086)	.425*** (.087)	.428*** (.087)
Covar adaptation with intercept		-.544*** (.084)	-.505*** (.080)	-.485*** (.079)	-.474*** (.078)
Covar adaptation with reaction		.560*** (.082)	.508*** (.078)	.509*** (.078)	.509*** (.078)
In rate of change in adaptation period		.995*** (.106)	.937*** (.102)	.927*** (.102)	.930*** (.101)
<i>Level 1 variances - within persons</i>					
Within-person	1.710*** (.028)	1.514*** (.026)	1.509*** (.026)	1.504*** (.026)	1.499*** (.026)
<b>Fit statistics</b>					
Deviance (-2* $\ln$ likelihood)	28975.9	28626.7	28520.7	28497.3	28468.5
$\Delta$ Deviance		349.3*** 7	106.0*** 9	23.4** 7	28.8** 13
$\Delta$ df					
AIC	28981.9	28646.7	28558.7	28549.3	28546.5
BIC	28975.9	28626.7	28520.7	28497.3	28468.5
% of variance due to changes within persons	67%				

Data source: German Socio-Economic Panel, 1984-2005

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$

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this entire period, happiness peaks at a value of 0.629 above the average level of the German population. The decline in women's happiness, which starts two years after childbirth, continues for a long time. While men's happiness starts to rise again when their first-born is about 7.5, women's happiness continues to fall until their first child has reached the age of 15 years old.

Including socio-economic controls to model B makes this basic pattern less pronounced (Model C). Both the increase in women's happiness in the years surrounding first childbirth and the subsequent decrease two years later, are still present, though only significant at the 10% level. The happiness of future mothers is still significantly higher during the baseline period than the happiness of the total German population, except for singles. Women have even higher happiness levels when they are in their honeymoon period and when they have a higher income, regardless of whether they have children. Being better educated at the time of first birth also slightly increases happiness. Happiness decreases with age. Part of the increase in happiness in the reaction period that we observed in the unconditional growth model, may be attributable to partnership formation, starting to share a household with one's partner (whether cohabiting or married), and an increased household income.

So far, there are no significant differences between the happiness patterns of women and men. Entering time-varying time use in Model D, however, changes this picture. We find that the decline in women's happiness two years after the transition to motherhood no longer jumps below their baseline happiness level. Women still experience an increase in happiness during pregnancy and childbirth, and their happiness still drops two years after the birth of the child, but during the adaptation period women's happiness levels revert to the initial baseline level and women do not end up unhappier than they were before they became mothers. This suggests that women's lower happiness after the birth of their first child in the former model is attributable to their time use choices. With the inclusion of time use, the effects of marital status also become stronger: happiness differences come to the fore between women who are married, women who are cohabiting, and women who have a partner but do not share a household with him. Married women are the happiest. Furthermore, results show that women's work adds to their happiness. Working full-time or more increases happiness. Results also suggest that working in large part-time jobs might increase happiness. Hours of household work and childcare have no significant impact on women's happiness, similar to men.

Interactions between time use and the three time periods (model E) allow us to draw conclusions about how women's happiness trajectory varies by choices in time allocation and, interpreting the results in another way, how the effects of time use are different in the three time periods.

Let us start with the pattern of the women's happiness around the birth of their first child. The interaction effects between the reaction term and working 13 hours or more are all negative and significant. This indicates that the happiness boost during the reaction period is significantly smaller for women who work 13 hours per week or more during this period. Non-working women experience an increase in happiness of 0.757 points in this period compared to the happiness in their baseline period. For women who work 13-24 hours, this increase is 0.555 points less. The largest reduction of the bump is found for women who work in full-time jobs (minus 0.608 points). Although for all women an increase in happiness in the reaction period persists, the increase is only significant for women non-working women or women who work in small part-time jobs (1-12 hours per week). For them, the increase can be interpreted as a true *baby effect*: they become happier 'just' because of the arrival of a new baby.

The interaction effects between the adaptation term and working hours show that women who do not work for pay during the adaptation period experience a different change in their happiness levels during this period (an increase of 0.230 points) than women who work in small part-time jobs (a decrease of 0.194 points: 0.230-0.424), large part-time jobs (a decrease of 0.102 points: 0.230-0.332), or full-time jobs (a decrease of 0.235 points: 0.230-0.465). Both the net increase of the non-working women and the decreases of the women with small part-time jobs, large part-time jobs, and full-time jobs, however, do not differ significantly from these women's baseline levels of happiness. This means that these women are not happier or unhappier during the adaptation period than they were before they became mothers.

The time women spend on household work cannot explain the increase in happiness during the reaction period or the return to baseline happiness levels during the adaptation period. The time spent on childcare during the adaptation period, in contrast, significantly increases women's happiness during this period.

The above findings are partly in line with *set point theory*. Controlled for changes in time use, women's happiness levels eventually adapt to the event of first childbirth. Effects do not vary by women's time spent on paid work during

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the adaptation period. Hours of childcare during the adaptation period, however, can enduringly increase women's happiness levels. In contrast, the happiness boost in the years surrounding the birth of a first child does vary by women's time spent in paid work. Non-working women and women in small part-time jobs experience a *baby boost*, while women who work more hours during the reaction period just stay as happy as they were before the birth of their child.

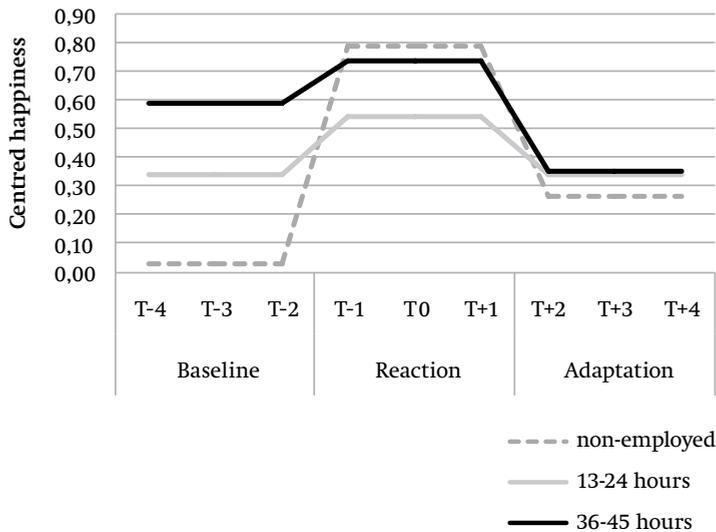
Addressing the interaction effects between time use and the three time periods in another way, results indicate that the effects of paid working hours vary in the periods before, during, and after the birth of the first child. The positive effects of paid working hours on women's happiness occur especially during the baseline period. Working 25 hours per week or more adds significantly to one's happiness during the childless years (0.445, 0.557, and 0.520 points for women who work 25-36 hours, 36-45 hours, and more than 45 hours per week, respectively). These effects become much weaker during the reaction period. During the adaptation period, the positive effects of working in large part-time jobs (25-35 hours per week) and working more than full-time (more than 45 hours per week) that appeared in the pre-child years continue, which we can tell from the fact that the interaction effects are not significant. The positive effect of working full-time (36-45 hours per week), which added 0.557 points to happiness during the baseline period, however, diminishes significantly by 0.465 points during the adaptation period and is no longer significant.

The (non-significant) effect of time spent on housework does not change during the three periods. The initially negative effect of time spent on childcare becomes positive and significant during the adaptation period. However, the effect is only significant at the 10% level.

These findings provide partial support for the gender identity hypothesis. First, the relationship between women's work hours and their happiness before the birth of the first child is a reverse U-shape: the more time women spend on work, the happier they are, with a peak at 36-45 hours per week. This is in line with the societal norms that paid work suits childless women. Second, in the period surrounding the arrival of the first child, non-working women and women with small part-time jobs (1-12 hours per week) experience the largest increase in happiness and women with small part-time jobs have the highest absolute levels of happiness. This is in line with the societal standards that women in the years immediately surrounding the birth of a child take

maternity leave, scale back their working hours, or leave the labour market altogether. Third, working full-time, which had a highly positive effect on happiness during the baseline period, no longer contributes to happiness anymore during the adaptation period. Working in large part-time jobs (25-35 hours per week), on the contrary, has a positive effect on happiness during the adaptation period. Fourth, women derive happiness from childcare during the adaptation period. Working part-time and caring for children is in line with women's new identity as a mother. There are, however, also findings that contradict the gender identity hypothesis. The positive effects of working more than full-time during the baseline period, for instance, continue to exist during the adaptation period. On top of that, women who work more than full-time appear to be happiest during the adaptation period compared to women who work fewer hours.

**Figure 3.6** Happiness before and after the birth of a first child by working hours (women)



Data source: German Socio-Economic Panel, 1984-2005

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Figure 3.6 depicts the different happiness trajectories for women with different working hours. Again, the figure shows the happiness trajectories only for those women who do not change their working hours after childbirth. If a woman's working hours remain the same before and after first childbirth, she stays on the same happiness track, but if she changes her working hours when she becomes a mother, she will switch from one trajectory to another.

The net happiness trajectories of individual women, however, may not only depend on their absolute working hours (changed or not), but also on whether they have *increased* or *decreased* their working hours during the three periods. In additional analyses (not shown) we examined whether women who increase or decrease their work hours after first childbirth have a different happiness pattern (i.e. whether they have different initial happiness levels during the baseline period or have different rates of change during the reaction and adaptation periods) than women who do not alter their hours. Results indicate that initial levels of happiness are significantly higher for the group that eventually will decrease their paid working hours after their child has been born (about 0.388 points). The dynamic pattern, that is the increase in happiness in the years surrounding childbirth and the reversion to baseline two years thereafter, however, is still the same for all women. This suggests that the group who will cut back their working hours after birth is already happier before childbirth and that it is absolute working hours that determine women's happiness levels around and after childbirth, not the fact that hours were reduced. The fact that women cut back their hours has no effect of itself and does not make them extra happy afterwards.

### **3.8 Sub-study 2: Domain satisfactions before, during, and after the birth of a first child**

The aim of the second sub-study is to gain insight into the underlying mechanisms of the dynamics of happiness around the birth of the first child. The research question to be answered by Sub-study 2 reads *To what extent do satisfactions with different domains of life change after the birth of the first child and to what extent can these changes account for changes in overall happiness?* Following Van Praag, Frijters, and Ferrer-i-Carbonell (2003), we use a two-layer model to examine the indirect effects of the birth of a first child on overall happiness through their impact on happiness in four different domains: household

income, leisure time, housing, and health. Of these domains, information is available covering the whole period under study (1984-2005). Unfortunately, the GSOEP does not provide information about partnership satisfaction or satisfaction with family life, so while these are domains we would also liked to have examined, this is not possible at this time.

### 3.8.1 Measures

In this second sub-study, we use the same first birth sample as we used in Sub-study 1. The dependent variables in Sub-study 2 are *overall happiness*, measured by the same variable as in Sub-study 1, and *happiness in four domains of life*, measured by the question: “How satisfied are you today with your... (a) household income; (b) free time; (c) place of dwelling; (d) health?” Responses run from 0 (totally unhappy) to 10 (totally happy). To account for differences between the subsamples within the GSOEP (see section 3.5) and for time trends in domain satisfactions, scores were centred within each subsample and within each year in the original GSOEP population.<sup>14</sup> Independent and control variables are the same as used in Sub-study 1. Descriptive statistics of happiness in the four domains are presented in panel B of Table 3.1.

### 3.8.2 Method

Sub-study 2 uses a two-layer model of happiness, comparable to the two-layer model used by Van Praag, Frijters, and Ferrer-i-Carbonell (2003) and Van Praag and Ferrer-i-Carbonell (2004). In this model, overall happiness is seen as an aggregate of the various domain satisfactions and the domain satisfactions are, in turn, assumed to depend on socio-economic characteristics. The structure is pictured in Figure 3.7.

The two-layer model adds to the models used in Sub-study 1, in which overall happiness is explained by the time-varying and time-invariant covariates directly, by showing the underlying mechanism by which overall happiness is affected. As (1) the independent variables may have different effects on the various life domains around the birth of a first child, and (2) the various life domains may each have a different impact on overall happiness, the net effect of the covariates on overall happiness has been difficult to assess in the previous models. Suppose, for instance, that working part-time instead of full-time

<sup>14</sup> A score of ‘0’ on a domain satisfaction variable refers to the average satisfaction of the total German population with that domain. Coefficients indicate how many points (measured on a scale of 0 to 10) are added to the specific domain satisfaction variable at 1 unit change in the independent variable.

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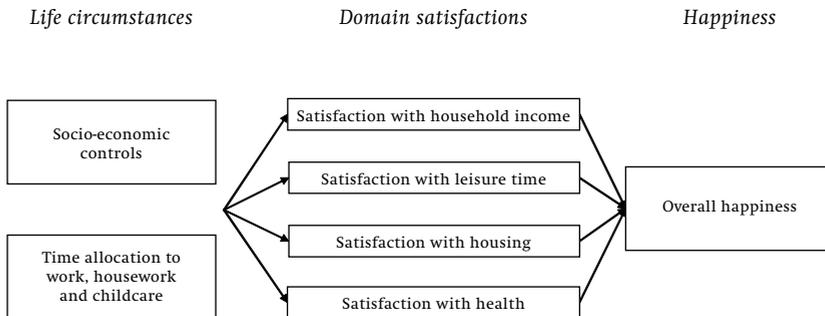
decreases satisfaction with one's household income after the birth of the first child while it simultaneously increases satisfaction with one's leisure time. The level of overall happiness then will depend on the relative weights individuals put on satisfaction with household income and satisfaction with leisure time in the period after childbirth. By separating the model into two layers and using 'satisfaction with household income' and 'satisfaction with leisure time' as intermediating variables, we are able to disentangle the impact of part-time work on overall happiness around first childbirth via the different domains.

We will start our analysis with four models explaining satisfaction in the domains of household income, leisure time, housing, and health (Models I-1 to I-4). We use Model D from Sub-study 1 as a starting point. That is the model with the intercept, reaction, and adaptation term, the standard controls at levels 1 and 2, and the time-varying time use variables, but without the interactions between time use and the time periods. The dependent variables are satisfaction with household income, leisure time, housing, and health. These models describe and explain the observed changes in the four domain satisfactions around first childbirth. Each domain satisfaction equation is estimated separately for women and men.

We will then proceed with a model explaining overall happiness around first childbirth by the domain satisfactions (Model II). This model includes the intercept, reaction, and adaptation term and the four domain satisfactions. The dependent variable here is overall happiness. Model II assesses the relative weights people assign to domain satisfactions. To allow for the possibility of the weights to change before, around, and after childbirth, we incorporate interactions between domain satisfaction and time in Model III.

### **3.8.3 Results**

Results for men's domain satisfaction models are presented in Table 3.4. All four models show a better fit than their unconditional growth model (not shown). The table makes clear that becoming a first time father has negative consequences for satisfaction with one's household income and leisure time. Both satisfaction with household income and leisure time decline in the years surrounding first childbirth (by 0.351 and 0.369 points, respectively) and remain low in subsequent years (-0.440 and -0.409, compared to baseline happiness). Satisfaction with housing also drops in the years surrounding first

**Figure 3.7** The two-layer model of overall happiness

Note: The two-layer model is adopted from Van Praag, Frijters, and Ferrer-i-Carbonell (2003).

childbirth by 0.299 points, but reverts to the baseline level two years after the birth. The arrival of a child apparently increases the need for a larger or more suitable home or better neighbourhood, which explains the decline in the reaction period. After a few years, most fathers seem to settle down, possibly by adapting to the new situation, but more likely by upgrading their present dwelling or moving to a new residence. Contrary to our predictions, new fathers' satisfaction with health is hardly affected by the birth of their first child and remains relatively stable through the periods. Results suggest a minor drop of satisfaction (-0.159) in the health domain two years after the child is born, but this drop is only significant at the 10% level.

Table 3.4's other results reveal that marital status and time use highly affect absolute levels of satisfaction with household income and leisure time. In general, married men are more satisfied with their household income, but less with their leisure time than those who are not married. Exceptions are men in their honeymoon period, they are also happier with their leisure time than those who have been married for a longer time. Not surprisingly, the more time men spend in paid work and the higher their absolute household income, the happier they are with their household income. Spending time on childcare and household work, in contrast, reduces their satisfaction levels with household income.

**Table 3.4** Multilevel regressions predicting individual change in satisfaction with household income, leisure time, housing, and health around the birth of a first child – Men ( $n = 548$  persons and  $n = 7,793$  person-year observations)

Men	Household income	Leisure time	Housing	Health
	Model I-1	Model I-2	Model I-3	Model I-4
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
<b>Fixed effects</b>				
Intercept (initial status)	-.526*** (.121)	-.148 (.137)	.322* (.131)	.855*** (.109)
Reaction	-.351*** (.077)	-.369*** (.088)	-.299** (.097)	-.078 (.068)
Adaptation	-.440*** (.102)	-.409*** (.114)	-.165 (.115)	-.159† (.091)
<i>Time-varying covariates (level 1)</i>				
<b>Marital status</b>				
<i>Married ref cat.</i>				
Single	-.341*** (.090)	.206* (.101)	-.133 (.097)	-.116 (.081)
Partner not living in household	-.593*** (.121)	.186 (.136)	-.429*** (.130)	-.106 (.110)
Cohabiting	-.265*** (.080)	.188* (.090)	-.065 (.086)	-.014 (.072)
Honeymoon	-.134† (.070)	.158* (.079)	.005 (.078v)	.051 (.064)
Age (centred)	.001 (.006)	.014* (.007)	.021*** (.006)	-.035*** (.006)
Log net household income (centred)	.544*** (.049)	-.057 (.055)	.355*** (.053)	-.033 (.045)
Degree of disability	-.004 (.004)	.004 (.004)	.002 (.004)	-.012 (.003)
<b>Paid working hours</b>				
<i>Non-working ref cat.</i>				
1-12 hours	.856*** (.183)	-.722*** (.206)	-.475* (.196)	-.098 (.168)
13-24 hours	.980*** (.247)	.022 (.278)	.027 (.263)	.189 (.227)
25-35 hours	1.154*** (.158)	-.151 (.178)	-.330* (.168)	-.157 (.146)
36-45 hours	1.389*** (.080)	-.204* (.090)	-.117 (.085)	-.002 (.073)
More than 45 hours	1.388*** (.087)	-.966*** (.098)	-.184* (.093)	-.022 (.080)
Log hours of household work	-.077† (.043)	.302*** (.049)	-.053 (.046)	.023 (.040)
Log hours of childcare	-.126** (.041)	.014 (.046)	-.061 (.044)	-.003 (.038)
<i>Time-invariant covariates (level 2)</i>				
Education at birth of first child (centred)	.094*** (.019)	-.045* (.022)	-.015 (.018)	.032† (.018)
Age at birth of first child (centred)	-.008 (.014)	.001 (.016)	.003 (.013)	.016 (.013)

Table 3.4 Continued...

Men	Household income Model I-1 Estimate (SE)	Leisure time Model I-2 Estimate (SE)	Housing Model I-3 Estimate (SE)	Health Model I-4 Estimate (SE)
<b>Random effects</b>				
<i>Level 2 variances - between persons</i>				
In intercept (initial status)	1.546*** (.134)	1.966*** (.170)	1.918*** (.164)	1.051*** (.096)
Covar reaction with intercept	-.340*** (.103)	-.383** (.131)	-1.13*** (.162)	-.004 (.071)
In rate of change in reaction period	.800*** (.135)	1.07*** (.174)	2.304*** (.239)	.423*** (.097)
Covar adaptation with intercept	-.651*** (.114)	-.643*** (.136)	-1.398*** (.162)	-.200** (.076)
Covar adaptation with reaction	.773*** (.116)	.910*** (.143)	1.621*** (.190)	.318*** (.078)
In rate of change in adaptation period	1.312*** (.146)	1.467*** (.172)	2.269*** (.215)	.773*** (.101)
<i>Level 1 variances - within persons</i>				
Within-person	2.100*** (.038)	2.666*** (.048)	2.325*** (.042)	1.799*** (.032)
<b>Fit statistics</b>				
Deviance (-2*loglikelihood)	29705.9***	31588.6***	30736.2***	28407.3***
ΔDeviance	669.1***	284.9***	113.6***	74.1***
Δdf	16	16	16	16
AIC <sup>a</sup>	29757.9	3164.6	30788.2	28459.3
BIC <sup>a</sup>	29705.9	31588.6	30736.2	28407.3

Data source: German Socio-Economic Panel, 1984-2005

\*\*\* p &lt; 0.001; \*\* p &lt; 0.01; \* p &lt; 0.05; † p &lt; 0.10

<sup>a</sup> Change in deviance, AIC, and BIC are computed comparing Model I to its unconditional growth model (not shown)

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Men who work full-time or more are obviously less happy with their leisure time than those who do not work. Surprisingly, men who work in small part-time jobs are also unhappier with their leisure time than those who have no jobs, while men working in medium or large part-time jobs are equally happy. The more time men spend on household work, the happier they are with their leisure time. This is probably because men who spend a lot of time on household work are also the ones who (voluntarily) work in medium and large part-time jobs. If this is the case, time spent on household work and care substitutes time spent in paid work. These results indicate that if changes take place in marital status or time use during the period around first childbirth, satisfactions with household income and leisure time will alter significantly as well. Satisfaction with health is mainly affected by age and degree of disability: becoming older and becoming disabled decreases health satisfaction.

Table 3.5 shows the results for women. Looking across the table, the reaction and adaptation terms show that becoming a mother as such has little effect on women's satisfaction with their household income, housing, or health. Satisfaction with housing seems to decline a bit in the years surrounding the birth of the child, but results are only significant at the 10% level. Satisfaction with leisure time, in contrast, does show a significant decline two years afterwards, even if controlled for hours of work, housework, and childcare.

Changes in marital status and time use, however, have large effects on domain satisfactions, especially on satisfaction with household income and leisure time. Married women are more satisfied with their household income than non-married women. Singles are far happier with their leisure time than partnered women, but probably only in their child-less years.

Women who work more hours and women who do less housework are more satisfied with income. Furthermore, working 25 hours a week or more has a negative effect on women's satisfaction with leisure time. The same holds for spending time on childcare. The more time women spend on household work, in contrast, the happier they are with their leisure time. These results suggest that satisfaction with household income and leisure time is not so much influenced by the transition to motherhood itself, but by the changes in marital status and time use that tend to accompany this transition. The decline in leisure satisfaction in the period after childbirth can be intensified if women increase their working hours and/or their hours of childcare.

Women's increased hours of housework are positively related to leisure satisfaction and negatively to satisfaction with household income. Causality, however, may run in the other direction. Individuals who are more satisfied with their household income are probably more inclined to outsource some domestic tasks. Likewise, people who have plenty of leisure time are perhaps more willing to spend time on household tasks while people whose leisure time is scarce probably decide to cut on housework hours, leaving tasks undone.

Women in our first birth sample are more satisfied with their health than the German population in general, even when controlled for socio-economic characteristics and time use. Besides by age and disability, women's satisfaction with health is negatively influenced by working in medium-sized part-time jobs (13-24 hours per week) and by the time they spend on childcare. Possibly because women in part-time jobs are the ones who are likely to suffer from time pressure, as they often tend to combine their job with household tasks and childcare. Women who work in small part-time jobs or who do not work will probably have fewer problems with the coordination of conflicting time demands from work and family and will therefore be more flexible in their time allocation decisions, while women who work in larger jobs will more likely opt for outsourcing their domestic tasks and childcare, or they will have a partner who takes a larger share of the household work and childcare at home.

**Table 3.5** Multilevel regressions predicting individual change in satisfaction with household income, leisure time, housing, and health around the birth of a first child – Women ( $n = 582$  persons and  $n = 8,238$  person-year observations)

Women	Household income	Leisure time	Housing	Health
	Model I-1	Model I-2	Model I-3	Model I-4
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
<b>Fixed effects</b>				
Intercept (initial status)	.166 (.129)	.301* (.144)	.063 (.144)	.817*** (.121)
Reaction	-.056 (.085)	-.078 (.094)	-.183† (.103)	.123 (.077)
Adaptation	.064 (.112)	-.348** (.126)	-.035 (.127)	-.043 (.105)
<i>Time-varying covariates (level 1)</i>				
<b>Marital status</b>				
<i>Married ref. cat.</i>				
Single	-.674*** (.090)	.500*** (.101)	-.304** (.101)	.065 (.084)
Partner not living in household	-.813*** (.119)	.101 (.135)	-.373*** (.134)	.165 (.112)
Cohabiting	-.326*** (.082)	.000 (.091)	-.102 (.091)	-.148† (.076)
Honeymoon	-.036 (.070)	.118 (.079)	-.115 (.080)	.047 (.065)
Age ( <i>centred</i> )	-.013* (.006)	.000 (.007)	.012 (.007)	-.030*** (.006)
Log net household income ( <i>centred</i> )	.616*** (.044)	.063 (.050)	.183*** (.049)	.075† (.041)
Degree of disability	-.003 (.004)	.003 (.004)	-.001 (.004)	-.017*** (.003)
<b>Paid working hours</b>				
<i>Non-working ref. cat.</i>				
1-12 hours	.066 (.082)	.040 (.094)	-.005 (.091)	-.015 (.077)
13-24 hours	.188** (.072)	-.003 (.082)	.118 (.080)	-.154* (.067)
25-35 hours	.272** (.085)	-.335*** (.097)	-.130 (.095)	-.086 (.080)
36-45 hours	.565*** (.072)	-.818*** (.082)	.110 (.081)	-.070 (.067)
More than 45 hours	.525*** (.119)	-1.627*** (.135)	.114 (.133)	-.143 (.111)
Log hours of household work	-.114* (.051)	.185** (.058)	.028 (.057)	.033 (.048)
Log hours of childcare	.016 (.030)	-.419*** (.034)	-.090** (.033)	-.058* (.028)
<i>Time-invariant covariates (level 2)</i>				
Education at birth of first child ( <i>centred</i> )	.079*** (.022)	-.021 (.023)	.005 (.021)	.079*** (.021)
Age at birth of first child ( <i>centred</i> )	.021 (.014)	-.008 (.015)	.001 (.014)	-.018 (.014)

Table 3.5 Continued...

Women	Household income Model I-1	Leisure time Model I-2	Housing Model I-3	Health Model I-4
	Estimate (SE)	Estimate (SE)	Estimate (SE)	Estimate (SE)
<b>Random effects</b>				
<i>Level 2 variances - between persons</i>				
In intercept (initial status)	1.822*** (.155)	1.755*** (.164)	2.150*** (.188)	1.596*** (.136)
Covar reaction with intercept	-.468*** (.119)	-.496*** (.135)	-1.078*** (.174)	-.414*** (.101)
In rate of change in reaction period	.905*** (.150)	.916*** (.179)	2.049*** (.243)	.627*** (.121)
Covar adaptation with intercept	-.849*** (.133)	-.738*** (.146)	-1.516*** (.180)	-.683*** (.114)
Covar adaptation with reaction	.926*** (.132)	.977*** (.155)	1.525*** (.196)	.788*** (.112)
In rate of change in adaptation period	1.580*** (.167)	1.718*** (.196)	2.253*** (.226)	1.358*** (.144)
<i>Level 1 variances - within persons</i>				
Within-person	2.321*** (.040)	3.066*** (.053)	2.899*** (.051)	2.047*** (.036)
<b>Fit statistics</b>				
Deviance (-2*loglikelihood)	32248.1***	34324.9***	34071.5***	31141.3***
$\Delta$ Deviance <sup>a</sup>	489.8***	317.8***	72.9***	91.6***
$\Delta$ df	16	16	16	16
AIC <sup>a</sup>	3230.1	34376.9	34123.5	31193.3
BIC <sup>a</sup>	32248.1	34324.9	34071.5	31141.3

Data source: German Socio-Economic Panel, 1984-2005

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$ <sup>a</sup> Change in deviance, AIC, and BIC are computed comparing Model I to its unconditional growth model (not shown)

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What do the above findings tell us about changes in overall happiness after first childbirth? Table 3.6 reports the effects of the domain satisfactions on overall happiness for men and women. For both men and women, Model II shows that all domain satisfactions have a positive effect on overall happiness, which is consistent with previous research (Van Praag & Ferrer-i-Carbonell, 2004; Van Praag, Frijters, & Ferrer-i-Carbonell, 2003). Satisfaction with household income is the most important determinant of overall happiness (0.230 for men and 0.205 for women), followed by satisfaction with health (0.174 for both).<sup>15</sup> Satisfactions with leisure time (0.075 for men and 0.090 for women) and housing (0.082 for men and 0.076 for women) appear to have a weaker effect on overall happiness. In general, women and men do not differ very much in which domains are important factors contributing to their overall happiness.

Including the interactions between the domain satisfactions and the time periods in Model III shows that the domain effects preserve the same order, but that there are some significant differences. During the reaction period, the effect of men's satisfaction with health becomes weaker, while the effect of their satisfaction with housing becomes stronger. During the adaptation period, satisfaction with household income, which already was the strongest predictor, becomes even more important. For women, effects are not as strong. Satisfaction with housing becomes more important in the years surrounding first childbirth. Furthermore, results suggest that the effects of satisfaction with household income and housing become somewhat stronger in the adaptation period, while the influence of satisfaction in the leisure domain diminishes during that time, though these effects are only significant at the 10% level.

The intercept in Model III reflects mean overall happiness before the birth of the first child when all other variables are zero. A domain satisfaction of zero represents the average satisfaction within that domain of the total German

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15 Since all domain satisfaction variables are measured on the same scale, the size of the coefficients can be compared. An example: Model III for men shows that an increase of 1 point in satisfaction with income raises overall happiness with 0.231 points, while an increase of 1 point in satisfaction with health raises overall happiness with 0.174 points. We may conclude, therefore, that an increase of 1 point in satisfaction with income will have a bigger effect on overall satisfaction than an increase of 1 point in satisfaction with health.

Original responses on overall happiness and the domain satisfactions ranged from 0 to 10; variables were centred around the annual mean of each subsample in the original population of the GSOEP. As a result, a value of '0' represents the average happiness or domain satisfaction within a certain year and subsample of the total German population. Likewise, a value of '+0.500' indicates that happiness is half a point higher than the average score of the German population as a whole on this variable.

population. As the intercept is significant, our first birth sample still seems selective with regard to characteristics that determine both happiness and the likelihood of having children, and that are not captured by the four domain satisfactions included. There is also considerable unexplained variation left, both within and between persons. It could be the case that there are other domain satisfactions, such as satisfaction with one's family, partner, social life, neighbourhood, or job, that are important predictors for overall happiness. Information on these domain satisfactions, however, is not available in the GSOEP data set or is incomplete for the years and persons under study. It could also be that the model lacks certain variables that affect both the domain satisfactions and overall happiness in the same way, such as personality traits or the experience of important life events, for example serious illness or death of a family member.

If the domain satisfactions remain the same around childbirth, Model III shows that there will be an increase in overall happiness for both men and women in the years surrounding first childbirth. After two years, men's overall happiness will slightly decline and they will end up somewhat unhappier than before (significant at the 10% level) while women's overall happiness will revert to their baseline level. However, as became clear from Models I-1 to I-4, at least partly under the influence of changes in objective life conditions, domain satisfactions are unlikely to remain the same after childbirth.

#### *Total effects on overall happiness: an example*

In this sub-study, we assumed that life circumstances indirectly affect overall happiness through their effects on domain satisfactions. Models I-1 to I-4 tested how life circumstances influence satisfaction with various domains of life. Model III tested how domain satisfactions affect overall happiness. Because the effects of domain satisfactions on overall happiness may be different during the baseline, reaction, and adaptation period, interactions between domain satisfactions and time periods were included in Model III. In this section we will assess the total effects of life circumstances on overall happiness before, during, and after the birth of a first child via satisfactions with domains of life. As individuals' life circumstances can change in many ways, numerous trajectories are possible. Rather than calculating total effects for all these different trajectories, we present an example of an 'average' man and woman.

Figure 3.8 plots the predicted happiness dynamics before, during, and after the birth of a first child for two fictive persons: Jan and Hanka. Jan represents

**Table 3.6** Multilevel regressions predicting individual change in overall happiness around the birth of a first child by domain satisfactions – Men and women

	Men		Women	
	Model II Estimate (SE)	Model III Estimate (SE)	Model II Estimate (SE)	Model III Estimate (SE)
<b>Fixed effects</b>				
Intercept (initial status)	.110* (.040)	.109*** (.039)	.200*** (.044)	.209*** (.046)
Reaction	.210*** (.042)	.257*** (.049)	.238*** (.047)	.257*** (.053)
Adaptation	-.062 (.042)	-.078† (.042)	-.006 (.047)	-.029 (.005)
<i>Time-varying covariates (level 1)</i>				
Satisfaction with household income (centred)	.231*** (.008)	.205*** (.013)	.205*** (.008)	.189*** (.014)
Satisfaction with leisure time (centred)	.075*** (.007)	.087*** (.012)	.090*** (.007)	.112*** (.014)
Satisfaction with housing (centred)	.082*** (.008)	.067*** (.013)	.076*** (.007)	.046*** (.013)
Satisfaction with health (centred)	.174*** (.009)	.181*** (.016)	.174*** (.009)	.168*** (.016)
<i>Level 1 interactions - domain satisfaction x time</i>				
Satisfaction with household income x reaction		-.012 (.020)		.005 (.021)
Satisfaction with household income x adaptation		.064*** (.017)		.031† (.018)
Satisfaction with leisure time x reaction		-.018 (.018)		-.030 (.017)
Satisfaction with leisure time x adaptation		-.017 (.016)		-.030† (.017)
Satisfaction with housing x reaction		.044* (.020)		.064** (.020)
Satisfaction with housing x adaptation		.009 (.018)		.033† (.017)
Satisfaction with health x reaction		-.050* (.023)		-.015 (.023)
Satisfaction with health x adaptation		.006 (.020)		.016 (.020)

Table 3.6 Continued...

	Men		Women	
	Model II Estimate (SE)	Model III Estimate (SE)	Model II Estimate (SE)	Model III Estimate (SE)
<b>Random effects</b>				
<i>Level 2 variances - between persons</i>				
In intercept (initial status)	.439*** (.047)	.447*** (.047)	.582*** (.060)	.603*** (.061)
Covar reaction with intercept	-.128** (.041)	-.115*** (.041)	-.310*** (.056)	-.320*** (.056)
In rate of change in reaction period	.193*** (.057)	.193*** (.057)	.342*** (.074)	.341*** (.074)
Covar adaptation with intercept	-.187*** (.042)	-.203*** (.042)	-.403*** (.058)	-.422*** (.059)
Covar adaptation with reaction	.197*** (.045)	.196*** (.045)	.380*** (.061)	.387*** (.062)
In rate of change in adaptation period	.363*** (.055)	.356*** (.055)	.565*** (.073)	.568*** (.073)
<i>Level 1 variances - within persons</i>				
Within-person	1.144*** (.020)	1.139*** (.020)	1.32*** (.023)	1.318*** (.023)
<b>Fit statistics</b>				
-2*loglikelihood	24396.2	24358.0	26888.7	26868.1
$\Delta$ Deviance <sup>a</sup>	1872.1***	38.2***	1738.0***	20.5**
$\Delta$ df	4	8	4	8
AIC <sup>a</sup>	24424.2	24402.0	26916.7	26912.1
BIC <sup>a</sup>	24396.2	24358.0	26888.7	26868.1
n persons	548	548	582	582
n person-years	7793	7793	8238	8238

Data source: German Socio-Economic Panel, 1984-2005

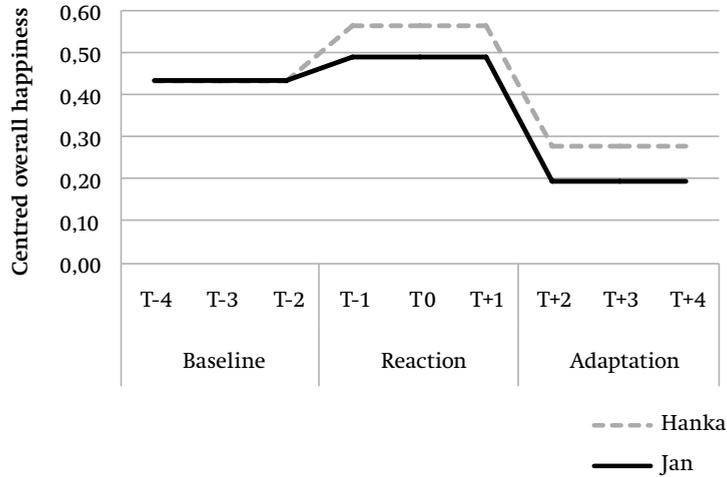
\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$ <sup>a</sup> Change in deviance, AIC, and BIC of Model II to its unconditional growth model (i.e. Model B from Sub-study 1)

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the 'average German man', Hanka the 'average German woman'. Their values on the independent variables in Models I-1 to I-4 are the average values of the men and women in our first birth sample during the separate periods. Jan and Hanka are married, but no longer in their honeymoon period, are not disabled, of average age, have an average household income, and were of average age and had an average education at the time their first child was born. These life circumstances remain constant over the three time periods. Jan's and Hanka's time use patterns, however, do change over time due to the birth of their first child. Jan works full-time (36-45 hours per week) during all three periods. During the baseline period, he spends 1.3 hours per weekday on housework and no time on childcare. During the reaction period, he spends 1.3 hours on housework and 1.3 hours on childcare. During the adaptation period, he spends 1.2 hours on housework and 1.5 hours on childcare. Hanka's time use patterns differ considerably from Jan's. She works full-time during the baseline period, but leaves the labour market after childbirth and remains non-employed during the reaction and adaptation period. During the baseline period, she spends 2.3 hours per weekday on housework and no time on childcare, during the reaction period, she spends 4.2 hours on housework and 6.6 hours on childcare, and during the adaptation period, she spends 4.6 hours on housework and 7.3 hours on childcare.

Figure 3.8 depicts the development of Jan and Hanka's overall happiness, calculated on the basis of i) the effects of life circumstances on domain satisfactions (taken from Table 3.4 and Table 3.5) and ii) the effects of domain satisfactions on overall happiness (taken from Table 3.6). Calculations of the total effects are not reported here, but are available upon request. For ease of interpretation, Figures B.1 and B.2 in Appendix B display how the four domain satisfactions of Jan and Hanka change around the birth of their first child on basis of Models I-1 to I-4 and their specific values on the relevant independent variables.

Figure 3.8 shows that the increase in Jan's overall happiness during the reaction period is only 0.068 points, which is insignificant. Results from Models I-1 to I-4 from Table 3.4 suggest that the positive effect of having a new baby is offset by declines of satisfaction with household income, leisure time, and housing during that period. Controlled for changes in time use and other changes in life circumstances, the reaction terms for these domain satisfactions are negative and significant. This indicates that satisfaction within these domains declines in the period surrounding the birth of the first child, regardless of

**Figure 3.8** Overall happiness around the birth of a first child

Data source: German Socio-Economic Panel, 1984-2005

changes in life circumstances. For Jan's specific situation, satisfaction with household income, leisure time, and housing declines with 0.430, 0.380, and 0.340 points respectively, compared to the baseline period.

Figure 3.8 also shows a large drop of 0.295 points in Jan's overall happiness during the adaptation period. Again, result from Models I-1 to I-4 from Table 3.4 indicate that the drop might be due to the decrease in levels of satisfaction with household income, leisure time, and health at that time, because the adaptation terms for these domain satisfactions are negative and significant, even if controlled for changes in time use and other life circumstances. Jan's satisfaction with household income, leisure time, and health decreases by 0.530, 0.420, and 0.160 points, respectively. The decrease in health satisfaction, however, is only significant at the 10% level.

Since Model III for men in Table 3.6 shows that satisfaction with household income has a larger effect on overall happiness ( $0.205 + 0.064 = 0.269$ ) than satisfaction with leisure time ( $0.087 - 0.017 = 0.070$ ), we may conclude that the decline is caused by low levels of satisfaction with household income, in particular. Figure B.1 in Appendix B shows how the four domain satisfactions of Jan change around the birth of his first child.

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How can we explain these declines in Jan's domain satisfactions? As his time use patterns do not change very much during these periods, it is unlikely that these will account for the observed decreased satisfaction with household income and leisure time. Furthermore, results from Table 3.4 show that the decreases in the two domains exist for all men in our first birth sample, even when changes in net household income and time use are accounted for. The decline in satisfaction with household income more likely seems to be due to the increased existing costs of children and increased expected future expenditures. These higher financial responsibilities may lead to a stronger orientation of fathers towards money and earnings, especially when their female partners have reduced their working hours.

As a large part of the decline in satisfaction with leisure time cannot be explained by increased time demands after the birth of the first child, the decline might be due to changes in how men's leisure time is structured and organized. After the birth of the first child, fathers' leisure time may become more fragmented and more dependent on time schedules of the household. Fathers may experience decreased autonomy in deciding how and when to spend their free time and there may be less time to spend by themselves. The low baseline levels of Jan's leisure satisfaction (-0.130) and the high baseline levels of income satisfaction (0.810) in Figure B.1 (Appendix B) are primarily due to the fact that Jan is married and has a full-time job.

For Hanka, Figure 3.8 shows an increase in happiness of 0.135 points during the reaction period. Results from Models I-1 to I-4 from Table 3.5 show that satisfaction with household income, leisure time, or health does not significantly change during this period when controlled for changes in time use and other life circumstances. Satisfaction with housing decreases slightly, but the effect is only significant at the 10% level. For Hanka, however, who changes her time use patterns considerably during the reaction period, domain satisfactions change a lot (see also Figure B.2 in Appendix B). While her overall happiness increases during the reaction period, Hanka's satisfaction with household income declines dramatically (0.650 points) and satisfaction with housing declines slightly (0.230 points). Although her satisfaction with leisure time and health rise (by 0.200 and 0.120 points, respectively) and this offsets the negative effect of income satisfaction to a certain extent, these cannot account fully for the net increase in Hanka's overall happiness. From Table 3.6 it becomes clear that satisfaction with leisure time only marginally contributes to women's

overall happiness: an increase of 1 point in leisure satisfaction, adds only 0.082 points to overall happiness during the reaction phase. Satisfaction with housing contributes even less to overall happiness: an increase of 1 point in satisfaction with housing increases overall happiness by 0.046 points. These results suggest that Hanka's happiness boost in the reaction period is a true *baby effect*. The decline in Hanka's income satisfaction and the concurrent increase in her leisure satisfaction in the period surrounding first childbirth as depicted in Figure 3.8 can be fully explained by the fact that Hanka stopped working during that time.

As shown in Figure 3.8, two years after the birth of the baby, Hanka's overall happiness drops below baseline level. Looking at the domain satisfactions in Figure B.2 in Appendix B, we see that satisfactions with household income and housing have declined compared to the baseline period, but not when compared to the reaction period. These results can be interpreted as an adaptation effect: during the reaction period, the decline in these domain satisfactions was offset by the birth of the baby as such (the baby effect), which caused a net overall increase in happiness. As Hanka adapted to the new situation after a while, the compensating *baby boost* faded away, causing the lower levels of satisfaction with household income and housing to lower her overall happiness levels. In addition, satisfaction with leisure time, which increased during the reaction period, shows a major decline during the adaptation period. To a lesser extent, this also holds for satisfaction with health. Model III for women in Table 3.6, however, shows that the effects of leisure satisfaction and health satisfaction on overall happiness are not large (0.082 and 0.079, respectively). The effect of satisfaction with household income on overall happiness is much larger (0.220).

On the basis of these results, we may conclude that the low levels of satisfaction with household income and housing, together with the decline in leisure satisfaction and satisfaction with health during the adaptation period, can at least partly explain the decreased overall happiness in this period.

Results from Table 3.5 show no changes in domain satisfactions during the adaptation period when time use patterns and other life circumstances are held constant. The exception to this is satisfaction with leisure time, which shows a decline of 0.348 points during the adaptation period regardless of changes in life circumstances. Hanka, however, has changed her time use patterns significantly during the adaptation period compared to the baseline period. These changes in time use fully account for the declines in her

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satisfaction with household income (0.540 points), housing (0.260 points), and health (0.060 points). She experienced, however, a much milder decline in satisfaction with leisure time because she reduced her working hours (0.200 points, compared to 0.348 points for women who did not reduce their working hours).

The results partially provide support for the set point hypothesis, but they also emphasize the role of objective life circumstances. The event of childbirth as such seems to make women extra happy in the years surrounding the event, regardless declines in satisfaction with household income and housing. The increase in satisfaction with leisure time and health can only marginally account for the increase in overall happiness during the reaction period since these domains only slightly contribute to overall happiness. The increase in happiness during the reaction period can be interpreted as an effect of the event of childbirth as such. The positive *baby effect*, however, disappears after two years. To a certain degree, this is due to processes of habituation and adaptation and holds for all mothers, regardless changes in their life circumstances. Changes in time use, however, may seriously affect happiness in this period. As we have seen in Hanka's case, decreased working hours have a large negative effect on overall happiness through women's satisfaction with household income. The small increase in satisfaction with leisure time that is caused by the reduction of working hours cannot significantly influence this negative effect. In addition, increased hours of childcare make happiness go down via decreased satisfaction with leisure time.

### **3.9 Conclusions and discussion**

In this chapter we investigated the dynamics of happiness around the birth of a first child. Using twenty-two waves of the German Socio-Economic Panel, we examined the mechanisms behind these dynamics. Our aim was to gain more insight into the conditions under which the birth of a first child brings parents happiness and under which conditions it brings them sorrows. In a first sub-study we investigated to what extent happiness changes before, during, and after the birth of a first child and to what extent these happiness dynamics can be explained by changes in parents' time use, which often accompany the birth of a first child. In a second sub-study we examined to what extent satisfaction with various domains of life changes around the birth of a first

child, and to what extent these changes in domain satisfaction can account for changes in parents' overall happiness.

Our results show that, in general, becoming a parent tends to raise one's happiness levels, but only for a short time. Almost immediately after the birth of the child, happiness levels tend to drop and both mothers and fathers become significantly less happy than they were before. They stay unhappy for a long period, at least until their first-born child is 7.5 (fathers) or 15 (mothers) years of age. Results reveal that these happiness dynamics are the net result of changes in objective life circumstances, changes in major life domains, and processes of adaptation and habituation. There are, however, important gender differences.

For (future) fathers, the increased happiness around the birth of their first child is not evoked by their new baby. Findings of the first sub-study indicate that this happiness boost is primarily due to transitions into cohabitation or marriage that precede the birth of the child and by the increase in household income and economies of scale which are the result of running a household together. The first sub-study also shows that the long lasting negative effect of children on their fathers' happiness which start to emerge two years after the birth of the child, cannot be explained by fathers' time use choices or an increased workload. Yet, evidence from the second sub-study reveals that becoming a father has negative consequences for *satisfaction* with their household income and leisure time, which significantly contribute to the observed decline in overall happiness. As satisfaction with income has a far larger impact on overall happiness than satisfaction with leisure time, in particular during the adaptation period, results imply that the decline in men's overall happiness after the birth of their first child can primarily be attributed to their lower levels of satisfaction with household income.

The decrease in men's satisfaction with household income and leisure time is only partly due to changes in their life conditions, such as time use or net household income. Once controlled for these changes, a considerable decline in satisfaction with household income and leisure time still persists. Most likely, fathers' decreased satisfaction with their household income is due to the increases demands of children on present and expected future expenditures which changes fathers' attitudes towards money and earnings, in particular when their female partner has scaled back her working hours. The decreased satisfaction with leisure time might be caused by greater restrictions in the organization and use of fathers' leisure time.

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For (future) fathers, our results contradict the prediction of *set point theory* that adaptation to all major life events will be complete after a few years. Support is found for the hypothesis that the lasting effects of the birth of the first child on happiness are due to changes in men's satisfaction with domains in life. These changes in domain satisfactions can only be explained for a small part by changes in objective life conditions, such as changes in household income and time use.

For (future) mothers, results from the first sub-study reveal that the happiness boost surrounding first childbirth is a true *baby effect*, but only for those who have a small part-time job or do not work for pay. Women who work more hours during the reaction period just stay as happy as they were before the birth of their child. Sub-study 1 also reveals that the changes in time use patterns that usually accompany the transition to motherhood explain why women generally become unhappier after the birth of their first child. Once controlled for these changes in time allocation, the decrease in mothers' happiness is still visible, but happiness no longer drops below baseline levels: two years after the birth women return to being just as happy as they were in their childless years. Adaptation to first childbirth seems almost complete for women. Only increased hours of childcare during the adaptation period can permanently increase women's happiness levels.

Results from Sub-study 2 are in line with this view. Becoming a mother as such has no effect on domain satisfactions once controlled for changes in objective life circumstances. Changes in these domain satisfactions that may occur after the birth of a child are completely attributable to changes in marital status, household income, and time allocation. The one exception to this is women's satisfaction with leisure time which declines during the adaptation period. Satisfaction with leisure time, however, only has a small effect on overall happiness during this period.

As Sub-study 2 shows, a decrease in working hours has a negative effect on happiness through diminishing satisfaction with one's household income and a positive effect on happiness through increased leisure satisfaction. Hours of childcare reduce happiness via diminishing leisure satisfaction. So while changes in domain satisfactions accounted for changes in happiness experienced by fathers, the changes mothers experience can be ascribed to changes in objective life circumstances.

Our results provide support for both the hypothesis of changing life circumstances and the *set point* hypothesis. Changes in time spent on work,

housework, and childcare have large effects on women's happiness patterns, both directly and indirectly, via satisfaction with household income and leisure time. In addition, once controlled for changes in time allocation, women's happiness levels eventually adapt to the event of first childbirth. This adaptation effect does not vary by women's time spent on paid work during the adaptation period. Time spent on childcare, however, can permanently positively affect mothers' happiness levels.

Our findings for (future) mothers are also partly in line with the gender identity hypothesis: before childbirth, working many hours makes women happy, but after childbirth the positive effect of full-time work no longer persists and the amount of work hours no longer affects overall happiness. Only working in large part-time jobs raises women's happiness during this period. Additionally, as Sub-study 1 points out, women seem to derive happiness from childcare during the adaptation period. Sub-study 2, on the contrary, shows that increased hours of childcare also have a negative effect on happiness via diminished satisfaction with leisure time.

In sum, there is evidence that men's happiness trajectories around the transition to parenthood can be explained by changes in domain satisfactions, especially by diminishing satisfaction with household income, which is a large predictor for overall happiness, and satisfaction with leisure time. Changes in time use patterns do not play a role for (future) fathers. Decreased satisfaction with household income and leisure time seem to account for the negative correlations between children and happiness for fathers, as is also often found in the literature. Women's happiness patterns, on the other hand, are partly explained by changes in time use and partly by processes of adaptation and habituation. In the year of pregnancy and childbirth, there is a happiness peak that is entirely due to the event of childbirth (*baby effect*), at least for non-working women and women with small part-time jobs. Decreased working hours are responsible for women's unhappiness in the long run, however. Once controlled for changes in time use, women's happiness levels still drop after the baby is born, but they revert to baseline levels. As women's time use patterns are likely to change dramatically after the birth of their first child (their working hours decline, their hours of housework and childcare increase), these seem to account for the negative correlations between having children and happiness for mothers as often found in the literature. These effects can be either directly, because of the negative effect of these changes on happiness, or indirectly

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because of the negative consequences of these changes on satisfaction with household income and leisure time.

There are several directions for future research. First of all, we focused on changes in absolute hours of work, housework, and childcare. We did not consider the division of labour between partners or couple effects. Yet, the interdependence between partners in time use choices and the division of labour suggests that this issue is worth of further study. Secondly, in this chapter we addressed satisfaction with four life domains: household income, leisure time, housing, and health. Due to data limitations, important domain satisfactions such as partner satisfaction or satisfaction with family or work could not be incorporated in the analysis. These domain satisfactions are likely to be strongly affected by the birth of a child and therefore deserve closer examination. Another area that requires attention is the impact of second and subsequent children. Finally, effects of stress and time pressure that are often connected with the increased workload and the combination of work and care after first childbirth might have a strong impact on parents' happiness trajectories. Future research should shed light on this issue and address to what extent experiences of time pressure might play a role in the relationship between changed time use, increased time constraints, and the dynamics of happiness around first childbirth.

## Appendix A

**Table A.1** Quadratic change trajectory predicting happiness around the birth of a first child (women and men)

	Women		Men	
	Estimate	SE	Estimate	SE
<b>Fixed effects</b>				
<b>Intercept (<math>t_0</math>)</b>	.621***	(.066)	.464***	(.067)
<b>Before</b>	.008	(.069)	.038	(.066)
<b>Before linear</b>	-.117***	(.024)	-.083***	(.021)
<b>Before quadratic</b>	.007***	(.002)	.005*	(.002)
<b>After</b>	-.268***	(.065)	-.221***	(.063)
<b>After linear</b>	-.028†	(.015)	-.040**	(.015)
<b>After quadratic</b>	.001	(.001)	.003**	(.001)
<b>Random effects</b>				
<i>Level 2 variances - between persons</i>				
<b>In intercept (<math>t_0</math>)</b>	.842***	(.057)	.946***	(.065)
<i>Level 1 variances - within persons</i>				
<b>Within-person</b>	1.691***	(.027)	1.497***	(.025)
<b>-2*loglikelihood</b>	28884.9		26483.0	
<i>n persons</i>	582		548	
<i>n person-years</i>	8238		7793	

Data source: German Socio-Economic Panel, 1984-2005

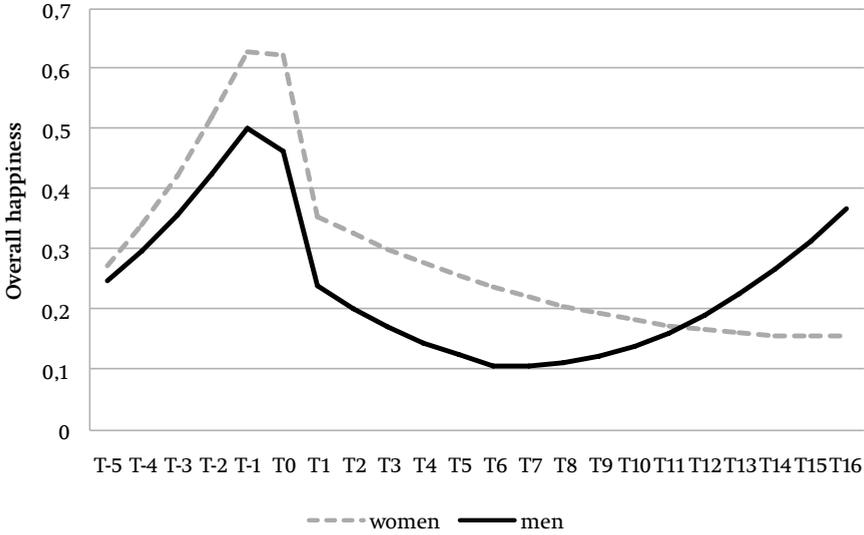
\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$

The quadratic change model contains seven parameters assessing the dynamics of happiness around the birth of a first child: an intercept, reflecting average happiness in the year of first child birth ( $t_0$ ); a *before* parameter, reflecting change in the year preceding child birth ( $t_{-1}$ ); an *after* parameter, reflecting change in the year immediately following child birth ( $t_{+1}$ ); and four parameters *before linear*, *before quadratic*, *after linear*, and *after quadratic*, reflecting linear and quadratic change in the periods that more than two years before and after first child birth ( $t_{-2}$  and before and  $t_{+2}$  and thereafter). The intercept is treated as randomly varying. All other parameters are treated as fixed.

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**Figure A.1** Quadratic change trajectory of happiness around the birth of a first child (women and men)

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Data source: German Socio-Economic Panel, 1984-2005

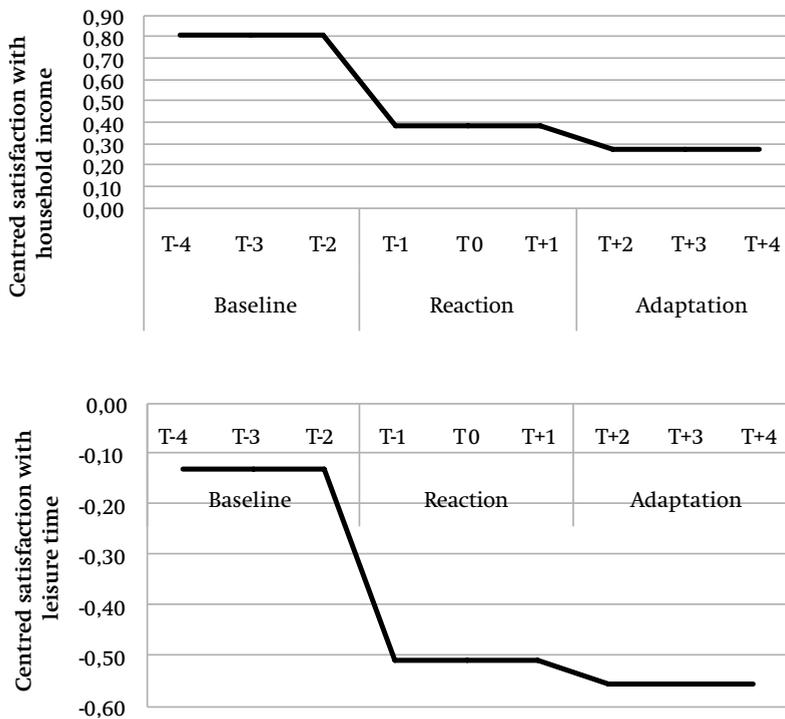
## Appendix B

Figure B.1 and Figure B.2 display the dynamics of the four domain satisfactions for men and women respectively. The trajectories are plotted for 'average' German men and women: those who are married, not in their honeymoon period, not disabled, who are of average age, have an average household income, were of average age and had an average education at the time their first child was born.

An average German man works full-time (36-45 hours per week) during the baseline, reaction, and adaptation period, spends 1.3 hours per day on housework and no time on childcare during the baseline period, 1.3 hours per weekday on housework and 1.3 hours on childcare during the reaction period, and 1.2 hours per weekday on housework and 1.5 hours on childcare in the adaptation period.

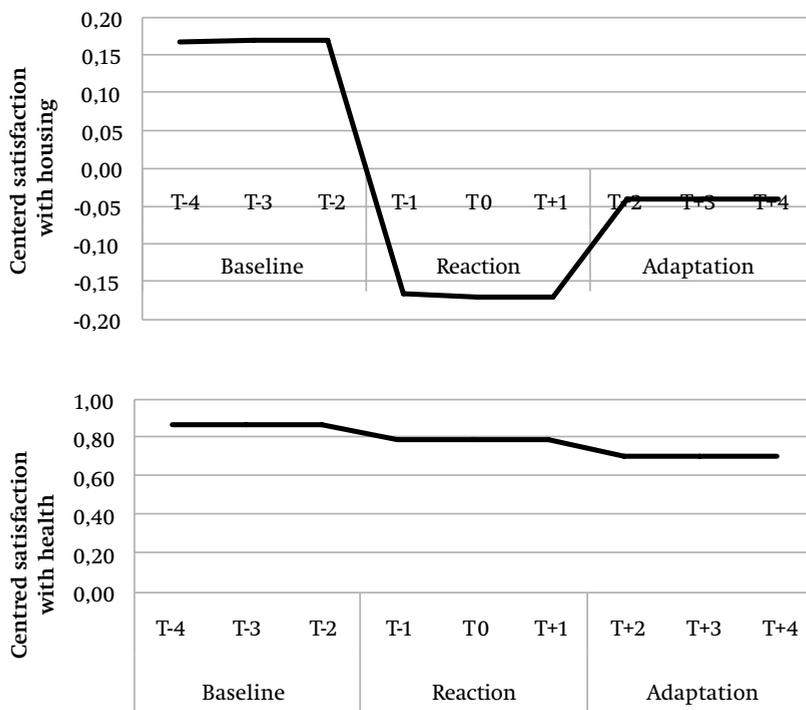
An average German woman works full-time during the baseline period and is non-employed during the reaction and adaptation period. She spends 2.3 hours per weekday on housework and no time on childcare during the baseline period, 4.2 hours per weekday on housework and 6.6 hours on childcare during the reaction period, and 4.6 hours per weekday on housework and 7.3 hours on childcare during the adaptation period.

**Figure B.1** Domain satisfactions around the birth of a first child – Men



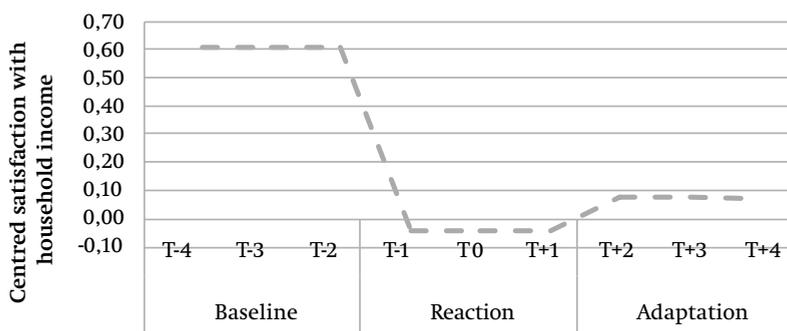
Data source: German Socio-Economic Panel, 1984-2005

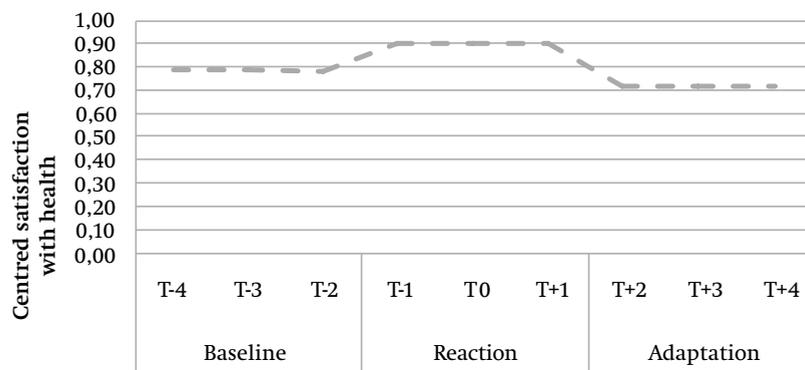
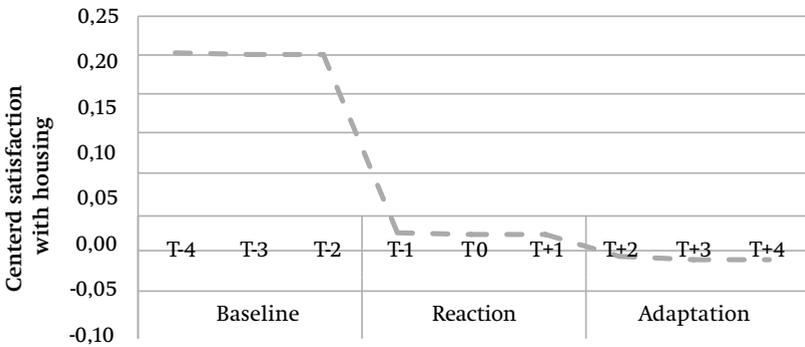
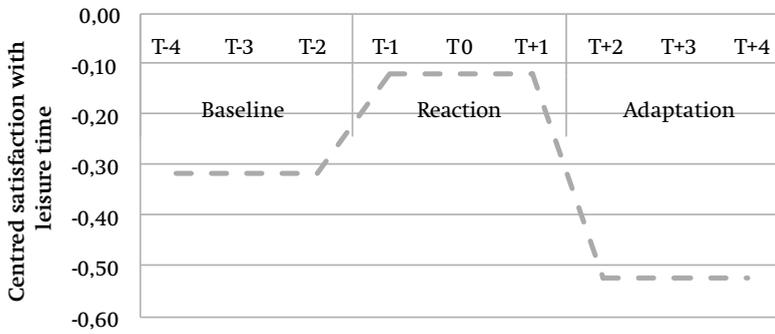
Figure B.1 Continued...



Data source: German Socio-Economic Panel, 1984-2005

Figure B.2 Domain satisfactions around the birth of a first child - Women





Data source: German Socio-Economic Panel, 1984-2005



# 4

## Income, working hours, and happiness\*

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*Economics Letters*, 99, 72-74  
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## Abstract

In empirical analyses, the effect of income on happiness tends to be underestimated by ignoring the fact that income has to be earned. Using the German Socio-Economic Panel, our analysis confirms this tendency. For men, the underestimation amounts to 25%.

*KEY WORDS: happiness; income*

## 4.1 The underestimated effect of income on happiness

The higher their income the happier people are. This may sound trivial, but it is not. From empirical analyses we know that, at least beyond a certain income level, any further increase in income makes little or no difference to overall happiness levels (e.g. Easterlin, 1974 and 1995; see for a recent survey Diener and Seligman, 2004). In all studies into the effect of income on happiness, researchers seem to forget that income reflects only the benefits side of the coin.<sup>16</sup> There is, however, also a cost side: the larger part of income is earned by working for pay. While income increases utility, working hours generally go along with disutility.<sup>17</sup> By including income in equations to explain happiness without also including working hours, the coefficient that belongs to income will reflect both the positive effect on happiness of the increased purchasing power and the negative effect of the working hours needed to earn the income. This implies that the effect one intends to measure, i.e. the purchasing power effect, tends to be underestimated.

## 4.2 An interaction model

In a family context, the underestimation mentioned will especially be relevant for the effect of one's own earned income. To test this refined hypothesis we split family income into two components, i.e. the incomes of each of both partners. Because the importance of the income of the partner in the increase of purchasing power will be less the larger one's own income is, we expect that the contribution of the income of the partner to one's happiness will be less the larger one's own income is. To test this cross-effect hypothesis we include the product of both partners' incomes as an interaction term in the analysis. We expect the coefficient of this interaction term to be negative.

<sup>16</sup> Exceptions are Lane (2000: 163), Frey and Stutzer (2002: 29), and Van Praag and Ferrer-i-Carbonell (2004, 82), who touch on the issue but do not discuss it systematically. The latter is done by Lane (1992), but only in a philosophical way, and by Booth and Van Ours (2005), but not with respect to the income effect corrected for the effect of working hours. Alesina, Glaeser, and Sacerdote (2005, esp. p. 60) include working hours, but exclude income. Those studies that do consider paid labour only take into account whether people have or don't have a paid job, with special attention to the effect of unemployment; see for a recent survey Argyle (1999, esp. pp. 362-364); see for a forerunner in the economic literature Moffit (1983) on the stigma effect of unemployment insurance benefits. In some cases working hours are included in analyses to explain job satisfaction (e.g. Van Praag and Ferrer-i-Carbonell, 2004, esp. p. 56), but even in this area it is not common practice (Warr, 1999).

<sup>17</sup> See for recent empirical evidence Layard (2005, 15).

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### 4.3 Data and method

The empirical analysis is based on the German Social-Economic Panel (GSOEP) (Haisken-De-New & Frick, 2005). We focus on a sub-sample of the 1999 wave consisting of 1,349 married and cohabiting couples of which both partners were between the ages of 18 and 65 and were not unemployed, disabled or retired. Happiness is measured using the Cantril (1965)-based question *How satisfied are you at present with your life, all things considered?* The response runs from 0 (completely dissatisfied) to 10 (completely satisfied). In our basic model we include income, age, own health, and health of the partner. In our extended model we also include working hours to test our central hypothesis. We use the log of net yearly labour income which allows for diminishing marginal utility of income. Health is measured using the question *How would you describe your current health?* The response runs from 1 (bad) to 5 (very good). Taking into account the health of the partner is rather exceptional in happiness research, but we think there is good reason to expect that one's partner's health also affects one's happiness, although to a lesser extent than one's own health. Working hours is the log of weekly paid working hours including overtime. The basic model and the extended model are estimated using ordered probit analysis. In order to compare coefficients across the models, the basic and extended models are estimated as a system of seemingly unrelated ordered probits. A Wald test is then used to test for the equality of coefficients. Separate estimations are carried out for women and men.

### 4.4 Results

The results of the empirical analysis are presented in Table 4.1. Columns (1) and (3) show that in the basic model happiness increases both with one's own income and with the income of the partner. The interaction effect is negative as expected, implying that the contribution of the income of the partner to one's happiness is less the larger one's own income is. Happiness increases with age. The healthier people are, the happier they prove to be. Women seem to take this somewhat more seriously than men. For women and men alike the impact of their own health on happiness is about 2.5 times as large as the impact of their partner's health.

Columns (2) and (4) show the results of the extended model, i.e. the model that includes working hours. Most of the conclusions of the basic model still hold, but the effect of age on the happiness of women and the effect of female income on the happiness of men are no longer significant. Working hours have the expected negative effect on happiness, but only in the case of men is the effect significant. The results confirm the hypothesis that the basic model tends to underestimate the effect of income on happiness, the underestimation being 12% in the case of women and 25% in the case of men. It can be inferred from the table that the underestimation is significant in the case of men, but not for women.

## 4.5 Conclusions

In this chapter we argue that next to a benefit side income also has a cost side: it has to be earned. Thus we conjecture that by leaving working hours out of the analysis the effect of income on happiness tends to be underestimated. An empirical analysis based on data of the German Socio-Economic Panel confirms this hypothesis. For men the underestimation is significant and amounts to 25%. Therefore, we stress the importance of including working hours in time-series and cross-section analyses that attempt to establish the effect of income on happiness.

### Acknowledgements

We would like to thank Adriaan Kalwij for his helpful comments and suggestions.

**Table 4.1** Ordered probit analysis to explain happiness: a household interaction model ( $n = 1,349$  couples)

Coefficients ordered probit analysis <sup>a</sup> (robust standard errors)								
	(1)	Women ( $n = 1,349$ ) (2)	Wald statistic <sup>b</sup> (3)	Men ( $n = 1,349$ ) (4)	Wald statistic <sup>b</sup>			
<b>Income</b>								
Log net yearly income, woman (DM)	.468**	(.176)	.525**	(.180)	1.87	.420* (.184)	.365 (.186)	3.90*
Log net yearly income, man (DM)	.474**	(.166)	.481**	(.165)	0.83	.413* (.174)	.517** (.179)	6.04*
Log net yearly income woman x log net yearly income man	-.044**	(.016)	-.045**	(.016)	1.27	-.040* (.017)	-.035* (.017)	4.18*
<b>Age</b>								
Log age, woman	.256*	(.120)	.227	(.123)	1.88			
Log age, man						.370** (.131)	.289* (.132)	6.68**
<b>Health</b>								
Health, woman	.516**	(.041)	.515**	(.041)	0.45	.192** (.037)	.185** (.037)	3.95*
Health, man	.186**	(.038)	.187**	(.038)	0.06	.484** (.042)	.485** (.042)	0.02
<b>Working hours</b>								
Log weekly working hours, woman			-.132	(.094)				
Log weekly working hours, man							-.481** (.172)	
<b>Cut points<sup>c</sup></b>								
Cut point 1	4.767	(1.876)	4.730	(1.870)				
Cut point 2	5.209	(1.834)	5.174	(1.827)		4.744 (2.028)	3.709 (2.068)	
Cut point 3	5.698	(1.833)	5.666	(1.826)		5.481 (1.944)	4.450 (1.984)	
Cut point 4	6.218	(1.831)	6.189	(1.825)		5.996 (1.940)	4.965 (1.981)	
Cut point 5	6.603	(1.833)	6.574	(1.826)		6.283 (1.939)	5.252 (1.980)	

Table 4.1 Continued...

Coefficients ordered probit analysis <sup>a</sup> (robust standard errors)					
	(1)	Women (n = 1,349) (2)	Wald statistic <sup>b</sup> (3)	Men (n = 1,349) (4)	Wald statistic <sup>b</sup>
Cut point 6	7.247	(1.833) 7.217	(1.826) 6.906	(1.937) 5.877	(1.977)
Cut point 7	7.682	(1.835) 7.652	(1.828) 7.377	(1.939) 6.352	(1.979)
Cut point 8	8.436	(1.837) 8.407	(1.830) 8.126	(1.941) 7.107	(1.980)
Cut point 9	9.516	(1.841) 9.489	(1.834) 9.342	(1.945) 8.330	(1.983)
Cut point 10	10.311	(1.849) 10.284	(1.842) 10.144	(1.952) 9.133	(1.989)
Likelihood ratio chi <sup>2</sup>	274.58	276.97	230.56	244.21	
Difference likelihood ratio chi <sup>2</sup>		2.08		13.65**	
Loglikelihood	-2251.31	-2250.11	-2191.98	-2185.16	

<sup>a</sup> The ordered probit analyses are conducted using seemingly unrelated estimation. Initially, the basic model and the extended model are estimated independently. Subsequently, the estimation results are combined into a single parameter-vector and simultaneous variance-covariance matrix. Standard errors are robust (StataCorp, 2003). The Goodness-of-fit statistics are calculated on the basis of the independent ordered probit estimations and therefore tend to underestimate the fit of the final system of seemingly unrelated ordered probits.

<sup>b</sup> A Wald Chi-square test statistic is used for testing the equality of coefficient estimates between the basic model and the extended model.

<sup>c</sup> For men, no observations were found in response category '1' of the dependent variable; as a result, only 9 cut points were calculated. In Models 3 and 4, 'cut point 2' is reflecting the threshold between response categories '0' and '2'.

\*\* p < 0.01; \* p < 0.05



# 5

**Time allocation, time pressure,  
and happiness: Work makes people happy,  
time pressure doesn't**

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## Abstract

Paid work and household work are often regarded as activities necessary to fulfil needs and to pursue valued goals. The activities themselves are usually said to go along with disutility. Given this view, one may expect time spent on paid work and household work to have consequences for people's subjective well-being. In this chapter, we study the effects of time spent on paid work and household work on happiness. Using data collected in 2003 on 762 Dutch employees, we examine how variations in happiness can be explained by variations in time allocation decisions and to what extent time pressure mediates this relationship. We find that paid work and household work make people happy. The time pressure that is connected with it, however, does not. Compared to household work, paid work produces somewhat more time pressure. Both activities, however, equally contribute to happiness if controlled for time pressure. Our findings support a mediating model in which time pressure suppresses the influence of employees' time spent on paid work and household work on happiness.

*KEY WORDS: happiness, household work, labour supply, time allocation, time pressure.*

## 5.1 Introduction

Both paid work and household work are generally regarded as activities that are employed with a view to fulfilling needs and pursuing valued goals (Warr, 1999). The activities themselves are often said to go along with disutility, household work even more so than paid work (Robinson & Spitze, 1992). Given this view, one may expect time spent on paid work and household work to have consequences for people's subjective well-being. Whereas a considerable amount of research has examined the negative physical and psychological consequences of people's time allocation decisions, including mental illness and depression (Bird, 1999; Glass & Fujimoto, 1994; Oomens, 2005), marital conflict (Kluwer & Mikula, 2002), work-family interference (Voydanoff, 2004), and stress (Hamermesh and Lee, 2007; Mattingly & Sayer, 2006; Moens, 2006; Southerton & Tomlinson, 2005), few have studied the effects of time allocation on happiness. Exceptions are Golden and Wiens-Tuers (2006), who have explored the effect of overtime on happiness, Booth and Van Ours (2009) and Van Rijswijk, Bekker, Rutte, and Croon (2004), who have looked into the effects of part-time work on happiness, and Eriksson, Rice, and Goodin. (2007), who have examined how happiness is affected by 'discretionary time', that is the amount of time that is left after spending the strictly necessary amount of time on paid work, household work, and personal care.

Apart from the negative consequences for well-being, time spent on paid work and household work may also have positive effects. We argue in this book that paid work and household work can be rewarding in itself, and that time spent on paid work and household work may be a source of happiness (see Jevons (1871/1970), Lane (1992), Marshall (1890/1972), and Spencer (2004) for reflections on intrinsic rewards from paid work). On the one hand, time spent on obligations, such as paid work and household work, can have negative consequences for one's happiness in that it restricts one's leisure time and autonomy. Time spent on such compulsory activities cannot be spent on other things and may therefore enhance experiences of having too little time to complete all necessary or desired tasks. These feelings of time pressure are, in turn, likely to reduce happiness. On the other hand, time spent on a paid job and household work may also increase happiness. Having a job tends to enhance one's self esteem, social status and social relations. Similarly, running a household and caring for children enables individuals to create a nice home and it may increase feelings of affection.

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In the present study we examine how time spent on paid work and household work affects individual happiness and to what extent experiences of time pressure might play a role in this relationship. We use path analysis to examine the relationship between time allocation, time pressure, and happiness. Our path model is tested on a sample of 762 female and male employees from the Dutch 2003 Time Competition Survey (Glebbeek & Van der Lippe, 2004; Van der Lippe & Glebbeek, 2003).

The outline of the chapter is as follows. Section 5.2 starts with a theoretical overview of the causes and consequences of time allocation decisions. It first provides an overview of standard time allocation theory, focusing primarily on the determinants of time allocation. The section then reviews the empirical literature on the consequences of time allocation decisions for time pressure and happiness. Section 5.3 gives an outline of our path model and our analysis plan, followed by a description of data and measures. Section 5.4 presents the results of the empirical analyses. Finally, section 5.5 provides a summary of the main conclusions.

## **5.2 Time allocation, time pressure, and happiness**

### **5.2.1 Time allocation**

Time is a limited resource that constrains the number of activities we can carry out. We basically have 24 hours per day to allocate to basically four life domains: paid work, household work, leisure, and sleep and personal care. Choosing to spend one hour in one domain means giving up an hour in another domain.

Standard time allocation theory assumes that the choices employees make between spending an hour in the labour market and spending an hour on unpaid activities (be it leisure or household work) depend on their wage rate (see e.g. Cahuc & Zylberberg, 2004, pp. 9-11). A rise in the wage rate will have two effects on time allocation: a substitution effect and an income effect. This results from the fact that a change in the wage rate implies a change in the price of unpaid time compared to the prices of other goods. If the wage rate increases, unpaid time becomes relatively more expensive. This induces one to buy less unpaid time (i.e. to increase one's supply of paid labour). The substitution effect on labour supply of a change in the wage rate will always be positive. The income effect of a change in the wage rate results from the fact that, as such, it changes one's income. Therefore, when the wage rate increases, one will buy

more of every normal good. If unpaid time is a normal good as is generally assumed, one will buy more unpaid time and, therefore, decrease one's labour supply. The net effect of the positive substitution effect and the presumed negative income effect cannot be predicted but is a matter of empirical research.

In his theory of comparative advantage, Becker (1981, 1991) has explained that individual time allocation decisions are made within the context of household and family and that couples jointly try to maximize their household output and utility, given constraints of time and income. Both partners will specialize in the task in which they have a comparative advantage. The theory predicts that the higher a person's wage rate compared to the wage rate of the other partner, the more time this person will spend on paid work, and, consequently, the more time the other partner will spend on household work. Subsequently, when people are living together with a partner, their labour supply decisions do not only depend on their own wage rate, but on the wage rate of their partner as well. Empirical findings are fairly consistent and support this perspective: partnered women tend to spend more hours in paid work and fewer hours in household work as their earnings or wage rates increase relative to their partner's (Brines, 1994; Greenstein, 2000; Presser, 1994; Van der Lippe & Siegers, 1994).

Another theoretical perspective explaining time allocation decisions focuses on the influence of gender ideology. Early gender ideology approaches have stated that people internalize ideas and expectations about gender roles during childhood socialisation and that these ideas remain fixed over the life course. Later work adopts a constructivist approach and views gender as a social product (Poggio, 2006). In this view, gender is dynamic and depends on the social context. In interaction with the social environment, people tend to actively create differences between women and men that are not innate or biological. These differences are subsequently used to reinforce values and beliefs about appropriate 'feminine' and 'masculine' behaviour. People are 'doing' gender as they try to act in line with this appropriate behaviour (Poggio, 2006; South & Spitze, 1994; West & Zimmerman, 1987).

Following this perspective, time allocation decisions are the result of such gender production processes. Men and women who have more conventional norms regarding gender roles will also have more conventional patterns of time allocation. These men will spend more time in paid work while women with such conventional norms will spend more time in household work to

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emphasize their gender roles (see a.o. Bianchi, Milkie, Sayer, & Robinson, 2000; Bittman et al., 2003; Greenstein, 1996). Men and women with more egalitarian gender norms will feel less need to 'do gender' through time allocation decisions and will allocate their time to paid work and household work more equally.

Empirical evidence regarding this view is mixed. Some studies support the expected effects of men's and women's gender norms on time allocation (Presser, 1994; Van der Lippe & Siegers, 1994). Others report no effect of women's gender ideology (Ross, 1987) or find that gender ideology affects the division of childcare tasks, but not the division of household tasks (Jansen & Liefbroer, 2006) or the division of traditionally masculine chores (Kroska, 2004).

Time allocation decisions not only rely on norms or on resources of individuals and their partners: workplace and family demands determine the amount of work that has to be done either at work or at home, thus affecting time allocation decisions. The presence of children in the household increases the demand for time and money in the home. Within coupled households, where women generally have lower wage rates than their male partners, it is expected that partnered women provide for the increased time costs and partnered men for the increased monetary costs. When children grow older, the time costs are likely to decrease while the monetary costs tend to increase. Consequently, the expected negative effect of the presence of children on the woman's time spent on paid work will be larger when children are young and the expected positive effect on the man's time in paid work will be larger when children are older.

In general, empirical results confirm these expectations to a large extent. Most research shows that, due to the increased time demands, the presence of children in the household increases both women's and men's hours spent on household work, especially when children are young. However, the increase is more substantial for women than for men (Greenstein, 1996; Presser, 1994; South & Spitze, 1994; Van der Lippe & Siegers, 1994). Additionally, the presence of children positively affects men's time in paid work while women tend to spend fewer hours on paid work (Van der Lippe & Siegers, 1994; Coltrane, 2000).

Demands and expectations from the workplace affect time allocation decisions as well. 'Greedy' employers will place higher demands on the time and energy brought in by their employees, which may have consequences for

the employee's time devoted to work and family. Organizational research has pointed out that strong employer demands make it more rewarding for employees to work longer hours. When employers claim a high work engagement, employees can achieve social approval and better career opportunities, reducing disapproval and the risk of being dismissed by conforming to these demands. One way to conform to high work demands and show a high work commitment is to work longer hours. Therefore, we expect that the stronger employer demands are, the more time employees will spend on paid work.

### 5.2.2 Time pressure

Time pressure exists when people experience strain or tension as a result of feeling that they have insufficient time to get all their tasks and activities done (cf. Hamermesh & Lee, 2007, p. 374). Workload, or the volume of time that is required for obligatory activities, is regarded as one of the main determinants of time pressure (Hamermesh & Lee, 2007; Mattingly & Sayer, 2006; Moens, 2006; Peters & Raaijmakers, 1999; Southerton & Tomlinson, 2005).<sup>18</sup> Following standard time allocation theory (Becker, 1965), time spent on paid work, household duties, and childcare reduces the leisure time that is available for other activities, such as relaxation and recovery, time spent with friends, or consumption. Higher time constraints may enhance the feeling of having insufficient time to accomplish all necessary or desired tasks. Furthermore, lower amounts of leisure time may make people less flexible in their time allocation decisions and may reduce the buffer for unforeseen events and unexpected demands from employers (e.g. to work overtime) or family members (e.g. to care for a sick child at home).

We expect no differences in the size of the effect of time spent on paid work and the effect of time spent on household work on time pressure.

<sup>18</sup> Other determinants of time pressure are: coordination and allocation problems (Moens, 2006; Southerton & Tomlinson, 2005) and income (Hamermesh & Lee, 2007). These problems refer to difficulties in managing and distributing time and activities during the day. The more problems people have in coordinating and allocating time, the more time pressure they will experience. Examples of mechanisms and strategies that are related to the coordination and allocation of time and activities are: flexible working hours and schedules, the degree of omnivorousness in different activities, the division of tasks at home, household rules, the density of tasks and the degree of multi-tasking, the amount of interruptions between tasks, and the level of fragmented time (Moens, 2006; Southerton & Tomlinson, 2005). People with higher incomes will experience higher time pressure when they feel that they have too much money given the time they have available to combine with their income (Hamermesh & Lee, 2007, p. 382).

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### 5.2.3 Happiness

Together with income and good health, work and family are critical to happiness (Layard, 2005). Unemployed and non-participating people are much unhappier than the employed (Argyle, 1999; Clark & Oswald, 1994; Winkelmann & Winkelmann, 1998;), people who are living together with a partner (married or cohabiting) are happier than singles, widowers, or divorcees (Blanchflower & Oswald, 2004; Myers, 1999; Waite & Gallagher, 2000), and, as we have seen in Chapter 3, the birth of the first child increases the happiness of non-working women and women with a part-time job until one year after the event, but decreases happiness levels of many parents afterwards as a result of reduced working hours (mothers) and diminishing satisfaction with household income and leisure time (fathers) that accompany the birth of the child.

Jobs and family, however, take up time. These time dimensions have not received much attention in happiness research (Merz, 2002). Nevertheless, time spent on paid work and household work is usually associated with negative well-being outcomes. In several recent studies, for example, researchers posit that many people would become happier if they would reduce paid working hours and had more leisure time (see for example Binswanger, 2006). Time pressure seems to play a crucial role in the reasoning behind this claim: spending less time in paid work will reduce time pressure, and less time pressure will increase happiness.

The few studies that do explicitly link time with happiness mostly examine the consequences of working part-time and full-time in terms of happiness (as we have also discussed in chapter 3). Booth and Van Ours (2009) found for Australia that working full-time reduces women's life satisfaction, in particular when they are working more than 40 hours per week. Working full-time, however, increases men's life satisfaction, especially when they are spending 35 to 50 hours per week on paid work. In a study on the well-being of employed mothers in the Netherlands, Van Rijswijk et al. (2004) added work-family interference as a mediating variable to the analysis. The results showed that part-time work is related to lower levels of work-to-family interference (i.e. problems at home because work is demanding) and that work-to-family interference mediates the relationship between part-time work and happiness. No effect was found in terms of part-time work on family-to-work interference (i.e. problems with performing at work because the family is demanding) and family-to-work interference also did not act as a mediator between part-time work and happiness.

Furthermore, there is some evidence regarding the relationship between working overtime and happiness. For the U.S., Golden and Wiens-Tuers (2006) have analysed the effects of working overtime on a series of well-being outcomes, including good health, stress, work-family interference, and happiness. They found that working overtime increases good health, but also adds to stress and work-family imbalance. No direct effects were found on happiness. The authors conclude that the extra income that is generated by working overtime enables employees to buy better health, but that in their analysis the additional income and better health fail to bring extra happiness. As an explanation of this unexpected finding, Golden and Wiens-Tuers presume that there must be “offsetting factors at work”. They argue that the increased stress and work-family imbalance is likely to negate the positive well-being effects of additional income and health, especially when overtime is required (Golden & Wiens-Tuers, 2006, p. 393). This assumption, however, remains untested.

We are not aware of any studies that examine how time spent on *household work* affects happiness. The only study we are aware of that discusses a related issue is that by Robinson and Spitze (1992), in which they address the number of household tasks relative to marital satisfaction. Men’s marital satisfaction proved to decrease with the amount of tasks; for women no effects were found.

Eriksson, Rice, and Goodin (2007) have focused on another temporal aspect of happiness: the amounts of ‘discretionary time’ people have. Discretionary time is the amount of time that remains besides the time that is strictly necessary for unavoidable activities of paid work, household work, and personal care (Goodin, Rice, Bittman, & Saunders, 2005; Eriksson, Rice, & Goodin, 2007). Much of the time people *actually* spend on paid work, household work, and personal care, they argue, is over and above the amount they strictly *need* to spend on these activities. People might choose to spend more time than strictly necessary on paid work, household work, and personal care because they prefer a higher income, a cleaner house, or because they enjoy sleeping longer. All hours above the threshold of necessity, however, are people’s own choice (Eriksson, Rice, & Goodin, 2007, p. 512). Using data of the GSOEP, the authors have found that people are happier the more discretionary time they have, regardless of the amount of spare time they *actually* have. Their measure of discretionary time, however, is somewhat problematic as the variation in discretionary time is almost completely due to variation in wage

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rate and other household income.<sup>19</sup>

The results of the above studies provide a good background for our analysis. In our study, we will examine the effects of actual weekly working hours and weekly hours of household work on happiness simultaneously in one analysis. We will try to disentangle the direct effects of time spent on paid work and household work from the indirect effect they have via their effects on time pressure. We expect that time spent on paid work as well as time spent on household work will increase time pressure and that time pressure will reduce happiness.

Once controlled for time pressure, we expect that time spent on paid work and household work have independent direct effects on well-being. Apart from gaining income, having a job is beneficial because it increases one's self-esteem and social status. Paid work offers opportunities to develop social relationships and it stimulates the utilization of knowledge, skills, and abilities. Additionally, working long hours often enhances social approval at work. Therefore, we predict a positive direct effect of paid working hours on happiness. As far as household work is concerned, time spent on running a household and caring for children enables individuals to create a nice home and provides comfort. It renders feelings of affection and emotional support. We expect that time spent on household work increases happiness.

Compared to paid work, however, household work is commonly regarded as less pleasant. Household work is seen as more routinised and monotonous work with lower status than paid work. It is generally assumed that people prefer spending less time doing it and that the person with most power (i.e. highest earnings) in the household will try to negotiate the household work away (Kluwer & Mikula, 2002; Robinson & Spitze, 1992; Ross, 1987). Therefore, we expect that the direct positive effect of paid work on happiness will be somewhat larger than the direct effect of household work.

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<sup>19</sup> 'Discretionary time' is operationalized as 168 hours/week minus the strictly necessary time spend on paid work, household work and personal care per week (Goodin et al., 2005; Eriksson, Rice, & Goodin, 2007). The 'strictly necessary amount of time needed for household work' is defined as half the median equivalent of household work done by households across the country as a whole. Similarly, the 'strictly necessary amount of time needed for personal care' is defined as the mean minus one standard deviation in the amount of time people spend on personal care across the country as a whole. Thus, the strictly necessary time needed for household work and personal care has the same value for all people in the country. Variation is only found in the 'strictly necessary amount of time needed for paid labour', which is a function of the country's poverty-level income, a person's wage rate, his other household income, and his traveling time to work.

## 5.3 Data and method

### 5.3.1 Data

We use data from the *Time Competition Survey 2003*, a multi-stage sample of 1114 Dutch employees from 30 Dutch organizations (Van der Lippe & Glebbeek, 2003). The survey examines the causes and consequences of the growing competing time claims from the spheres of paid work and the household. Employees and employers were interviewed. The management of the organization was asked to complete written questionnaires about their organization's basic characteristics and management structures. Within each organization, employees were approached with a request to participate. If employees were living together with a partner (married or cohabiting), the partner was asked to take part in the survey as well. If the partner refused, the employee was not interviewed either. Upon their approval, employees and their partners, if any, took part in a standardized face-to-face interview and completed a written questionnaire. They were interviewed in their home, simultaneously as well as separately. The overall response rate was 28%.<sup>20</sup>

We base our analyses on a sub-sample of 762 employees aged 18 to 64 who had no missing values for the relevant variables. Of the employees 361 are female. Almost 44% of the employees are married or cohabiting and have children aged 18 or younger living at home, about one third are married or cohabiting with no children living at home, 2% are single parents with children living at home, and 22% are single with no children living at home. Of the employees who are living together with a partner, the majority are double income-earners (86%).

### 5.3.2 Analytic strategy

To establish the possible direct and indirect relationships between time allocation, time pressure, and happiness, we use path analysis. Our path model consists of a series of four regression equations. The first two equations predict *hours of paid work*

<sup>20</sup> Within the 30 organizations, 3970 employees were contacted at their workplace by telephone. 1543 of them were willing to participate (39%). However, 429 of these employees dropped out at a later stage of the process because their partners refused to participate. As far as we know, precise information about response rates of surveys with a similar design and sample is not available. In the Netherlands, the average response rate for written questionnaires for employees within organizations is about 40%. The response rate for face-to-face interviews of couples and singles in households ranges between 25% and 45% (Kalmijn, Bernasco & Weesie, 1999. See also: Van der Lippe & Glebbeek, 2003). Taking into account the multiple stage and multiple actor character of the design, with two actors who had to agree with participation per household and therefore with various opportunities for respondents to withdraw, a response rate of 28% seems acceptable (Van der Lippe & Glebbeek, 2003).

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and *hours of household work* from wage rate, gender ideology, family demands, employer demands, and interactions between gender and family and employer demands. The third equation predicts *time pressure* from hours of paid work and hours of household work. The fourth equation predicts *happiness* from hours of paid work, hours of household work, having a partner, health, income, and time pressure. In all equations, individual characteristics are controlled for. To test whether time pressure mediates the effect of time allocation on happiness, the fourth equation is estimated twice. Firstly, the effects of time spent on paid work and household work on happiness are analysed without controlling for time pressure. Secondly, time pressure is included into the equation.

The regression equations are estimated separately applying ordinary least squares regression analysis (OLS). Standard errors are adjusted for the clustering of employees in organizations (Statacorp, 2003, pp. 336-341).

### 5.3.3 Dependent variables

*Hours of paid work* are measured by the actual number of hours per week employees usually spend at their paid job. Actual weekly working hours include overtime and hours spent on a second job, if any, but not travelling time. The total number of *hours spent on household work* is obtained by summing the employee's weekly hours spent on nine household tasks: shopping, cooking, tidying up the house, cleaning, laundry, administrative tasks, garden work and repairs, childcare, and other child-related activities such as reading to and playing with children. Respondents with extremely high values on the items measuring time use were removed from the analysis.

*Time pressure* is measured on a 7-item scale that is based on Garhammer's index of time pressure (Garhammer, 2002). The scale is based on items such as 'I am under time pressure' and 'I cannot deal with important things properly due to lack of time'. Answering categories ranged from 1 *totally disagree* to 5 *totally agree*. The mean scores of the items were taken to compute the time pressure scale (Cronbach's  $\alpha = .73$ ). Higher scores indicate higher feelings of time pressure.

Originally, Garhammer's time pressure index consists of 10 items. For our analysis, however, we have removed two items that explicitly connect feelings of time pressure with health ('I cannot recover properly from illnesses due to lack of time' and 'I am under so much time pressure that my health suffers'). We will add 'health' as a separate measure in our analysis. A third item ('I am stuck to a timetable') was left out of our time pressure scale because it measures schedule flexibility rather than time pressure.

*Happiness* is assessed by the question ‘During the past 4 weeks, how often did you feel happy?’ Responses were measured on a 1-to-6 scale, ranging from 1 *never* to 6 *continuously*.

#### 5.3.4 Independent variables

The *employee’s net wage rate* per hour is calculated on the basis of the employee’s net monthly income in Euros and the average number of actual weekly working hours, including overtime and its compensation. For respondents who provided incomplete data on one or more of the relevant income variables we imputed a potential wage rate on the basis of a wage equation for individuals for whom all relevant information was present. For consistency reasons, an imputed wage rate has been used for all respondents. The wage equations were estimated separately for female employees and male employees.

The *partner’s net wage rate* per hour is calculated in a similar way and then coded into three dummy variables, including *above median net hourly wage rate*, *below median net hourly wage rate*, and *no partner present*. Computations were performed separately for female and male partners. *No partner present* is used as reference category.

Three items were used to construct a scale of *gender ideology*. Respondents were asked how much they agreed with the following three items: ‘A woman is more capable of raising young children than a man,’ ‘It is most natural when the husband is the breadwinner and the wife takes care of the household and the children,’ and ‘At work, it is unnatural for a woman to be in charge of men’. Answering categories ranged from 1 *totally agree* to 5 *totally disagree*. The mean scores of the three items were taken to compute the gender ideology scale (Cronbach’s  $\alpha = .67$ ). Higher scores indicate a more egalitarian gender ideology. Family demands are assessed with three dummy variables capturing the *presence of children of different age*: one dummy for children under the age of four (preschoolers), one for children aged four through twelve (schoolchildren), and one for children aged thirteen through eighteen (adolescents). The dummy variables were coded 1 if one or more children in the relevant age range were present in the household and 0 otherwise.

*Cumulative employer demands* are measured on an index scale ranging from 0 through 4, with 4 indicating the strongest employer demands. The index scale is computed by summing the employee’s scores on four dichotomous measures: whether the organization is a for-profit organization (as answered by the management); whether the employee’s job is characterized by a high-performance

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culture (as answered by the management); whether the employee's job is frequently confronted with targets and deadlines (as answered by the management); and whether the employee has a supervisory position (as answered by the employee). An employee with a score of 4 on the index meets all four factors of employer demands. An employee with a score of 0 on the index meets none of the factors of employer demands.

*Health* is the average response on the following two items (Cronbach's  $\alpha = .69$ ): "Compared with other people your age, how good would you say your health is?" (1 *much worse* to 5 *much better*) and "Are you restricted in your daily activities due to health problems?" (1 *strongly limited* to 4 *not limited*). Because the items were non-parallel and had different ranges, the items were first standardized and then averaged. High scores indicate good health.

*Total household earnings* are measured by summing the net yearly income from labour of the employee and their possible partner in Euros.<sup>21</sup> Their personal net yearly income from labour was computed by multiplying their actual weekly working hours by their net hourly wage rate. To allow for the diminishing marginal utility of income, we use the log of total household earnings.

*Living together with a partner* is a dummy variable coded 1 *living together with a partner* and 0 *not living together with a partner*.

To account for the fact that the effects of time greedy demands of work and family on time use differ for women and men, interaction terms of demands and gender are computed.

### 5.3.5 Control variables

As control variables we include measures of age and gender. *Age* is a continuous variable measured in years. *Gender* is coded 0 *female* and 1 *male*. In the regression equations estimating happiness, the *log of family size* is added in order to correct the effect of income for possible economies of scale within the household (see also Schwarze, 2003; 2004). Family size is the total number of adults and children sharing the same household.

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<sup>21</sup> Since our sample is restricted to employees, in every household at least one of the adults is in paid employment. Therefore, we may assume that the difference between 'income' and 'earnings' will be not be very substantial (See also: Hamermesh & Lee, 2007).

## 5.4 Results

### 5.4.1 Descriptive statistics

Table 5.1 presents means and standard deviations of the variables in the analyses for all employees and for female and male employees separately. Employees report that on average they spend about 37 hours per week on paid work and almost 25 hours on household work. In line with prior research, female employees and male employees differ with regard to their time use. Female employees spend fewer hours on paid work and more hours on household work. The total weekly workload, however, is about the same for female and male employees (61 hours). Measured on a 5-point scale, the average time pressure reported by the employees is 2.24, implying that in general employees do not feel very pressed for time. Overall, 40% of the employees report that they have few or no feelings of time pressure. The employees' average level of happiness is quite high: 4.3 on a 6-point scale. Almost 48% of the employees report that they were happy 'most of the time' or 'continuously' over the last four weeks. There are no differences between women and men in average levels of time pressure and happiness.

By and large employees enjoy their jobs, their household chores, and care tasks (not included in the table). About half of the employees report that they always or almost always enjoy their job. Their average level of work enjoyment is 5.3 on a scale of 1 (never enjoys job) to 7 (always enjoys job). As far as household work is concerned, employees like cooking, doing repairs, and caring for children. Almost 55% of the women and men believe cooking is enjoyable or very enjoyable. Men enjoy doing repairs more than women: 57% of the men consider doing repairs enjoyable or very enjoyable versus 29% of the women. Almost all parents report they like caring for children very much. Almost three quarters of the fathers and 90% of the mothers feel that childcare tasks are enjoyable or very enjoyable. Cleaning, on the contrary, is far less popular. Only 15% of the employees enjoy cleaning tasks. No differences are found between men and women in this respect. A quarter of the time spent on all household chores and childcare tasks consists of cleaning tasks.

### 5.4.2 Time allocation, time pressure, and happiness

The results of the regression models are shown in Table 5.2. The table shows both unstandardized and path coefficients (i.e. standardized regression coefficients). Apart from the direct effects in Table 5.2, we distinguish a number

**Table 5.1** Descriptive statistics for the variables in the analysis for all employees (n = 762) and for female (n = 361) and male (n = 401) employees separately

	All employees		Female employees		Male employees	
	Mean	SD	Mean	SD	Mean	SD
Actual weekly working hours	36.78	8.32	32.18***	8.32	40.93	5.76
Weekly hours household work	24.69	14.41	29.25***	16.01	20.58	11.33
Time pressure	2.24	0.54	2.24	0.55	2.24	0.54
Happiness	4.31	0.91	4.26	0.92	4.36	0.90
Net hourly wage rate (Euros)	15.88	2.44	14.74***	1.77	16.90	2.50
Partner has below median net hourly wage rate (1 = yes)	0.38	0.49	0.35	0.48	0.41	0.49
Partner has above median net hourly wage rate (1 = yes)	0.38	0.48	0.34*	0.47	0.41	0.49
Gender ideology	3.95	0.67	4.09***	0.62	3.83	0.68
Child aged 0-3 in household (preschooler) (1 = yes)	0.17	0.38	0.13**	0.34	0.21	0.41
Child aged 4-12 in household (schoolchild) (1 = yes)	0.28	0.45	0.25*	0.43	0.32	0.47
Child aged 13-18 in household (adolescent) (1 = yes)	0.15	0.35	0.13	0.34	0.16	0.36
Cumulative employer demands	1.67	1.20	1.32***	1.13	1.99	1.19
Health	0.02	0.86	-0.09**	0.96	0.12	0.76
Net yearly income household/1000 (Euros)	48.08	16.82	45.72***	18.76	50.20	14.57
Partner (1 = yes)	0.76	0.43	0.68***	0.47	0.82	0.38
Family size	2.67	1.33	2.45***	1.29	2.87	1.33
Gender (1 = yes)	0.53	0.50				
Age	39.81	9.05	39.58	9.40	40.02	8.73

Data source: Time Competition Survey 2003

Notes:  $\chi^2$ -tests were used to test differences between female and male employees in dichotomous variables; t-tests for equality of means were used to test differences between female and male employees in continuous variables.

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$

of indirect effects in the model that are calculated on basis of path coefficients (Table 5.3).<sup>22</sup>

### *Time allocation*

Before analyzing the relationship between time allocation, time pressure, and happiness, we will first examine the determinants of time allocation. The two time allocation equations explain 51% of the variance of employees' weekly hours of paid work and 54% of the variance of their hours of household work, respectively. The results show that the higher an employees' net hourly wage rate the more hours they will spend in paid work. An employee's wage rate, however, has no effect on their hours of household work. The partner's wage rate does affect people's time allocation decisions: employees who are living with a partner whose net wage rate is above median spend fewer hours on paid work and somewhat more hours on household work than employees who do not live together with a partner. Contrary to our expectations, gender norms do not affect time spent on paid work or household work.

As predicted, both family demands and employer demands strongly affect time use. The presence of preschoolers (ages 0 through 3) and primary school-aged children (ages 4 through 12) reduce women's time spent on paid work with 4 and 7 hours per week respectively and increase their hours of household work with 21 and 19 hours per week. The effects are much weaker for men. Men's time spent on paid work is reduced with merely 1 hour per week by the presence of preschoolers and increased with only half an hour by the presence of primary school-aged children. Men's hours of household work are increased with 12 and 6 hours per week by the presence of preschoolers and primary school-aged children respectively. Adolescents living at home only affect employees' hours of household work. Adolescents increase women's hours of household work by more than 7 hours per week. Men's hours of household work are only slightly affected by adolescents living at home: their hours of household work are decreased by three quarters of an hour per week.

Employer demands have a strong positive effect on hours of paid work and a strong negative effect on hours of household work. Again, effects are stronger for female employees.

<sup>22</sup> The indirect effects are tested using Sobel's test for mediation (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Krull, & Lockwood, 2000). The test is conducted by dividing the coefficient of the indirect effect ( $a \cdot b$ ) by the square root of  $(b^2 s_a^2 + a^2 s_b^2)$ , where  $a$  = the effect of the independent variable on the intervening variable,  $b$  = the effect of the intervening variable on the dependent variable,  $s_a$  = the standard error of  $a$ ,  $s_b$  = the standard error of  $b$ . The ratio can be treated as a Z-test. Calculating Sobel's test, unstandardized coefficients and robust standard errors were used.

**Table 5.2** Unstandardized regression coefficients (B) and path coefficients ( $\beta$ ) from OLS predicting time allocation, time pressure, and happiness ( $n = 762$  employees and  $n = 30$  organisations)

	Hours paid work			Hours household work			Time pressure			Happiness					
	B	SEB	$\beta$	B	SEB	$\beta$	B	SEB	$\beta$	B	SEB	$\beta$			
Net hourly wage rate	.74***	.11	.22	-.32	.17	-.05									
Partner's net hourly wage rate															
Below median	-.38	.59	-.02	-.08	.86	.00									
Above median	-1.84*	.75	-.11	2.07*	.75	.07									
Employee has no partner <i>ref cat.</i>															
Gender ideology	.55	.38	.04	1.16	.69	.05									
Child aged 0-3 in household (preschooler)	-4.15**	1.09	-.19	21.50***	1.70	.57									
Child aged 4-12 in household (primary school-aged child)	-7.31***	.76	-.40	19.35***	1.45	.61									
Child aged 13-18 in household (adolescent)	-.78	1.05	.03	7.20**	1.95	.18									
Cumulative employer demands	2.67***	.47	.39	-2.00***	.45	-.17									
<i>Interactions</i>															
Gender x child aged 0-3 in household	3.33**	1.01	.13	-9.38***	2.35	-.20									
Gender x child aged 4-12 in household	7.82***	.94	.35	-13.55***	1.70	-.35									
Gender x child aged 13-18 in household	2.05	1.27	.07	-7.67**	2.30	-.15									
Gender x cumulative employer demands	-1.08*	.45	-.17	1.37**	.47	.13									
Hours of paid work							.02***	.00	.28	.00	.01	.03	.01*	.00	.09
Hours of household work							.01***	.00	.23	.00	.00	.06	.01**	.00	.11
Employee has partner										.49**	.16	.30	.42*	.17	.21

Table 5.2 Continued...

	Hours paid work		Hours household work		Time pressure		Happiness					
	B	SEB	B	SEB	B	SEB	B	SEB				
<b>Health</b>												
Log net yearly household income												
Time pressure												
<i>Control variables</i>												
Gender (1 = male employee)	5.26***	.81	.32	-5.02**	1.69	-.17	-.08	.06	.02	.01	.06	.01
Age	-.17***	.04	-.18	.15***	.04	.09		.00	.00	-.00	.00	-.10
Log family size								-.20	.12	-.10	-.17	-.10
Constant	25.36	1.91	16.7	2.93	1.38	1.14	4.16	1.14	4.07	1.11		
R <sup>2</sup>	0.51		0.54		0.07		0.06		0.13			
R <sup>2</sup> change									.07***			
Generalized R <sup>2</sup> : .75												
F	74.53***		129.04***		9.33***		7.15***		20.67***			

Data source: Time Competition Survey 2003

Notes: OLS regressions, standard errors corrected for clustering of individuals by organization.

B = unstandardized regression coefficient; SEB = robust standard error; β = standardized regression coefficient or path coefficient.

\*\*\* p < 0.001; \*\* p < 0.01; \* p < 0.05

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The interaction terms between gender and time demands are almost all significant, showing that the relationships between time demands and time spent on paid work and household work are different for women and men. The effects are stronger for female employees. The path coefficients indicate that gender and employer demands are the strongest predictors explaining time spent on paid work. For women, the presence of primary school-aged children in their household is also a strong predictor for time spent on paid work. The strongest predictors explaining time spent on household work for both female and male employees are gender and family demands, in particular the presence of preschoolers and primary school-aged children in the household.

#### *Time pressure*

The third equation estimates the consequences of employees' time allocation in terms of their time pressure. The variables included in the analysis account for 7% of the variance in time pressure. Results indicate that the amounts of time spent on paid work and household work have strong, positive effects on time pressure. The impact of paid working hours on time pressure is somewhat larger than the impact of hours of household work.

#### *Happiness*

Finally, the relationship between time allocation and happiness is tested. The analysis consists of two nested regression equations. First, the baseline equation for happiness is tested, including weekly hours of paid work and weekly hours of household work. Second, the happiness equation is extended with time pressure.

The basic happiness equation explains 6% of the variance in happiness. Employees who are living together with a partner (married or cohabiting) are happier than singles. Good health also leads to higher levels of happiness. We find no effect of household income on happiness and there are no happiness differences between female and male employees. The effects of time spent on paid work and household tasks are zero.

In the extended happiness equation, time pressure is added. The explained variance increases significantly from 6% to 13%. As predicted, time pressure has a strong negative effect on happiness. The path coefficients indicate that time pressure is, in fact, the strongest predictor in explaining happiness. As we expected the previously non-significant effects of time allocation on happiness become significant once controlled for time pressure. We stated that the

positive direct effect of paid work on happiness would be larger than the positive direct effect of household work. The results, however, show that time spent doing paid work and time spent doing household work affect happiness in almost equal measure. Compared to the basic happiness equation, the effects of good health and living together with a partner have somewhat diminished, but remain significant and positive. The effect of household income stays non-significant.

The direct, indirect, and total effects of time spent on paid work and household work are displayed in Table 5.3. Hours of paid work as well as hours of household work increase happiness directly. Both hours of paid work and household work, however, significantly reduce one's happiness indirectly through time pressure. The direct positive effect of hours of paid work counteracts the indirect, negative effect it has via time pressure, which brings the total effect of hours of paid work to almost zero. For household work, the positive direct effect seems to outweigh the indirect negative effect, suggesting that the total effect of hours of household work on happiness is positive.

**Table 5.3** Direct, indirect, and total effects of time allocation on happiness (standardized coefficients;  $n = 762$ )

	All employees B
Direct effect of hours of paid work on happiness	.09*
Indirect effect of hours of paid work on happiness - through perceived time pressure	-.08***
Total effects of weekly hours of paid work on happiness	.01
Direct effect of hours of household work on happiness	.11**
Indirect effect of hours of household work on happiness - through perceived time pressure	-.07***
Total effects of weekly hours of household work on happiness	.04

Data source: Time Competition Survey, 2003.

\*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$

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## 5.5 Conclusions

Many people spend large amounts of their time per week on paid work, household chores, and care. These activities are often regarded as actions that are necessary to fulfil needs and to pursue valued goals beyond the utility they have in themselves. Our study provides evidence that work makes people happy. The time pressure that is connected with it, however, does not.

Our findings reveal that the time employees spend on paid work and household work has two conflicting effects on their happiness. On the one hand, time spent on paid work and household work generates time pressure. Time pressure, in turn, decreases happiness. On the other hand, time spent on paid work and household work itself increases happiness. For paid work, the positive direct effect and the negative indirect effect via time pressure cancel each other out, reducing the net effect of paid work on happiness to almost zero. For household work, the positive direct effect is somewhat larger than the negative indirect effect via time pressure, making the net effect of household work on happiness small, but positive. Compared to paid work, household work is often regarded as less attractive and desirable. Our findings do not support this view for employees. Paid work produces somewhat more time pressure than household work. Controlling for time pressure, however, both activities contribute to happiness in equal measure.

Our findings thus support a mediating model in which time pressure negates the influence of employees' time spent on paid work and household work on happiness. If we leave time pressure out of the analysis, the two conflicting effects stay tangled and the net effect remains immeasurable. When time pressure is added to the analysis, the mechanisms behind the relationship between time allocation and happiness become visible.

The results suggest that people would be better off if they could reduce time pressure without necessarily reducing time spent on paid work or household work. From time pressure research we know that in addition to workload, allocation and coordination problems are important determinants of time pressure as well (Moens, 2006; Southerton & Tomlinson, 2005). Strategies to manage time and distribute activities during a day might reduce time pressure without cutting back on paid work and household work. On the level of the organization of the work place, strategies to alleviate time pressure include policy measures, such as employees' flexibility to work outside the office and office hours and employees' autonomy to make their own decisions with respect

to their work schedules and the speed at which they work. On the level of the household, governance strategies in the household, such as daily routines and, in coupled households, arrangements about the distribution of tasks could also successfully diminish time pressure.



# 6

## **Firms' time greediness and the division of labour in the household\***

\* A shorter version of this chapter is forthcoming in Mens & Maatschappij.  
Co-authors are J. Siegers, J. Schippers, R. Wittek, and P. Wotschack.

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## Abstract

Although the body of literature documenting the division of labour between partners is large and ever expanding, little is known about how demands and expectations from the workplace affect the division of labour between partners and how spouses use strategies to manage, or 'govern', the conflicting demands of work and family. Using data on 242 Dutch female employees, their partners and their employers, the results from multilevel analysis show that the more demanding the woman's job, the larger her share in paid work and the smaller her share in household work will be. These effects are moderated by both workplace governance practices and household governance practices.

*KEY WORDS: division of labour, labour supply, household work, time allocation, employer demands, flexibility, autonomy, household governance*

## 6.1 Introduction

As a result of women's increased educational levels, their increased supply of human capital, their higher potential earnings, and the societal movement towards more egalitarian gender relationships, the traditional family consisting of a male full-time breadwinner and a female full-time homemaker is no longer the standard family model. In contemporary households, partners are increasingly combining work and care (Blossfeld & Drobnič, 2001; Bovenberg, 2005; Schippers, 2001). This social shift from male-breadwinner families to dual earner families has complicated the division of paid work and household work between partners (Jacobs & Gerson, 2001). Modern households have become places where two working spouses have to divide various domestic tasks among themselves and integrate them with the demands from two jobs (Gill, 1998; Hochschild, 1997; Perlow, 1998). As both the workplace and the family are *greedy institutions* that simultaneously demand time and energy of their members (Coser, 1974; Tausig & Fenwick, 2001), couples now have to decide on who does what in the household. They need to manage their daily time allocation and coordinate their activities on a continuous basis (Greenstein, 1996; Kluwer, Heesink, & Van de Vliert, 1997). Hence, the division of labour is no longer a fixed arrangement between spouses but has become the result of an ongoing and dynamic negotiation process (Greenstein, 1996; Kluwer, 1998).

The division of labour between partners has been well-researched. The prevailing theoretical perspectives explaining labour allocation mainly address mechanisms at the individual and couple level, such as relative resources, gender ideology, and family demands (Blossfeld & Drobnič, 2001; Coltrane, 2000; Lewin-Epstein, Stier, & Braun, 2006; Shelton & John, 1996; Van der Lippe & Siegers, 1994). In contemporary households, however, the division of labour is also determined by demands and expectations from the workplace. How these demands and expectations from the spouses' workplace impact on the division of labour at home and how spouses use strategies to manage, or 'govern', the conflicting demands of work and family, has received little attention so far.

In the present study, we aim to expand on previous studies in two ways. We will do so firstly by incorporating mechanisms at the workplace level into the analysis, in particular the role of employer demands. Secondly, we will do so by analyzing to what extent spouses' governance practices at work and at home may moderate the relationship between employer demands and the division of

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labour within the household. Using multi-actor data of female employees, their employers and their partners from the Dutch 2003 Time Competition Survey (Glebbeek & Van der Lippe, 2004; Van der Lippe & Glebbeek, 2003), we estimate multilevel models in order to distinguish between the household level effects and effects of the occupational and organizational context on the division of paid and household labour between partners.

## 6.2 Theory

### 6.2.1 Explaining the division of labour in the household

In the literature, two theoretical frameworks prevail in explaining why women in coupled households still perform the largest part of the household work whereas men continue to do most of the paid work: i) theoretical perspectives that are centred around the idea of relative resources and ii) gender perspectives (Bittman et al., 2003; Evertsson & Nermo, 2004; Lewin-Epstein, Stier, & Braun, 2006; Van der Lippe & Siegers, 1994).

According to *relative resource* perspectives, the partner with the most resources, such as wages, education, or occupational prestige, will spend more time doing paid work whereas the other partner will spend more time doing household work. Several overlapping theories are compatible with the relative resource hypothesis (see Bianchi et al. (2000), Coltrane (2000), Shelton & John (1996), and Van der Lippe & Siegers (1994) for reviews). The *new home economics* (Becker, 1981, 1991) posits that couples try to maximize their household output and utility, given constraints of time and income, and that both partners will specialize in the task in which they have a comparative advantage. The theory predicts that the higher one's wage rate, the more time he or she will spend on paid work, and, consequently, the more time his or her partner will spend on household work. Because within the household men generally have a higher wage rate than women, men will specialize in paid work. The *resource bargaining* perspective, which focuses on power relations in the family, proposes that the partner with the most resources in the family also is the more powerful partner in the relationship, which will enable him or her to establish best results in negotiations about the division of labour. In particular in negotiations about the division of unpleasant household tasks (Blood & Wolfe, 1960). Finally, the *economic dependency model* assumes that women are compelled to exchange household work for economic support provided by their male partners (Brines, 1994).

Empirical findings are fairly consistent and support the relative resource perspectives (see for example Brines (1994), Greenstein (2000), Presser (1994), and Van der Lippe & Siegers (1994)). Following the relative resources hypothesis, we predict that the higher a woman's wage rate compared to the wage rate of her partner, the more time she will spend on paid work, and, consequently, the more time her partner will spend on household work.

These theories have in common that they all emphasize individual choice and exchange relations, share the assumption that spouses prefer not to engage in household work (Coltrane, 2000, p. 1214), and presuppose that paid work and household work are interrelated. The theories are also gender neutral. As stated, gender differences in the division of paid and household labour are only explained by gender differences in resources, which, in turn, are explained by persistent gender inequalities in society. For example, unequal earnings in the labour market may explain why women's wage rate is likely to be lower compared to their partners' and thus why women tend to do more housework.

*Gender perspectives* emphasize the importance of gender as a central ordering principle in society. Gender perspectives contend that gender has influential effects at multiple levels. People's actions and behaviour are given gendered meanings, which, in turn, shape people's identities and influence social relationships and institutions (see for example Bittman et al., 2003; Ferree, 1990; Scott, 1986). These gendered meanings may vary across time, cultures, or nations.

Early gender ideology approaches focused on *gender socialization* and stated that, during childhood, people internalize ideas and expectations about 'appropriate' female and male roles and that these ideas remain fixed over the life course. Later work has moved away from this assumption by adopting a *doing-gender* approach, which regards gender as a "routine accomplishment" that is "embedded in everyday interaction" (West & Zimmermann, 1987, pp. 125-126). In this view, gender is dynamic and depends on the social context. In interaction with the social environment, people tend to actively create differences between women and men that are not innate or biological. These differences are subsequently used to reinforce values and beliefs about appropriate feminine and masculine behaviour. People are 'doing' gender as they try to act in line with this appropriate behaviour (Poggio, 2006; South & Spitze, 1994; West & Zimmerman, 1987). Gender ideology defines what 'appropriate' feminine and masculine behaviour is.

Following this perspective, time allocation decisions are the result of gender production processes. Men and women with traditional gender norms tend to

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have traditional time allocation patterns as well, with men spending more time in paid work and women spending more time in household work. By doing so, they display their masculinity and femininity (see a.o. Bianchi et al., 2000; Bittman et al., 2003; Greenstein, 1996) and 'reproduce' gender by reinforcing the norms. Men and women with more egalitarian gender norms will feel less need to 'do gender' through time allocation decisions. Hence, they will allocate their time to paid work and household work more equally. We expect that the more modern the gender ideology of both partners, the higher the relative share of the woman in paid work and the lower her share in household work will be.

Empirical evidence is mixed. Some studies support the expected effects of men's and women's gender ideology on time allocation (Presser, 1994; Van der Lippe & Siegers, 1994). Others report no effect of women's gender ideology (Ross, 1987) or find that gender ideology affects the division of childcare tasks, but not the division of household tasks (Jansen & Liefbroer, 2006) or the division of traditionally male chores (Kroska, 2004). Greenstein (1996) shows that the gender norms of husbands and wives interact: husbands' traditional gender ideology is negatively related to domestic work for men who are married to egalitarian wives. For men married to traditional wives, however, no effect is found.

Another important determinant of time allocation is the presence of (young) children in the household. Children increase the demand for time and money in the home. Because women generally have lower wage rates than their male partners, it is expected that that women provide for the increased time costs and men for the increased monetary costs, implying an unequal division of labour. This division of labour is reinforced by gender role ideology. When children grow older, the time costs are likely to decrease and the monetary costs tend to increase. Consequently, the expected negative effect of the presence of children on the woman's time spent on paid work will be larger when children are young and the expected positive effect on the man's time in paid work will be larger when children are older. In general, empirical results confirm these expectations to a large extent. Most research shows that, due to the increased time demands, the presence of children in the household increases both women's and men's hours spend on household work, especially when children are young. However, the increase is larger for women than for men, which means an increase in the woman's relative *share* in domestic work (Greenstein, 1996; Presser, 1994; South & Spitze, 1994; Van der Lippe & Siegers,

1994). Additionally, the presence of children positively affects men's time in paid work whereas women tend to spend fewer hours on paid work, which implies a decrease of the woman's share in paid work (Coltrane, 2000; Van der Lippe & Siegers, 1994).

Cohort differences are also associated with the division of labour between partners. Women from younger birth cohorts tend to have a more equal division of labour than women who are born earlier (Coltrane, 2000). Their share in paid work will be higher and their share in household work lower.

To explain the division of *household work*, a third theoretical approach is often brought up in the literature: the time availability perspective (Bianchi et al, 2000; Coltrane, 2000; Coverman, 1985; Shelton & John, 1996). The time availability perspective assumes that the amount of time people spend on household work depends on the amount of time they spend on paid work. In this article, however, we leave the time availability perspective out of consideration. Following Becker (1965) and Gronau (1977), we contend that time allocation decisions in paid work and household work are mutually dependent and that choices related to the allocation of time spent on paid work and household work are simultaneously made rather than causally linked. When having children, for example, women do not first make the choice to spend fewer hours on paid work before they decide to increase their hours of household work. They will make this decision concurrently, taking into account demands, resources, and norms. From this perspective, we consider the correlation between time spent on paid labour and time spent on housework to be spurious.

### 6.2.2 Employer demands

In contemporary households, the division of labour between partners not only relies on partners' resources, family demands, or gender ideology; it is also determined by occupational and organizational constraints. 'Greedy' employers will place higher demands on the time and energy of their employees, which may have consequences for the employee's division of labour at home.

Although research investigating the interdependencies between paid work and family life is rapidly expanding (see for example Cunningham, 2007; Glass & Camarigg, 1992; Noonan, Estes, & Glass, 2007; Tausig & Fenwick, 2001), only few have actually examined how demands and expectations of the workplace affect people's time allocation decisions. The few exceptions primarily concentrate on the impact of employer demands on time spent in paid work,

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especially on working long hours. Schor (1993), for example, has argued that American employers force their employees to spend more time on the job. Maume and Bellas (2001) and Clarkberg and Moen (2001) support this view. They found for the U.S. that employer demands and demands of supervisors affect the length of employees' working schedules. Also, long hours cultures, consisting of workload pressure (Rutherford, 2001) and competitive firm cultures (Perlow, 1998), in which working long hours is institutionalized to a degree that not doing so is seen as a severe offence, were found to increase working hours. We are not aware of studies that examine how employer demands affect the division of household work between partners.

Employer demands include several aspects, such as physical job demands (e.g. carrying heavy loads, stooping steeply), emotional job demands (e.g. dealing with aggressive clients), psychological job demands (e.g. working with targets and deadlines, working in a competitive firm culture), and demands related to workload and the accomplishments of tasks (e.g. having a lot of tasks to do, high complexity, task pressure) (see also: De Jonge, Dollard, Dormann, Le Blanc, & Houtman, 2000). As we are primarily interested in the aspects of the employer's time greediness, we will focus specifically on psychological demands and demands that are related to workload and the accomplishment of tasks.

Strong employer demands will increase the need for the employee's time in paid work and make it more rewarding for employees to work longer hours. In most organizations, the 'ideal' employee still is an employee who is continuously available for work, who has few obligations outside of work, and who is willing to put the organization first (Acker, 1998; see also: Benschop, 1996; Payne, 2002). This commitment can be demonstrated by the employee's investment of time in paid work. When employers claim a high work engagement, employees can achieve social approval and better career chances, while reducing disapproval and the risk of being dismissed by conforming to these demands. We expect that the stronger the employer demands a woman will face at her work, the more time she will spend on paid work and, consequently, the less time she will spend on household work. This will lead to a higher relative share of the woman in paid work and a lower relative share of the woman in household work.

### **6.2.3 Governance practices**

Demanding jobs are commonly associated with negative consequences for the balance between work and family. Our approach emphasizes the idea that

employees and their spouses do not simply adapt to the conflicting time demands from work and family, but that they also attempt to influence and govern their time allocation by using formal and informal rules and strategies. In dual earner households, where partners have to divide household work and care among each other and need to integrate them with the demands of two jobs (Gill, 1998), such 'governance practices' have become increasingly important. Both conditions at the workplace and governance practices at the household-level may give partners power and control over how, when, and where they can accomplish their paid work and household tasks. Variations in these governance practices may explain variations in the outcomes of time allocation decisions. In this study we distinguish between 'workplace governance' (the employee's workplace flexibility and job autonomy) and 'household governance' practices (the couple's household rules and domestic quality standards).

#### *Household governance*

Inspired by prior qualitative household studies (see e.g., Gill, 1998; Perlow, 1998), we consider household governance as the degree of regulation of household time allocation (Wotschack, 2009; Wotschack, Siegers, Pouwels & Wittek, 2007). We distinguish two types of household governance: *household rules* and *domestic quality standards*.

Household rules can be used in the household to govern time allocation on a day-to-day basis. *Time claims* govern the time investment for domestic activities and *time routines* set fixed moments for the performance of domestic activities. When households are using one or more of these rules to a large extent, they are labelled 'rule households' (high degree of regulation). Households that refrain from such agreements are labelled 'flexible households' (low degree of regulation). These households govern household time allocation by short-term planning and day-to-day interventions. These rules are relevant in terms of the input side of the household production processes within the household.

We also distinguish a second type of household governance that is relevant in terms of the output of these processes: *quality standards*, governing the outcome quality of domestic activities. These standards define the lowest acceptable level that has to be met regarding the performance of household tasks like the quality of a home-cooked meal or the tidiness and cleanliness of the house. Quality standards differ from other household rules like time routines and time claims in that they specify a desired output rather than

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focus on the required input (for an elaboration on the distinction between input and output control, see Ouchi, 1979; Ouchi & Maguire, 1975). The incorporation of quality standards significantly enriches the operationalization of the household governance construct.

Household rules have two conflicting effects on the division of labour. On the one hand, plans, schedules, and rules of couples can be used to coordinate time allocation between the domains of work and the family and between spouses. In this respect, household rules facilitate the combination of paid and unpaid work and enable partners to divide paid and unpaid work more equally.

On the other hand, spouses living in households with strict household rules are less flexible in allocating their time. When employees want to work more hours they either have to deviate from given household rules or they have to renegotiate given rules. In the first case, employees run the risk of causing open conflict and to harm the relationship with their partners. In the second case, employees have to invest time and effort in new negotiation processes. The outcomes of these processes are uncertain: it depends on the conflict-handling strategies of both spouses (as well as on the given opportunities and restrictions) to what extent an employee will be able to realise a desired amount of working hours and avoid open conflict.

Summing up, employees in households with a high degree of regulation face additional restrictions in terms of costs and risks when they want to work more hours. The net result of the positive and the negative effects of rules that govern daily time allocation on a day-to-day basis on the division of labour cannot be predicted but is matter of empirics. The same holds for the interaction effect of employer demands and household rules: the stronger the employer demands, the larger each of the two partial effects of household rules is expected to be.

The higher the domestic *quality standards* within the household, the stronger the demand for time spent on household chores in order to achieve the desired outcome quality. We expect that high quality standards of the couple will be met predominantly by the woman. Therefore, these standards are expected to have a negative effect on the woman's share in paid work and a positive effect on her share in household work. To the degree that this prediction holds, due to the income motive the negative effect on the woman's time spent on paid work has to be compensated by a positive effect on the man's time spent on paid work.

Quality standards are also expected to play a moderating role in the effect of employer demands on the division of labour. The higher the quality standards are, the smaller the positive effect of employer demands on the woman's share in paid work and the smaller the negative effect of employer demands on her share in household work will be.

Another couple-level strategy for dealing with competing time demands is to buy more domestic services in the market (De Ruijter, 2005; Van der Lippe, Tijdens, & De Ruijter, 2004). Outsourcing appears to be a strategy that is most often used by high income couples (Van der Lippe, Tijdens, & De Ruijter, 2004) and by employees with high degree of workplace flexibility and job autonomy (De Ruijter, 2005). The implied assumption is that domestic outsourcing saves time. Studies have shown that domestic help indeed reduces women's time spent on household work, but not men's (Van der Lippe, Tijdens, & De Ruijter, 2004). As outsourcing affects primarily women's household time, we expect that outsourcing increases the woman's relative share in paid work and that it decreases her share in household work.

The aspect of causality deserves some consideration here. We note that causality may take the opposite direction, with the couple's time allocation decisions 'producing' household governance practices. For instance, when both partners choose to work long hours, strict household rules may be a consequence of this decision. Similarly, couples may adapt their quality standards for cleanliness to their daily workload. Unfortunately, the question whether household governance practices influence the division of labour or whether they are a consequence of it, cannot be answered here. The complex longitudinal multi-actor data that would be required to examine this question do not exist. Furthermore, the focus of this article lies on how the division of paid and household labour in the household is affected by demands and expectations of the workplace (as opposed to demands of the family). In this context, it seems likely that couples will not simply modify their time allocation in accordance to changing demands, but that they will create strategies, such as household rules, to manage these demands. Therefore, we contend that these couple-level strategies will moderate the relationship between employer demands and the division of labour.

#### *Workplace governance: workplace flexibility and job autonomy*

Analogous to household governance, we define workplace governance as the potential control and empowerment that employees have regarding the organization and performance of their work. It is the range of decision-making

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freedom, or the 'voice' that employees have in making decisions about their work hours, locations, and schedules. Workplace governance can take many forms. For example, the flexibility to work outside the office and office hours, to decide upon one's start and end times of a workday or the possibility to take a day off in case unforeseen events have happened at home.

Empirical studies have shown that workplace governance practices like schedule flexibility, ease of job performance (Glass & Camarigg, 1992), and alternate work schedules (Tausig & Fenwick, 2001) are inclined to decrease work-family conflict and promote the sharing of household work (Coltrane, 2000). In a recent study, Noonan, Estes, and Glass (2007) found for the U.S. that women with flexible work schedules appear to do less household work while their male partners are doing more, resulting in a more equal division of household labour. Furthermore, 'Post-Fordist' organizational arrangements with a mixture of elements, including high work autonomy, appear to have a positive effect on working long hours (Van Echtelt, Glebbeek, & Lindenberg, 2006). Workplace governance strategies may facilitate employees to spend time on their jobs without having to give up on family responsibilities. Firstly, the possibility to work from home, for instance, will save travelling time to work and will allow employees to perform small household tasks during the workday (e.g. doing the laundry or putting the dishes in the dishwasher). In addition, the flexibility to decide upon the start and end of a workday may facilitate employees to meet planned childcare activities, such as the school run. Secondly, working from home enables employees to perform work tasks during the evenings and weekends.

In sum, we expect that a high degree of workplace governance, that is high workplace flexibility and job autonomy, will facilitate the combination of paid and unpaid work for employees as it enables them to perform job and family tasks simultaneously (Noonan, Estes, & Glass, 2007, p. 267). When employees are relatively free to decide upon their working times and places, they are able to switch easily between the domains of work and family and to respond to unexpected time demands from the other domain. A high degree of workplace governance will enable partners to divide paid and unpaid work more equally. Therefore, we expect that a high degree of flexibility and autonomy at work positively affects the woman's relative share in paid work and negatively affects her share in household work.

Just like household governance, strategies for work place governance can be used by employees to deal with the competing time claims of work and the family. A high degree of flexibility and autonomy at work will help employees

to switch smoothly between their work and family so that they can meet the (unexpected) demands from the two domains. Research has shown that flexibility and autonomy can lead to long work hours (Van Echtelt, 2007). In this way, workplace flexibility and job autonomy will intensify the time greediness of demanding employers.

Therefore, we expect that the degree of the women's workplace governance will moderate the effects of women's employer demands on the division of labour in the household. The positive effect of employer demands on the woman's time spent on paid work will be larger if she has a higher degree of flexibility and autonomy at work. Since flexibility and autonomy enable women to meet the demands of their employers while they still can meet their obligations at home, we expect that these strategies will diminish the negative effect of employer demands on the time spent on household work.

#### **6.2.4 Other factors influencing the division of labour**

It is commonly believed that employees who work for private firms in the profit sector are more often confronted with targets and deadlines and that they encounter fiercer competition among colleagues than employees who work for firms in the public, not-for profit sector. Hence, they encounter stronger employer demands. For these employees it may be more rewarding to work longer hours in paid work. We predict that women who work in private profit organizations will have a higher share of paid work and a lower share of household work than women who work in public or not-for-profit organizations.

Having a managerial position is also associated with longer working hours (Maume & Bellas, 2001). Therefore, we expect that women who have a managerial position will have a higher share in paid work and a lower share in household work than women who don't have a managerial position.

### **6.3 Data and method**

#### **6.3.1 Sample**

The data used in this analysis are derived from the Time Competition Survey 2003, a multi-stage sample of 1114 Dutch employees from 89 occupational groups within 30 Dutch organizations (Van der Lippe & Glebbeek, 2003). The survey examines the causes and consequences of the growing competing time claims from the spheres of paid work and the household. Questions were asked to the employees and the

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management of their organizations. The management of the organizations was asked to complete written questionnaires about the organizational characteristics and about the management structures within their organizations. Because time claims from paid work are expected to occur especially in knowledge intensive organizations, these organizations were oversampled. In this respect, the sample is not representative of the Dutch population.

In each organization, employees from two to four different occupational groups were asked to participate in the study. Within these occupational groups, employees accomplish similar tasks, face the same conditions of employment, and are comparable with regard to their level of workplace flexibility and job autonomy. If the employees were living with a partner (married or cohabiting), the partner was also asked to take part. If the partner refused, the employee was not interviewed either. Employees and partners were interviewed separately at home. Both face-to-face interviews and written questionnaires were used. Data were collected in 2002.

Within the 30 organizations, 1543 employees were willing to participate (which equals a 39% response rate). At a later stage, 429 of these employees dropped out because their partners refused to participate. The overall response rate was 28%. As far as we know, precise information about response rates of surveys with a similar design and sample is not available. In the Netherlands, the average response rate for written questionnaires for employees within organizations is about 40%. The response rate for face-to-face interviews of couples and singles in households ranges between 25% and 45% (Kalmijn, Bernasco, & Weesie, 1999. See also: Van der Lippe & Glebbeek, 2003). Taking into account the multi-stage and multi-actor character of the design, with multiple actors who had to agree with participation and with multiple opportunities for respondents to withdraw, a response rate of 28% seems acceptable (Van der Lippe & Glebbeek, 2003).

From the dataset we selected a sub sample of female employees who were living together – married or cohabiting – with a male partner who was employed. Households in which one of the partners was younger than 18 or older than 65 and households in which the partner was involuntarily unemployed, retired, studying full-time, or self-employed were excluded. Our selection resulted in an analytic sample of 242 female employees and their partners from 68 occupational groups within 26 organizations on whom all relevant information was available. All couples were dual earners, 63% of them having children living at home.

### 6.3.2 Dependent variables

The dependent variables in the analyses are the *female employee's relative share in paid work* and the *female employee's relative share in household work*. Employees and partners were asked to report the average number of weekly hours they spend on both paid and household work. The woman's relative shares were computed by dividing her weekly hours spent on paid and household work by the total amount of hours that both partners spent on paid work and household work. The outcomes were multiplied by 100, yielding in percentages that express the woman's shares in paid work and household work respectively. The actual weekly working hours include overtime and hours spent on a second job (if any), but not travelling time. Time spent on nine household tasks capture the total number of hours spent on housework per week. The household tasks include shopping, cooking, tidying up the house, cleaning, doing the laundry, doing administrative tasks, garden work and repairs, childcare, and other child-related activities such as helping, reading and playing with children.

Some respondents reported extremely low or high values on the items measuring time use. To decrease the influence of these cases, in all time measures extreme values at the lower and upper end were recoded to the 1<sup>st</sup> and 99<sup>th</sup> percentile value respectively, before computing the total amount of hours spent on paid work and household work per week. This technique diminishes skewness in the single items and therefore in the summed measures as well (South & Spitze, 1994). In order to maximize the number of usable cases, the mean hours for each task are imputed for respondents who don't know how much time they spend on a specific task. All imputations were conducted for women and men separately. Respondents who refused to answer, who gave implausible answers, or for whom data were missing for more than two of the nine household tasks, were excluded from the analysis.

### 6.3.3 Independent variables

We include three types of independent variables: household-level variables, occupational-level variables, and organizational-level variables. At the household level, we include the conventional measures of the woman's relative wage rate, the couple's gender ideology, and the number and ages of children living in the household. In addition, we introduce measures of the couple's household governance practices.

The woman's *relative wage* rate is used as an indicator of comparative advantage and relative resources. Spouses' net wage rates per hour were calculated on basis

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of their net monthly income and their average number of actual weekly working hours, including overtime and its compensation. For respondents who provided incomplete data on one or more of the relevant income variables we imputed a potential estimated wage rate, which was estimated on the basis of a wage rate equation for individuals for whom all relevant information was present. For consistency reasons, an imputed wage rate has been used for all respondents. The wage equations were estimated separately for female employees and male partners. To compute the relative wage rate, the woman's hourly wage rate was divided by the man's hourly wage rate.

Four items were used to construct a scale of *gender ideology*. Respondents were asked how much they agreed with the following four items: 'A woman is more capable of raising young children than a man,' 'I find it quite normal if a girl wants to go to a technical school,' 'It is most natural when the husband is the breadwinner and the wife takes care of the household and the children,' and 'At work, it is unnatural for a woman to be in charge of men'. Answering categories ranged from 1 to 5, where 1 meant *totally agree* and 5 meant *totally disagree*. The mean scores on the four items were taken to compute the gender ideology scale so that higher scores represent a more egalitarian gender ideology. The scale is computed separately for women and men (Cronbach's  $\alpha$  is .66 for both scales).

Family demands are measured by the *number and ages of children in the household*. We included three variables measuring (a) the number of children younger than 4 (preschoolers), (b) the number of children in the 4 through 12 age range (school-aged children), and (c) the number of children aged 13 and older (adolescents).

With regard to *household governance*, we distinguish two aspects: household rules and domestic quality standards. We measured *household rules* using a series of eight questions on time claims and routines. Items assessing time claims were 'If you think about the situation of your household, have you made arrangements with your partner about...' (a) not to work in the evenings, (b) not to work on weekends, (c) to be on time for dinner, and (d) not to be away all evenings. Responses were *yes*, *not really*, or *no*. Items of routines were 'Are you doing the following activities at fixed points in time...' (a) shopping, (b) cleaning, (c) having dinner together, and (d) spending time together or with the family. Responses were measured on a 1 - to - 5 scale, ranging from 1 (*never*) to 5 (*always*). Because the items were nonparallel and had different ranges, the items were first standardized and then averaged (Cronbach's  $\alpha$  is .69). Low scores indicate *loose household rules* and high scores indicate *strict household rules*.

We asked the employees and their partners to report their *quality standards* with respect to two mundane household tasks: 'We are interested in the quality of household tasks. Please indicate by a mark in the range of 1 through 10 the minimum level of acceptable quality to you, 10 meaning that something is done perfectly.' The question was asked for the following activities: (a) tidying up the house and (b) cleaning. The score for quality standards is the average mark that the employee and her partner reported for the two tasks.

Because purchasing domestic services in the market is an important strategy for couples to manage time demands at home, especially for dual earners with higher incomes (De Ruijter, 2005; Lewin-Epstein, Stier, & Braun, 2006; Van der Lippe, Tijdens, & De Ruijter, 2004), we included three controls for *domestic outsourcing* measuring (a) the number of hours of domestic help that a household outsources per month, (b) the total number of hours of formal childcare that a household outsources per month, and (c) a dummy variable measuring whether the household has outsourced for home maintenance chores and garden work in the past twelve months (0 = no, 1 = yes).

At the occupational level, we include measures of the woman's employer demands and her degree of workplace governance. To assess *employer demands*, we computed a scale of seven items. Four items were answered by the management and three by the employee. For the latter we used the mean per occupational group. The items measure whether the occupational group is frequently confronted with targets and deadlines, whether the occupational group is characterized by a 'high-performance culture', and whether the occupational group has to work fast or has to do a lot of work. All responses were measured on a 5-point scale. Employer demands equals the average score on the seven items (Cronbach's  $\alpha$  is .69) with low scores indicating *weak employer demands* and high scores indicating *strong employer demands*.

The employee's degree of *workplace governance* was measured on a scale consisting of 16 items on workplace flexibility and job autonomy. The items assess to what extent employees are able to make their own decisions with respect to their work and to what extent employees are able perform their work outside the office and outside office hours (see also: Van Echtelt, Glebbeek, & Lindenberg, 2006). Nine items were answered by the management and seven items were answered by the employee. For the latter, the mean per occupational group has been used. Sample items were: 'Do employees work from home?', 'To what extent does the nature of your work allow you to work from home?', 'Who decides on employees'.... (a) working time, (b) working speed, (c) working

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schedule?', and 'How easy is it to take a day off or work from home if something unexpected happens at home?' All responses were measured on a 5-point scale. The average score is calculated for the 16 items so that a high score on the workplace governance scale indicates a high degree of workplace flexibility and job autonomy (Cronbach's  $\alpha$  is .87).

At the level of the organization, we incorporated a dummy variable measuring whether the organization is private, for profit (1), or public, not-for profit (0).

In addition to the independent variables, all our models control for the female employee's *age* and whether or not she has a *managerial position*. Age was measured in years. Managerial position was measured by a dummy variable that equals 1 if the woman has a managerial position and 0 if she has not. The latter serves as a control for the fact that employees with a managerial position usually experience more workplace flexibility and job autonomy (McCrate, 2005) and generally also face higher employer demands.

To test whether the effect of the woman's employer demands varies with her governance practices at work and at home, we include an occupational-level interaction between employer demands and workplace governance and two cross-level interactions between employer demands and household rules and employer demands and domestic quality standards, respectively. Before computing the interaction terms, we centred the continuous interaction variables at their mean values.

#### **6.3.4 Analytic strategy**

To investigate the effect of the woman's employer demands on the division of labour in the household, we employed multilevel analysis (Bryk & Raudenbush, 1992; Hox, 2002; see also Teachman & Crowder, 2002, for an overview). Our sub sample contains 242 households of female employees. These female employees are nested within 68 occupational groups, which are in turn nested within 26 organizations. The models were analysed using MLwiN (Rasbash et al., 2005). Parameters were estimated by means of maximum likelihood estimation.

By using multilevel analysis, we can account for the clustering of employees and their households within occupational groups and organizations. Multilevel modelling allows us to split the total variance in the division of labour into three components: i) the part of the variation that can be attributed to differences between employees living in different households, ii) the part that can be attributed to differences between employees employed in different occupational groups, and iii) the part that can be attributed to differences

between employees employed in different organizations. These variance components indicate the relative impact of the employee-level, occupational-level, and organizational-level variables on the division of labour.

To test our predictions, we constructed a three-level random intercept model in which households form the first level, occupational groups the second, and organizations the third. Explanatory variables are introduced in five steps. We start with the empty model, that is, the model with the intercept only (Model 1). The empty model shows how much variation can be attributed to the three different levels. Models 2 and 3 introduce all variables at the household level: Model 2 includes measures to test the baseline hypotheses about relative wage rate, gender ideology, and family demands. Model 3 includes measures of the couple's household governance practices. In Model 4, the occupational and organizational-level measures of employer demands, workplace governance, and firm sector are added. Finally, Model 5 includes occupational-level interactions between employer demands and workplace governance as well as cross-level interactions between employer demands and household governance.

## 6.4 Results

Table 6.1 presents the descriptive statistics for all female employees and their partners. In line with prior research, women tend to do the largest part of the household work and men tend to be primary responsible for paid work. Women report 31 weekly working hours and 34 hours of housework. Men report that they spend on average 41 hours per week on paid work and almost 22.5 hours on household work. The average share of women in paid work is about 43% whereas their share in household work is about 60%.

### 6.4.1 The division of paid work

Table 6.2 presents the results of the multilevel analysis estimating the woman's relative share in paid work. The empty model shows significant variation in the woman's relative share in paid work between employees (level 1) and between occupational groups (level 2). About 73% of the total variance in the woman's relative share in paid work the result of variation between employees, whereas 21% of the total variation is results from variation between occupational groups. There is also small variation between organizations (5%), but that variation does not differ significantly from zero.

**Table 6.1** Descriptive statistics of the variables in the analyses ( $n = 242$  households of female employees from 68 occupational groups and 26 organizations)

	Mean	SD	Range	$\alpha$
<i>Household level (n = 242)</i>				
<b>Paid work woman (hours per week)</b>	31.07	9.10	5.82 – 55.00	
<b>Paid work partner (hours per week)</b>	41.18	8.16	16.00 – 60.00	
<b>Household work woman (hours per week)</b>	33.85	16.50	5.00 – 72.60	
<b>Household work partner (hours per week)</b>	22.51	13.30	2.00 – 66.00	
<b>Woman's relative share in paid work (%)</b>	42.64	9.55	8.80 – 72.58	
<b>Woman's relative share in household work (%)</b>	60.14	12.90	27.09 – 91.11	
<b>Wage rate woman (Euros)</b>	14.73	1.79	11.37 – 19.23	
<b>Wage rate partner (Euros)</b>	16.09	3.20	10.28 – 22.14	
<b>Woman's relative wage rate (wage rate woman/ wage rate partner)</b>	0.94	0.15	.55 – 1.47	
<b>Modern gender ideology woman</b>	4.12	0.63	2.50 – 5.00	.66
<b>Modern gender ideology partner</b>	3.91	0.68	1.75 – 5.00	.66
<b>Age woman</b>	38.70	8.05	23.00 – 59.00	
<b>Age partner</b>	41.10	8.37	23.00 – 62.00	
<b># preschoolers (aged 0 – 3)</b>	0.25	0.52	.00 – 2.00	
<b># primary school-aged children (aged 4 – 12)</b>	0.54	0.83	.00 – 3.00	
<b># adolescents (aged 13 or older)</b>	0.33	0.74	.00 – 6.00	
<b>Woman has managerial position<sup>a</sup></b>	0.33	0.47	.00 – 1.00	
<b>Outsourcing domestic help (hours per month)</b>	4.74	7.55	.00 – 29.8	
<b>Outsourcing formal childcare (hours per month)</b>	20.97	40.70	.00 – 192	
<b>Outsourcing home maintenance and repairs<sup>a</sup></b>	0.60	0.49	.00 – 1.00	
<b>Strict household rules</b>	0.00	0.56	-1.31 – 1.69	.69
<b>High quality standards</b>	6.84	0.93	3.50 – 9.25	
<i>Occupational level (n = 68)</i>				
<b>Strong employer demands woman</b>	3.21	0.53	2.00 – 4.29	.69
<b>High degree of workplace flexibility and job autonomy of woman</b>	3.28	0.58	2.19 – 4.56	.87
<i>Organizational level (n = 26)</i>				
<b>Firm sector<sup>b</sup></b>	0.31	0.47	0.00 - 1.00	

Data Source: Time Competition Survey 2003

<sup>a</sup>0 = no, 1 = yes. <sup>b</sup>0 = public, not for profit, 1 = private, for profit.

Introducing the baseline employee-level variables in Model 2 explains almost 24% of the estimated total variance. Almost half of this explained variance is related to a decrease in the residual variance at the employee-level (from 73.4% to 60.7%). The other half is related to a decrease in the residual variance at the occupational level (from 21.2% to 9.7%), suggesting that part of the variation between occupational groups is due to systematic selection of employees into occupations.

As predicted, the woman's relative wage rate has an important effect on her relative share in paid work. The higher the woman's hourly wage rate compared to her partner's, the larger her share in paid work. When we have a closer look at the net hours that partners allocate to paid work (tables not shown), we find that the increase in the woman's share in paid work is a result of a simultaneous increase in the woman's net paid working hours per week and a decrease in the man's hours per week. With respect to gender ideology, we find that the woman's share in paid work is higher as partners report a more egalitarian gender ideology. The woman's share becomes higher because women with a more egalitarian gender ideology are likely to work more hours per week and because men with a more egalitarian gender ideology are likely to work fewer hours per week. These findings confirm the classical hypotheses that higher relative wage rates and an egalitarian gender ideology lead to a higher share of the woman in paid work. The effects remain unchanged when in the Models 3 through 5 household governance practices, employer demands, workplace governance practices, and their interactions are added to the analysis.

Another important factor that affects the woman's share in paid work is the number and age of children living in the household. Each school-age child reduces the woman's share in paid work with 2.5% because women with school-age children tend to reduce their working hours while their partners do not. Unexpectedly, the number of preschool children did not lead to a lower share of the woman in paid work. Inspecting the couple's total hours of paid work, we find that this is due to the fact that both women and men are likely to reduce their hours of paid work to a similar proportion when the number of preschool children in the household increases. Consequently, the couple's share remains unaffected. The number of adolescents does not affect the woman's share in paid work. These effects remain stable across the other models. The findings also indicate that the woman's share in paid work is higher if she has a managerial position at work. The woman's relative share proves to be unrelated to her age.

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Model 3 introduces the couple's household governance practices into the model. The couple's quality standards do not affect the division of paid work, but the findings suggest that the woman's share in paid work increases as household rules become stricter. The latter is merely a result of an adjustment in men's hours. When couples have agreed upon strict household rules, men are more likely to reduce their hours of paid work, leading to an increase in the woman's relative share. Outsourcing domestic help, formal childcare, and home maintenance prove to have no effect on women's relative share in paid work. Although the couple's net amount of time spent on paid work per week increases with the number of hours they hire domestic help - in households that outsource domestic help for 10 hours per week, each partner's paid working hours increases with almost 2 hours per week - the proportional increase is about same for men and women, leaving their relative share unchanged. The model's decrease in deviance, however, is not significantly different from zero, indicating that household governance variables by themselves do not significantly improve the model.

In Model 4, variables at the occupational and organizational level are added, which leads to a significant decrease of the model's deviance. The residual variances at the occupational- and organizational levels drop to zero and 1% respectively. Consistent with our predictions, the results show that employer demands positively affect the woman's relative share in paid work. The higher share occurs because women are likely to work more hours as their employer demands increase while, at the same time, their partners do not adjust their hours of paid work. With regard to the degree of workplace governance, we find that the woman's workplace flexibility and job autonomy do not affect her relative share in paid work. Having a closer look at the couple's total hours of paid work, we find, surprisingly, that the woman's degree of flexibility and autonomy at work not only increases her own hours of paid work, but that it also increases her partner's hours. Both partners tend to increase their hours of paid work to almost the same proportional degree (an increase of 3 and 2.5 hours for women and men, respectively, for every additional point on the workplace governance scale), implying that their share in paid work stays unaffected. The coefficient for household rules that was significant in Model 3 is no longer statistically significant.

Model 5 includes the interactions between employer demands and governance practices at work and at home. The model's deviance decreases significantly, indicating a more parsimonious fit of the data. The residual variance at the household level decreases further to 58.9%. Whereas the additive

model (Model 4) did not show effects of governance practices on the woman's relative share in paid work, the interaction model does. This model demonstrates the moderating role of workplace governance on the relationship between employer demands and the woman's share in paid work. Figure 6.1 depicts this interaction. The results show that employer demands positively affect the woman's share in paid work, regardless of the woman's degree of workplace governance, but that the effect, contrary to our expectations, *diminishes* as the degree of workplace governance becomes higher. For women working in jobs with a higher level of flexibility and autonomy, employer demands hardly affect the division of paid work at home. A high degree of flexibility and autonomy seems to prevent women from working long hours. No moderating effects of household rules and quality standards were found.

#### 6.4.2 The division of household work

The models predicting the woman's relative share in household work are reported in Table 6.3. Model 1 of Table 6.3 shows significant variation between employees (85.1%). Although there is also some variation between occupational groups (12.6%) and between organizations (2.3%), this variation is not significantly different from zero.

Model 2, which includes the basic employee-level variables, explains almost 16% of the total variance. The largest part of the explained variance is due to decreases in the residual variance at both the employee and occupational level. Older women do a larger part of the housework. The effect of age remains almost the same through all models. The results suggest that the woman's relative share in household work is lower for men and women who report egalitarian gender attitudes. The effect of women's gender ideology on their share in household work, however, becomes insignificant in the other models. We also note that the number of school-age children positively affects the woman's relative share in household work. Again, this effect disappears when the other variables are added to the model. The presence and number of preschool children and adolescents do not affect the division of household work. Inspecting the couple's total hours of household work per week, we find that the presence and number of children – preschool, school-aged, and adolescent – in the household increases the net hours of household work of both partners (table not shown). Although the increase of women's hours is somewhat larger than that of men's hours, the difference is not large enough to alter women's relative share.

**Table 6.2** Multilevel regression analysis predicting the woman's relative share in paid work (standard errors in parentheses), ( $n = 242$  households of female employees from 68 occupational groups and 26 organizations)

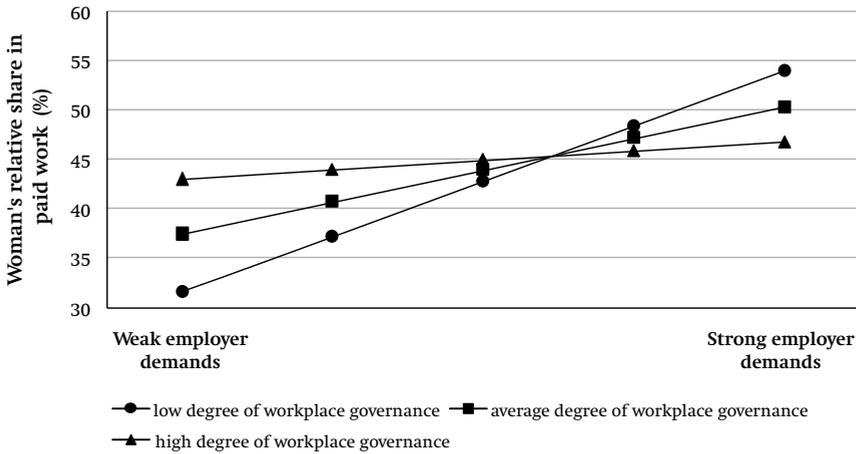
	Model 1		Model 2		Model 3		Model 4		Model 5	
	Estimate	SE								
Intercept	43.869***	(0.928)	17.706*	(6.976)	18.067*	(7.106)	17.911**	(6.852)	18.758**	(6.600)
<b>Household-level variables</b>										
Woman's relative wage rate			9.526**	(3.611)	9.876**	(3.702)	10.336**	(3.530)	10.595**	(3.387)
Age woman			-0.11	(0.073)	-0.28	(0.075)	.012	(0.073)	.036	(0.071)
Modern gender ideology woman			2.778**	(0.921)	2.968**	(0.937)	2.538**	(0.921)	2.365**	(0.896)
Modern gender ideology partner			1.662*	(0.841)	1.493†	(0.843)	1.542†	(0.824)	1.476†	(0.798)
# preschool children (age 0 - 3)			-1.595	(1.029)	-2.473	(1.718)	-2.691	(1.660)	-2.367	(1.609)
# primary school-age children (age 4 - 12)			-2.502***	(0.626)	-2.885***	(0.663)	-2.883***	(0.643)	-2.786***	(0.621)
# adolescents (age 13+)			-5.41	(0.739)	-6.42	(0.739)	-7.00	(0.712)	-6.31	(0.684)
Woman has managerial position			3.935***	(1.167)	4.060***	(1.183)	3.026**	(1.130)	3.068**	(1.087)
Outsourcing domestic help					.043	(0.078)	-.006	(0.075)	-.026	(0.072)
Outsourcing formal childcare					.013	(0.022)	.015	(0.022)	.017	(0.021)
Outsourcing home maintenance and repairs					-6.38	(1.173)	-1.075	(1.115)	-1.024	(1.105)
Strict household rules ( <i>centred</i> )					1.883†	(0.962)	1.470	(0.940)	1.226	(0.917)
High quality standards ( <i>centred</i> )					-.416	(0.581)	-.010	(0.553)	-.110	(0.531)
<b>Occupational-level variables</b>										
Strong employer demands woman ( <i>centred</i> )							5.628***	(1.272)	6.442***	(1.205)
High degree of workplace flexibility and job autonomy woman ( <i>centred</i> )							1.172	(1.368)	2.041	(1.304)

Table 6.2 Continued...

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
<b>Organizational-level variables</b>										
Firm sector					-1.29	(1.330)			-0.219	(1.210)
<b>Interactions</b>										
Strong employer demands x strict household rules									-0.850	(1.969)
Strong Employer demands x high quality standards									-0.781	(1.034)
Strong Employer demands x high degree of flexibility and autonomy									-9.275***	(2.229)
<b>Variance components (proportion of total variance in parentheses)</b>										
Residual variance organizational level	4.966	(5.5%)	5.301	(5.8%)	5.059	(5.6%)	0.917	(1.0%)	0.000	(0.0%)
Residual variance occupational level	19.170*	(21.2%)	8.828	(9.7%)	5.617	(6.2%)	0.000	(0.0%)	0.000	(0.0%)
Residual variance individual level	66.489***	(73.4%)	55.024***	(60.7%)	55.717***	(61.5%)	56.601***	(62.5%)	53.369***	(58.9%)
Explained variance	0.000	(0.0%)	21.472	(23.7%)	24.232	(26.7%)	33.107	(36.5%)	37.256	(41.1%)
Total variance	90.625	(100.0%)	69.153	(99.9%)	66.393	(100.0%)	57.518	(100.0%)	53.369	(100.0%)
Estimated parameters	1		9		14		17		20	
Deviance	1752.440		1695.130		1690.254		1667.040		1649.258	
Chi <sup>2</sup>			57.310***		4.856		23.214***		17.782***	

Data source: Time Competition Survey 2003  
 \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$

**Figure 6.1** Effects of employer demands on the woman's relative share in paid work for employees with a high, average, or low degree of workplace governance



Data source: Time Competition Survey 2003.

Note: 'Average degree of workplace governance' is defined as the overall mean on workplace governance. 'Low degree of workplace governance' is defined as one standard deviation below the mean, whereas 'high degree of workplace governance' is defined as one standard deviation above the mean. The graph is based on the estimated parameters of Model 5 in Table 6.2, calculated for employees at average levels of all other variables.

Turning to Model 3, the model including household governance variables, we find, surprisingly, that none of the household governance variables has an independent effect on the division of household work. Looking at the couple's total hours of household work, we observe that quality standards and household rules do not alter the total hours that spouses spend on household work. As a consequence, the woman's relative share does not change either. It is commonly assumed that the outsourcing of home maintenance, domestic help, and childcare saves time. Our results, however, do not support that view.

Adding occupational and organizational-level variables in Model 4 leads to a significant improvement of the model. Similar to the model explaining the division of paid work, employer demands have an important independent effect on the division of household work. When female employees face high employer

demands, their relative share in household work declines. Not so much, however, because they are doing less household work, but because their partners are doing more.

Female employees' workplace governance does not influence their division of household work at home. It does, however, decrease the total number of hours that the household spends on household work with 7 hours per week for every additional score on the scale of workplace governance. Analogous to the model predicting the division of paid work, the woman's flexibility and autonomy at work not only diminish her own hours of household work, but also her partner's. As both partners are likely to decrease their time spent on household work to a similar extent, the woman's share remains the unaffected.

Model 5, which tests the interaction effects of employer demands and governance practices at work and at home, explains 23% of the total variance in the division of household work. The residual variance at the household level drops to 73.7%; the residual variances at the higher levels remain almost zero. We observe a small but statistically significant improvement in the model's fit. The interaction between employer demands and household rules is significant and negative, as is the main effect of employer demands. The main effect of household rules, not significant in Model 4, is now significant and positive.

As illustrated in Figure 6.2, employer demands negatively affect the woman's share in household work, regardless of the couples' household rules, but the negative effect of employer demands increases when household rules are stricter. The interaction effect is entirely due to the results of the fact that men are likely to spend more time on household work as women's employer demands are stronger, especially when the couple's household rules are strict. We find no moderating effects of workplace governance on the division of household work.

**Table 6.3** Multilevel regression analysis predicting the woman's relative share in household work (standard errors in parentheses), ( $n = 242$  households of female employees from 68 occupational groups and 26 organizations)

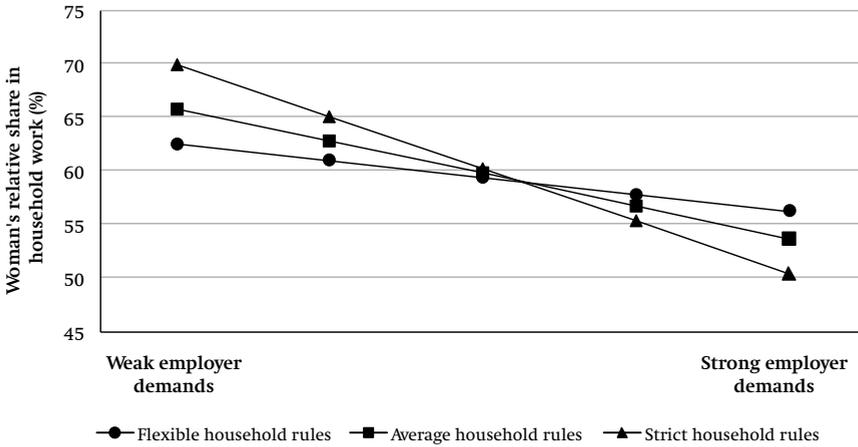
	Model 1	Model 2	Model 3	Model 4	Model 5								
	Estimate	SE	Estimate	SE	Estimate								
Intercept	59.448***	(1.091)	58.996***	(10.360)	56.433***	(10.476)	56.823***	(10.362)	57.297***	(12.412)			
<b>Household-level variables</b>													
Woman's relative wage rate		.721	(5.317)	1.387	(5.440)	.473	(5.320)	.171	(5.254)				
Age woman		.472***	(0.108)	.463***	(0.110)	.401***	(0.111)	.373***	(0.110)				
Modern gender ideology woman		-2.292†	(1.366)	-2.009	(1.389)	-1.317	(1.391)	-1.252	(1.382)				
Modern gender ideology partner		-2.266†	(1.255)	-2.260†	(1.253)	-2.262†	(1.242)	-2.225†	(1.226)				
# preschool children (age 0 - 3)		.458	(1.530)	.148	(2.536)	-.055	(2.502)	.076	(2.480)				
# primary school-age children (age 4 - 12)		1.578†	(0.931)	1.598	(0.979)	1.331	(0.967)	1.283	(0.956)				
# adolescents (age 13+)		-1.192	(1.096)	-1.083	(1.089)	-1.175	(1.069)	-1.272	(1.055)				
Woman has managerial position		-.946	(1.710)	-1.272	(1.742)	-.666	(1.709)	-.827	(1.691)				
Outsourcing domestic help				-.094	(0.113)	-.061	(0.113)	-.051	(0.111)				
Outsourcing formal childcare				.003	(0.033)	.010	(0.033)	.007	(0.032)				
Outsourcing home maintenance and repairs				2.738	(1.715)	2.520	(1.682)	2.901†	(1.709)				
Strict household rules ( <i>centred</i> )				-.571	(1.571)	.312	(1.422)	.797*	(1.424)				
High quality standards ( <i>centred</i> )				.943	(0.840)	.917	(0.825)	.786	(0.823)				
<b>Occupational-level variables</b>													
Strong employer demands woman ( <i>centred</i> )										-5.897**	(1.990)	-6.075**	(2.002)
High degree of workplace flexibility and job autonomy woman ( <i>centred</i> )										.155	(2.084)	-.491	(2.094)

Table 6.3 Continued...

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Estimate	SE								
<b>Organizational-level variables</b>										
Firm sector					.067	(1.997)	.142	(1.981)		
<b>Interactions</b>										
Strong employer demands x strict household rules									-6.605*	(3.049)
Strong employer demands x high quality standards									1.539	(1.608)
Strong employer demands x high degree of flexibility and autonomy									4.723	(3.585)
<b>Variance components (proportion of total variance in parentheses)</b>										
Residual variance organizational level	3.781	(2.3%)	0.000	(0.0%)	0.000	(0.0%)	0.000	(0.0%)	0.000	(0.0%)
Residual variance occupational level	20.954	(12.6%)	8.178	(4.9%)	7.866	(4.7%)	4.492	(2.7%)	4.725	(2.9%)
Residual variance individual level	141.433***	(85.1%)	131.895***	(79.4%)	129.652***	(78.0%)	126.335***	(76.0%)	122.709***	(73.7%)
Explained variance	0.000	(0.0%)	26.097	(15.7%)	28.652	(17.2%)	35.343	(21.3%)	38.74	(23.3%)
Total variance	166.17	(100.0%)	140.073	(100.0%)	137.518	(100.0%)	130.827	(100.0%)	127.434	(100.0%)
Estimated parameters	1		9		14		17		20	
Deviance	1915.117		1881.129		1876.735		1865.637		1859.181	
Chi <sup>2</sup>			33.988***		4.394		11.098*		6.456†	

Data source: Time Competition Survey 2003  
 \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$ ; †  $p < 0.10$

**Figure 6.2** Effects of employer demands on the woman's relative share in household work for households with flexible, average, or strict household rules.



Data Source: Time Competition Survey 2003.

Note: 'Average household rules' is defined as the overall mean on household rules. 'Flexible household rules' is defined as one standard deviation below the mean, whereas 'strict household rules' is defined as one standard deviation above the mean. The graph is based on the estimated parameters of Model 5 in Table 6.3, calculated for employees at average levels of all other variables.

## 6.5 Conclusions and discussion

Although the body of literature documenting the division of labour between partners is large and ever expanding, little is known about how demands and expectations from the workplace affect household time allocation decisions of employees and their partners. Prior research has provided widespread evidence that demands from the family, such as the presence of (young) children in the household, place high demands on the time and energy of family members and that these high demands have serious consequences for partners' time allocation decisions. Against this background, we likewise argued that 'greedy' employers place high demands on the time and energy of their employees and that these high employer demands affect the division of labour at home. Our approach emphasized the idea that employees and their partners do not simply

adapt to high employer demands and that they have strategies and use formal and informal rules to manage or 'govern' their daily time and activities.

Using data of 242 female employees, their employers and their partners of the 2003 Dutch Time Competition Survey, we employed multilevel analysis to investigate how variations in the division of labour in the household can be explained by women's employer demands and to what extent governance practices at work and at home are moderating this relationship. Our results showed that, apart from relative earnings, gender ideology, and family demands, the time greediness of the woman's employer is a major contributor to the division of labour between partners. The more demanding the woman's job, the larger her share in paid work and the smaller her share in household work. The increase of the woman's share in paid work is entirely due to an increase in her own number of paid working hours whereas the concurrent decrease of her share in household work is mainly the result of an increase in her partner's hours of household work. While strong family demands tend to make the division of labour more traditional and unequal, our analysis is suggestive that strong demands from the woman's employer, on the contrary, lead to a more equal division of paid work and household work between partners.

Effects of employer demands, however, varied and proved to be dependent on the couple's household rules and the woman's workplace flexibility and job autonomy. Our theoretical expectation that household rules would moderate the effect of employer demands was partly supported. Household rules intensify the effect of employer demands on the division of domestic work, but not on the effect on the division of paid work. Household rules seem to be helpful for women in meeting the higher demands of their employer because these rules allow them to substantially reduce their share of household work. Results demonstrate that the larger reduction of the woman's relative share in household work is due to a larger increase in men's total hours of household work. Our findings suggest that strict household rules unbind women's time rather than constrain it when employer demands are getting stronger.

The woman's workplace governance, that is, her workplace flexibility and job autonomy, diminishes the effect of employer demands on division of paid labour. The result can be attributed to the fact that the effect of employer demands on women's hours of paid labour is weaker when their workplace flexibility and job autonomy are high. Workplace flexibility and job autonomy seem to make women less dependent of the time greediness of their employers,

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implying better opportunities to combine work with family responsibilities. On the other hand, by weakening the positive effect of employer demands on the woman's share in paid work, workplace flexibility and job autonomy also limit the possibility for women to achieve equality with men with regard to the division of paid work. Hence, the results suggest that workplace governance preserves the gendered division of paid labour between partners. Consistent with previous research, we find that men avoid adapting their time use patterns when women are still available (Noonan, Estes & Glass, 2007)

Some limitations of our study should be considered. Because we used cross-sectional data, we were unable to test for possible reverse causality among employer demands, governance practices, and time allocation decisions. As several studies have pointed out, negotiation processes about the division of labour are ongoing and dynamic activities (Kluwer, 1998; Kluwer, Heesink, & Van der Vliert, 1997) in which partners interact with each other and with the demands from their jobs and family (Perlow, 1998). The presence and strictness of household rules may, for instance, *depend* on the couple's daily workload and people may let go of their quality standards when time demands become too high. Some employees may have demanding jobs just *because* they invest a lot of time in their jobs. Due to data limitations, we were unable to examine these relationships. Future research should explore issues of reverse causality and simultaneity.

We have examined data from The Netherlands, which are well-known for their high proportion of part-time workers, especially among women, and their strong emphasis on the equal sharing of time (Plantenga, Schippers, & Siegers, 1999). Cross-national research would be welcome to take these country-level effects into account.

Influences of the partner's job are also worth of future study. Because detailed information of the partner's firm was not available, we had to restrict our analyses to the effects of the woman's employer demands and her workplace governance practices only. It is likely that the partner's employer demands and his flexibility and autonomy at work also play an important role in how couples divide the work. As workplaces are gendered and have gendered values and beliefs that are reflected by gendered workplace policies and arrangements (Acker, 1998; Benschop 1996), we would expect subsequent gender differences in the impact of employer demands and governance practices. Future research should examine whose job has the largest impact on the household's time allocation decisions and whether or not partners are using their workplace

governance strategies to the same extent and with the same purpose.

Despite these limitations, our research reveals that women's employer demands push women to spend more time at their job and their male partners to spend more time on household work. By doing so, employer demands encourage partners to divide paid work and household work more equally amongst each other. The findings presented here also suggest that household governance and workplace governance practices partly reinforce and partly reduce this effect. Household rules seem a promising strategy to promote gender equality with regard to the division of labour, primarily because household rules induce men to do more housework when women's employer demands are high. By contrast, the woman's workplace flexibility and job autonomy diminish the effect of employer demands. Workplace flexibility and job autonomy contribute to a better balance of work and family life by facilitating the management of competing demands. Yet at the same time, they seem to hamper the equal division of labour as they prevent women to spend more time on their job and permit men to refrain from modifying their time allocation patterns.



# 7

## **Summary and discussion**



## 7.1 Introduction

The present thesis examined the effects of work and family on individual happiness. Aim was to gain deeper insight into the mechanisms responsible for individual happiness over the life course. In Chapter 1, we distinguished three relatively underexplored issues of interest that recently gained attention within happiness research: the role of i) interdependencies within families, ii) life events, and iii) time allocation decisions in the production of happiness. We intended to contribute to the current literature on happiness by addressing these issues.

In this thesis, ‘interdependence within families’ involved spousal similarity in happiness and the notion that people’s happiness is also influenced by the characteristics and behaviour of their partner (Chapter 2). Life events and the conditions under which they affect happiness were addressed by studying the consequences of the birth of a first child for new parents’ happiness when changes in hours of work, housework, and childcare were taken into account (Chapter 3) and when changes in satisfaction with different area’s in life were considered (Chapter 3). The role of time allocation entailed the time costs of having children (Chapter 3) and earning labour income (Chapter 4), the effects of time allocation decisions on happiness (Chapter 5), and the moderating role of time pressure (Chapter 5). As an important part of this thesis focused on the influences of time allocation to work and care, we also examined how time allocation decisions are shaped within households. We concentrated on time demands from the workplace and the family and the strategies that spouses have to manage these – often conflicting – demands (Chapter 6). In the current chapter we summarize our main findings and discuss theoretical and practical implications, limitations, and directions for future research.

## 7.2 Main findings

### 7.2.1 Spousal similarity in happiness

Chapter 2 focused on spousal similarity in happiness. The research question was: *Do partners resemble each other in happiness? And if they do: To what extent can this resemblance be explained by i) partners’ shared restrictions, ii) spouse selection, and iii) mutual influencing?* We used residual correlation models on a sample of 2,681 married couples from wave 2004 of the GSOEP to answer these questions.

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The shared restriction hypothesis assumes that spouses resemble each other in happiness because they share the same environment and go through the same life events together. The spouse selection hypothesis is based on the idea that spousal similarity in happiness is due to the fact that people tend to select each other in the marriage market on basis of common characteristics and behaviours. The hypothesis of mutual influencing predicts partner resemblance in happiness because characteristics and behaviours of one partner directly influence the happiness of the other partner.

Results showed significant similarity in spouses' happiness. The happy tend to be married to the happy and the unhappy to the unhappy. The risk of being unhappy is almost seven times higher if one has an unhappy partner. The probability of being very happy is even more substantial: the likelihood of being very happy is almost 12 times higher if one has a very happy spouse. A small part of this similarity in happiness can be attributed to spouse selection on the basis of age, education, health, and labour market status. Shared restrictions of income, marital history, and children has even less explanatory power, but can still account for a little of the spousal correlation in happiness. Together spouse selection and shared restrictions explained 10% to 20% of partners' resemblance in happiness. Partners' mutual influence on each other's happiness, on the contrary, cannot explain spousal similarity in happiness on top of the other two mechanisms.

A large part of the observed spousal similarity in happiness remained unexplained after controlling for shared restrictions, spouse selection, and mutual influencing. Spousal correlations still ranged from  $r=0.29$  for being unhappy to  $r=0.40$  for being happy. This substantial unexplained happiness similarity might be due to i) spouses selecting each other on the marriage market on the basis of their happy personality and nature (i.e. direct spouse selection on happiness), ii) other partner effects are taking place after marriage, such as relationship supportiveness, or iii) *spill-over* effects, where happiness of one partner directly influences the happiness of the other partner and vice versa.

Overall, some families are more successful in their pursuit of happiness than others. The findings suggest that favourable and unfavourable characteristics are accumulated within households, not only with regard to age, education, health, or labour market status, but also with regard to happiness.

### 7.2.2 Happiness around the birth of a first child

In Chapter 3, we examined the dynamics of happiness around the birth of a first child. The main research question reads as follows: *To what extent does happiness change before, during, and after the birth of a first child?* Using a subsample of 1,130 first-time parents from the first twenty-two waves of the GSOEP (1984-2005), we conducted two sub-studies to examine under which conditions the birth of a child would make new parents happier or not. We also examined whether the effects would be different for men and women. Multilevel models for individual change were used in the analyses.

In the first sub-study, we tested whether the happiness dynamics around first child birth would still occur when changes in objective life conditions that accompany the event would be taken into account. Two theories were tested. A first theory, common in sociology and economics, predicts that the happiness dynamics around first child birth are the result of changing objective life conditions that accompany the event. We focused on changes in time allocation since these belong to the most salient changes that follow the birth of a first child. As children increase the demands for time and money in the home, parents' workloads tend to expand substantially, time for leisure activities usually declines, and the division of labour between partners tends to become more traditional. We expected that happiness would not change after the birth of a first child because the negative effects of time spent on work, housework, and childcare would counteract the positive effects of having a child as such. Controlling for changes in time allocation, we hypothesized, the birth of a child would have a lasting positive effect on happiness. A second theory, psychologists' *set point theory*, predicts that happiness patterns are determined by stable personality traits and people's ability to adapt to life events and changing life conditions. On the basis of this theory, happiness levels are expected to remain stable over time due to personality traits and processes of adaptation and habituation. Controlling for changes in time use would not change this pattern. This led to the following sub-question: *To what extent can changes in time allocation to work, housework, and childcare, which often accompany the event of first childbirth, explain changes in happiness around the birth of a first child?*

In the second sub-study, we investigated to what extent the happiness dynamics around first childbirth can be explained by changes in satisfaction with various domains of life. We expected that changes in objective life circumstances that accompany the birth of a child would affect satisfaction

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with leisure, income, housing, and health. Changes in these domain satisfactions, in turn, would affect overall happiness. The following sub-question was formulated: *To what extent can changes in domain satisfactions, which often accompany the event of first childbirth, explain changes in happiness around the birth of a first child?*

Results showed that the average pattern of happiness around the birth of a first child is as follows. In the year before childbirth and the year of delivery, there is a short sharp boost in happiness for both men and women. Almost immediately after childbirth, happiness levels drop and new parents become significantly unhappier than before for a long time. After 7.5 years, fathers' happiness starts to increase again. For mothers, the increase occurs not before their first born is 15 years of age.

Explanations for these observed patterns were different for men and women. For men, the short happiness gains in the year before and the year of the birth of the child are entirely due to changes in marital status. Finding a partner and starting a household together (either married or cohabiting) often occurs a few years before the arrival of a baby and raises men's happiness significantly. Evidence from the first sub-study showed that the drop in men's happiness immediately after the child is born cannot be explained by changes in their time allocation patterns. Results from the second sub-study, revealed that a substantial part of the decline in overall happiness is a consequence of decreasing satisfaction with leisure time and, in particular, decreasing satisfaction with household income. Declines in these two domain satisfactions could only for a small part be attributed to changes in objective life conditions such as men's time use patterns. Possibly, the decline in men's satisfaction with household income is due to the higher present and expected future costs of children, which makes fathers focus more on money and earnings, in particular when their wives have reduced their working hours. The decreased satisfaction with leisure time might be caused by greater restrictions in the organization and use of fathers' leisure time.

For women with small part-time jobs and for non-working women, results suggested that the happiness boost in the years of pregnancy and the arrival of the child can be interpreted as a *baby-effect*. The (prospective) birth of a baby makes these women extra happy. Women who work more hours during the reaction period, in contrast, just stay as happy as they were before the birth of their child.

As the first sub-study has pointed out, the decline in happiness two years after the baby is born could be explained by changes in time allocation that take place at the same time, such as reduced work hours and increased hours of housework. Controlling for these changes in time use, women's happiness seems to adapt to the birth of the child and revert to its baseline level. Women become just as happy as they were before their child was born. Hours of childcare during the adaptation period, however, have a positive effect on women's happiness levels. Results from the second sub-study showed that becoming a mother as such has little effect on women's satisfaction with their household income, leisure time, housing, or health. Changes in these domain satisfactions that occur after the birth of a child are completely attributable to changes in mothers' marital status, household income, and time allocation. These changes, however, have significant effects on new mothers' domain satisfactions. A decrease in work hours has a negative effect on happiness through diminishing satisfaction with one's household income and a positive effect on happiness through increased leisure satisfaction. Hours of childcare reduce happiness via diminishing leisure satisfaction.

For (future) fathers, our results contradicted the prediction of set point theory that adaptation to all major life events will be complete after a few years. To a certain extent, support was found for the hypothesis that happiness is affected by changes in objective life circumstances. Men's happiness levels in the years immediately surrounding the birth of their first child could be explained by concurrent changes in marital status. Changes in time use patterns, however, only played a marginal role for (future) fathers' happiness during their life course. Support was also found for the hypothesis that the lasting effects of the birth of the first child on happiness are due to changes in men's satisfaction with domains of life. Especially diminishing satisfaction with household income, which is a large predictor for overall happiness, and satisfaction with leisure time could account for the permanent decrease in fathers' happiness after the birth of their child.

For (future) mothers, our results provided support for both the hypothesis of changing life circumstances and the *set point* hypothesis. Changes in time spent on work, housework, and childcare have large effects on women's happiness patterns, both directly and indirectly, via satisfaction with household income and leisure time. In addition, once controlled for changes in time allocation, women's happiness levels eventually adapt to the event of first childbirth. This adaptation effect does not vary by women's time spent on paid

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work during the adaptation period. Time spent on childcare, however, can permanently positively affect mothers' happiness levels.

Our findings for (future) mothers were also partly in line with the gender identity hypothesis: before childbirth, working many hours makes women happy, but after childbirth the positive effect of full-time work no longer persists and the amount of work hours no longer affects overall happiness. Only working in large part-time jobs raises women's happiness during this period. Additionally, as Sub-study 1 pointed out, women seem to derive happiness from childcare during the adaptation period. Sub-study 2, on the contrary, showed that increased hours of childcare also have a negative effect on happiness via diminished satisfaction with leisure time.

In sum, the zero and negative correlations between children and happiness as often found in the literature seem to be due to i) decreased satisfaction with household income and leisure time (fathers), ii) changed time use patterns (mothers) (either directly, because of the negative effect of these changes on happiness, or indirectly because of the negative consequences of these changes on satisfaction with household income and leisure time), and iii) processes of adaptation and habituation (mothers).

### **7.2.3 Income, working hours, and happiness**

Chapter 4 examined how time costs of earning labour income would influence the relationship between income and happiness. We argued that next to a benefit side income also has a cost side: it has to be earned. Since the largest part of income is generally earned by labour market work, income costs time. Most studies, however, tend to neglect the impact of working hours on happiness. We claimed that this has led to an underestimation of the happiness effect of income. The following research question was formulated: *What are the effects of income on happiness when working hours are taken into account?*

On the basis of 1,349 married and cohabiting couples of the 1999 wave of the GSOEP, we conducted seemingly unrelated ordered probit analyses to estimate the effect of income on happiness, with and without controls for working hours. Results showed important gender differences. For women, we found positive effects of income on happiness, but no significant effects of working hours. For men, on the contrary, we found that working hours have the expected negative effect on happiness. Not including working hours tends to underestimate the income-happiness-relationship by 25%.

Our results were published in *Economics Letters* (Pouwels, Siegers, & Vlasblom, 2008). In a recent article in the same journal, Knabe & Rätzel (2010) challenge our conclusions. They re-examine our claim that the effect of income on happiness suffers from a systematic downward bias if one ignores that higher income is typically associated with more work effort. First, Knabe and Rätzel include eight subsequent waves of the GSOEP (1999-2006), which expands the available sample considerably. Second, they extend our analysis by i) repeating our ordered probit models on the pooled cross-section data set, ii) controlling for individual unobserved heterogeneity by including fixed effects, and iii) specifying the impact of working hours in quadratic form. On the basis of these extensions they conclude that the effect of work hours is small and that there is no evidence that leaving working hours out of the analysis leads to an underestimation of the income effect.

We argue, however, that their results are not necessarily at odds with our findings. To start with, the results of their ordered probit estimations on the pooled cross-section data are similar to our analyses for wave 1999 only. So far, our conclusions hold. Controlling for fixed effects, Knabe and Rätzel argue, changes this picture: working hours do not have a significant negative effect on happiness anymore. This led them conclude that there is no evidence that leaving working hours out of the analysis leads to an underestimation of the income effect.

However, the differences between the (pooled) cross-section analysis and the fixed effects analysis arise from the fact that fixed effects methods focus on *within* person variance and ignore *between* person variance. The cross-section analyses, in contrast, address the latter. This makes fixed effects methods especially suited to examine effects of variables that change within persons over time. These are, however, not designed to estimate variables that show little or no change within persons over time, such as gender, height, or adults' years of schooling. In general this is no problem as these variables are controlled for in the fixed effects regression (Allison, 2005).

A crucial point in our analysis of the effect of income and working hours on happiness is that men's individual working hours tend to remain almost stable over time, especially over a period of eight years.<sup>23</sup> Differences *among* men, in contrast, are much larger. Neglecting men's work hours in a fixed regression analysis will not affect the results as this variable is controlled for in the fixed

<sup>23</sup> Cf. Chapter 3, where we find that men's work hours do not change significantly even after the birth of their first child.

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part. While Knabe and Rätzel in their fixed effects analysis estimate within person changes over time, our analysis, on the contrary, concentrates on effects between persons. The factors that are important in determining differences between persons at one point in time, however, are not necessarily the same as those that are important in determining changes within persons over their life cycle.

Our conclusion that work hours are important in analyses that attempt to establish the effects of income on happiness in *cross-section* analyses and Knabe and Rätzel's finding that work hours are not important when estimating the effects of income on happiness in longitudinal analyses of *individual change* are in fact two sides of the same hedonic coin.

#### **7.2.4 Time allocation, time pressure, and happiness**

In Chapter 5 we addressed the relationship between time allocation to work and care and happiness. The main research question of this study was: *To what extent does time spent on paid work and housework affect happiness?* We argued that hours of paid work and housework have two conflicting effects on happiness. On the one hand, time spent on work and care restricts one's leisure time and is usually regarded as being detrimental to happiness. The activities themselves are typically considered unpleasant. Furthermore, many people tend to spend more time on these compulsory activities than they prefer (either out of necessity or misallocation of time). Together, this may lead to perceived time pressure, which is likely to reduce happiness. On the other hand, hours of paid work and housework have also a benefit side. Time spent on paid work tends to enhance one's self esteem, social status and social relationships, while time spent on housework and taking care of children enables people to create a nice home and increases affectionate relationships between family members. These tend to be beneficial for happiness. Our sub-question read: *To what extent does perceived time pressure mediate the relationship between time spent on paid work and housework and happiness?*

To assess the direct and indirect relationships between time allocation, time pressure, and happiness, we employed path analysis based on a sample of 762 employees from the Time Competition Survey 2003. Support was found for the claim that time allocation to work and care have two conflicting effects on happiness. Firstly, hours of paid work and housework generate time pressure and time pressure lowers happiness. Secondly, hours of paid work and housework as such make people happy. The positive and negative effects offset

each other. The net effect of hours of paid work is reduced to zero; the net effect of hours of housework is positive, but very small. Adding time pressure to the analysis revealed the mechanisms behind the relationship between time allocation and happiness.

In sum, this study showed that work and housework make people happy, but the time pressure that is connected with it is related to decreased happiness. Results suggested that interventions and strategies at the individual, household, and company level designed to reduce time pressure and cope with time stress would help people to maximize their happiness.

### **7.2.5 Time allocation decisions within the family**

The relationship between time allocation and happiness is a central issue of this thesis. Chapter 6 concentrated exclusively on how time allocation decisions are shaped within households. Our focus was on the impact of the workplace and family, as both are greedy institutions that simultaneously demand time and energy of their members. Aim was to gain further insight into the factors that affect time allocation decisions and disentangle the mechanisms through which these time allocation decisions may cause or prevent time pressure and a distorted work-family balance, which are, in turn, bad for happiness. The main research question was as follows: *To what extent can the division of work and care between partners be explained by demands from work and family?*

Our approach emphasized the idea that employees and their spouses do not simply adapt to the conflicting time demands from work and family. We assume that they use formal and informal rules and strategies at work and at home to manage, or ‘govern’ their time. So we formulated a second research question: *To what extent is the relationship between the demands from work and the division of labour within the household moderated by partners’ strategies at work and at home to manage these demands?*

Employees’ strategies at work (*workplace governance*) involved the extent to which employees are able to make their own decisions with respect to their work, their working times, and working places. Couples’ strategies at home (*household governance*) comprised household rules and domestic quality standards.

Using data of 242 partnered female employees, their employers, and their partners of the Time Competition Survey 2003, we investigated how variations in the division of labour in the household can be explained by women’s employer demands and to what extent governance practices at work and at home are moderating this relationship.

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Multilevel analyses showed that – above and beyond the well-known effects of relative earnings, gender ideology, and family demands – employer demands are a major contributor to the division of labour between partners. The more demanding a woman's job, the larger her share in paid work and the smaller her share in housework proved to be. The increase in the woman's share in paid work can be attributed to an increase of her own work hours. The decrease in her share in housework is a consequence of an increase in her partner's hours of housework. While strong family demands tend to make the division of labour between partners more traditional and unequal, results of this study suggest that strong demands from the woman's employer lead to a more equal division of labour. Effects, however, varied and were dependent on the woman's flexibility and autonomy at work and the couple's household rules.

Firstly, household rules intensify the effect of employer demands on the division of housework. Strict household rules yield a larger increase of men's hours of housework when women face strong employer demands. When employer demands are getting stronger, strict household rules unbind women's time rather than restrict it.

Secondly, women's flexibility and autonomy at work reduce the effect of employer demands on the division of paid work at home. Women with high flexibility and autonomy are less likely to increase their work hours if employer demands are strong than women with low flexibility and autonomy. So, these strategies make women less dependent of the restricting time demands of their employer and provide better opportunities for them to combine work with family responsibilities. The other side of the coin is that high flexibility and autonomy also limit opportunities to achieve greater equality between partners with regard to paid work since these strategies 'prevent' women to increase their work hours when facing strong employer demands, keeping their relative share in paid work lower.

### **7.3 Theoretical and policy implications**

This thesis intended to contribute to the current field of happiness research by examining the role of i) interdependencies within families, ii) life events, and iii) time allocation decisions in the production of happiness. The focus on these three issues has provided several new insights.

### 7.3.1 Theoretical implications

A first theoretical contribution of this thesis is that we extended research on happiness from individuals to couples. First of all, this focus on couples sheds more light on how happiness of partners is interdependent. Secondly, it highlighted an almost unexplored dimension of household inequality. Our study on spousal similarity in happiness described in Chapter 2, for instance, showed that partners' happiness is highly correlated. This correlation could partly be explained by the process of spouse selection and by the fact that partners share the same life circumstances. In Chapter 4, we found that there are important positive *cross-partner* effects of income and health. The results of the studies in this thesis revealed significant interdependencies in happiness within families and showed that partners matter for each other's happiness. This is in line with the results of studies performed by Winkelmann (2005) and Booth and Van Ours (2009, 2010). Acknowledging these contextual influences is essential in understanding the determinants of happiness. Furthermore, the results of Chapter 2 implied a tendency towards 'happy' and 'unhappy' households. Some couples are evidently more successful in their pursuit of happiness than others. Findings suggested that the observed similarity in partners' happiness reflects, at least to a certain extent, the accumulation of favourable and unfavourable life circumstances within households, which involves a greater inequality between households. Inequality not only with regard to age, education, health, or labour market status, but also with regard to happiness.

A second theoretical advancement is the focus on the conditions under which major life events may or may not lastingly affect happiness. While the small, but increasing amount of previous studies addressing life events and happiness has mainly concentrated on the adaptation of happiness to a particular event, we reckoned with the impact of concurrent changes in life circumstances. Chapter 3 examined the impact of objective life circumstances on changes in happiness around the birth of a first child. Using longitudinal data of the GSOEP, we found that for some people, under certain conditions, happiness remains stable over time, but for other people, under other conditions, happiness may lastingly change. Changes in life circumstances, processes of adaptation and habituation, as well as changes in satisfaction with various domains of life could account for the dynamics of happiness after the birth of a first child. Effects were significantly different for women and men.

These findings have implications for theories of happiness. First of all, our

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results are in line with recent research that questions the view that happiness is stable over time (see for example Lucas (2007) and Zimmermann and Easterlin (2006)). Our study showed that happiness can vary over the life course, that the degree of adaptation differs across people, and that adaptation is not necessarily complete for all life events. Given this evidence, our findings support the current debate in the literature that discusses the need for a revised theory of happiness which can account for long term stability as well as for medium and long term change (Heady, 2010, p. 4; Heady, Muffels & Wagner, 2010).

Secondly, we found that happiness relies on actual life circumstances, processes of adaptation, as well as on changes in satisfaction with different domains of life. This outcome corresponds to Easterlin's (2005; 2006) two claims i) that neither the theoretical approach in which objective life conditions determine happiness, nor *set point theory* which assumes that happiness is a consequence of stable personality traits can completely account for life cycle happiness and ii) that adaptation to life events differs by domain and that satisfaction in each domain is a product of both objective conditions and aspirations in that domain. We will need a more developed theoretical approach that recognizes the impact of these distinct processes.

A third theoretical value of this thesis is that it addresses the role of time allocation in relation to happiness. Few previous studies have explicitly examined how choices in time allocation to work, housework, and childcare affect people's happiness. In Chapter 3 we found that time allocation decisions explain a large part of the changes in women's happiness around the birth of their first child. Chapter 4 revealed that not including work hours into the analysis underestimates the effect of income on happiness for men by 25%. Chapter 5 made clear that time spent on work, housework, and childcare can make people happier, but that the time pressure that is associated with it is bad for happiness. The positive effects of time allocation to work, housework, and care and the negative effects of the time pressure offset each other. Including time allocation decisions into the analysis of happiness shed new light on the relationship between income and happiness and on the relationship between having children and happiness. Furthermore, by addressing time pressure as a 'by-product' of time allocation decisions, it opened the black box of the relationship between time spent on work and care on the one hand and happiness on the other. This thesis suggests that analyses that neglect the role of time allocation decisions in explaining individual happiness miss a part of the story.

A fourth theoretical contribution concerns gender differences. In Chapter 3 we showed that changes during the life course can affect women differently than men, and for different reasons. Women's happiness patterns after the birth of their first child are primarily determined by changes in their time allocation and processes of adaptation and habituation. Men's patterns, on the contrary, are mainly the result of changes in their satisfaction with household income and leisure time. In Chapter 4 we observed that the effect of working hours on the relationship between income and happiness varied by gender. For women, we found no effect, while for men the positive effects of income on happiness are for a large part offset by the negative effects of work hours. The current thesis draws attention to the importance of gender differences for happiness, its dynamics, and its determinants.

### 7.3.2 Policy implications

This thesis is clear on one point: there is no standard *recipe for happiness* (cf. Delhey, 2010). Happiness can change over the life course, the things that make people happy vary between persons and over time, and the way *how* these things will make people happy or unhappy differs between groups of people. Results showed, for example, that people's happiness levels respond differently to the birth of a first child, for different reasons. We did not only find differences between (future) mothers and fathers, but also between women who work part-time or full-time on the one hand and those who work fewer hours or had no paid job on the other (Chapter 3). Furthermore, happiness seems less personal and individually determined than often assumed. Family members matter for each other's happiness. Our findings showed that happiness of partners is interrelated (Chapter 2) and that the personal characteristics or life circumstances of one partner may affect the other partner's happiness (Chapter 4). These results also suggest that the impact of policy measures on happiness may be different from what policy makers might expect 'at first glance': policy measures that may seem to make people happier may not be as effective in the end, because individuals' happiness levels adapt to the new situation. On the other hand, there might be 'spill over effects' through the impact on the partner. So, if there is one lesson to be learned for policy makers it is that they should always take 'a second look' before the implementation of a policy measure that is to make more people happy.

Another important conclusion of this thesis is that people's time allocation decisions are crucial in understanding how various life circumstances and

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events will make people happy or unhappy. Results indicated that the time costs associated with earning an income in the labour market and the time costs of having children are important for people's net happiness gains of income (Chapter 4) and the birth of a first child (Chapter 3). It is not always the case, though, that hours of work, housework, and childcare as such affect people's happiness negatively. This thesis revealed that it is the time pressure generated by the time spent on mandatory activities which is particularly detrimental for happiness (Chapter 5).

The insights gained about happiness in this thesis' studies may have implications for (policy) interventions on the societal, organizational, and individual level. First of all, the fact that happiness can change and that happiness can be influenced by life events, objective circumstances, and social relations, suggests that individuals have the power to adjust their choices and change their behaviour to become happier. Also, as we will discuss in more detail below, organizations and nations can be helpful by taking measures that will improve the happiness of their employees or citizens (Easterlin, 2006; Heady, 2010).

Secondly, the fact that happiness and its determinants vary between persons and over the life course, implies that policy interventions will not benefit from a one-size-fits-all approach. Not all people will experience the same life events and circumstances during their lives and not all people will experience lasting changes in happiness from these events and circumstances. Some people are more able to adapt to changes in life than others, which makes them flexible and protects them against major negative shocks. Furthermore, the happiness gains and losses will also depend on the life course stage of people. As previous research has pointed out, people's lives have become more varied over the last decades and personal choice and autonomy have become more important in determining people's behaviour over their life course (Van der Lippe et al., 2007). At the same time, personal choice and autonomy have gained importance as determinants of happiness in Western countries (Inglehart et al., 2008; Delhey, 2010). This suggests that people would benefit from policy interventions that: i) maximize their freedom of choice<sup>24</sup>, and ii) empower them to make the right choices.

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24 Some authors claim quite the opposite. Schwartz (2004), for example, argues that although some choice is better than none, an abundance of choice tends to make people less rather than more happy because choice tends to come with costs. Opportunity costs, loss aversion, and raised expectations are said to explain why more choice is not always better: the more choice options there are the more likely people are to regret missed opportunities, worry over possible future regrets, have raised expectations, and blame themselves for disappointing outcomes. Schwartz's work, however, has been criticized, amongst others, for generalizing the results of his research on trivial choices (such as choosing among assortments of jam) too easily to major choices in life (such as choosing a spouse) and for ignoring empirical evidence that happiness is positively related to the opportunity to choose (Veenhoven, 2005).

As Schippers (2002) has pointed out in the Dutch report *A life course exploration [Verkenning levensloop]*, policy interventions aiming at facilitating people's choices and transitions over the life course should take into account the price of these choices. This price is usually defined in terms of pecuniary costs. It would, however, be useful to analyse the costs of people's choices and transitions also in terms of happiness losses. As this thesis has shown, time allocation decisions may be serious hurdles for happiness. Spending too much time in obligatory activities, such as work or housework and care, will reduce happiness, especially because of the time pressure these generate. Given this, (policy) interventions at the societal, organizational, and individual level focusing at i) facilitating the combination of work and family or ii) reducing high workloads and experiences of time pressure that may arise from this combination, might help to prevent happiness losses.

From a societal perspective, some choices and transitions that people make in the domains of work and family are more desirable than others. The Dutch government, for example, encourages the attainment of economic independence and, with the ageing of society, the increase of labour-force participation of all citizens. This implies more hours of work by more individuals. Policy interventions aimed at facilitating the combination of work and family, such as improving childcare and leave facilities, might help to make the combination to be more balanced and reduce experiences of time stress.

At the organizational level, employers could implement policies that facilitate the combination of work and family, such as the employees' flexibility to work at non-standard office hours, possibilities to work from home, and the autonomy to decide on their working schedules and working speed. As shown in Chapter 6, high levels of employee's flexibility and job autonomy tend to make women less dependent of the 'time greediness' of their jobs and provide them better opportunities to combine work and family.

At the individual and the household level, there are several strategies for individuals and couples to improve work-family balance and to reduce time stress. Strategies refer to workload, time allocation problems, and coordination problems. First of all, when making choices in life, people would be better off if they would not only reflect on the prospected material and status gains, but also consider the time costs that are associated with their choices. As Easterlin (2005) has shown, people tend to adapt more quickly to changes in the income domain than to changes with regard to family or health. Therefore, he suggests, they would be wise to allocate more time to the family and health domains,

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and less to the pecuniary domain. Furthermore, household governance strategies, such as daily routines and arrangements about the distribution of tasks could, for instance, successfully diminish time pressure.

Finally, this thesis showed important gender differences. Life circumstances and events have differential impact on women's and men's happiness. To avoid unintended negative consequences for women or men, gender impact analyses may be helpful when designing policies aiming at the improvement of happiness.

## **7.4 Limitations and suggestions for future research**

In this section, we will discuss several limitations of our research and suggestions for future research.

A first limitation of this thesis is that it presented analyses for the Netherlands and Germany only: two Western, wealthy nations, characterized by specific labour market patterns. In both countries men tend to work full-time over their life course, while women tend to retreat from the labour market or scale back their working hours substantially after the birth of their first child. In Germany, the family is an important institution and national policies are aimed at promoting the traditional family. The availability of childcare facilities, which is generally considered as a major determinant of female labour supply, is low. In the Netherlands, part-time rates are high, there is a strong emphasis on the equal sharing of time between partners, and employers have an influential role in facilitating work-family arrangements. Work-family policies in the two countries are similar with respect to the rather high incidence of flexible working time arrangements (Plantenga & Remery, 2005; Plantenga, Schippers, & Siegers, 1999; Vlasblom & Schippers, 2006). All this makes the Netherlands and Germany two special cases to study the impact of work and family on happiness. The findings of the studies in this thesis may therefore not necessarily be transferable to other countries.

First of all, in poor and rich societies other things may make people happy. As Inglehart et al. (2008) show, economic factors tend to have a strong impact on happiness in low-income countries while in high-income countries happiness is primarily determined by levels of self-expression and free choice. Similarly, in a study of 48 countries, Delhey (2010) finds that income is more important for happiness in poorer countries while post-materialist values, such as personal

autonomy and creativity, are more salient in richer countries. Also, in societies with distinct labour participation patterns, dissimilar degrees of labour specialization within households, and different norms about the equal sharing of time, both gender and time allocation decisions may have not the same impact on happiness. Cross-national comparisons examining to what extent determinants of happiness vary by country would be of great value.

A second limitation of this study is that we mainly used cross-sectional designs for the studies of this thesis. Cross-sectional designs are more limited in their ability to draw firm conclusions about causal relations than longitudinal designs. We derived causal inferences on basis of theory, but could not test these explicitly with cross-sectional data. As a consequence, we cannot exclude the possibility that the observed relationships (also) run in the opposite direction. For instance, instead of our prediction that high time pressure reduces happiness as described in Chapter 5, it might as well be that high levels of happiness reduce feelings of time pressure. Likewise, in Chapter 6 we hypothesized that strictness of household rules would predict women's employment time. The observed relationship between the two, however, might (also) reflect that the presence and strictness of household rules depends on the couple's daily workload or that people relax their quality standards when time demands become too high. The cross-sectional design of Chapter 2 raises another problem: selective attrition. Using only one wave of the GSOEP, we could not test whether the observed spousal similarity in happiness might be a consequence of attrition of heterogeneous couples. If couples where one of the partners is unhappy and the other is not are more likely to divorce, they have a higher chance to fall out of the sample. This could have lead to an overestimation of spousal similarity. Longitudinal data will be necessary to provide more insight into the presumed causal process and test for sample selection bias.<sup>25</sup>

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25 Not for all studies in this thesis, however, a longitudinal design seems reasonable. For a solid longitudinal test of happiness homogamy in Chapter 2, for instance, we would need sophisticated data on people's age, education, labour market position, and happiness already before they meet, start a relationship, and marry, and follow them at least a few years during their marriage. Only in that way we can test whether future partners already resemble each other in age, education, labour market position, and happiness before they meet in the marriage market and to what extent this resemblance changes due to shared circumstances and mutual influences. The analyses in Chapter 6 would require data where employers, employees *and* their partners are followed over time. Given that multiple actors will have to agree with participation each year and that there are multiple opportunities for respondents to leave the sample (not only because they do not want to participate any longer, but also because they might have switched jobs or dissolve their relationship), response rates will be low and the risk of attrition will be high.

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A third limitation is that we did not explicitly test for *set point theory* and the *theory of risings expectations* in this thesis. If we found evidence for adaptation of happiness (Chapter 3), it could not accurately be determined whether the driving force behind this process was personality traits or rising expectations. Future research would benefit from including direct measures of personality traits and aspirations.

To conclude, we suggest three ways of how our studies on the impact of work and family on happiness can be extended. Firstly, our study on interdependencies within families could be extended by addressing mutual causation between partners' happiness. The relationship between partners' happiness may be a result of direct *spill-over* effects of one person's happiness to the other vice versa. Furthermore, interdependencies between other family members, such as parents and children, are worth of future study. Secondly, more analysis is needed with respect to the effects of life events. Longitudinal research could try to assess to what extent changes in happiness concentrate in particular subgroups and under particular circumstances for life events other than the birth of a first child. In line with this, it would also be interesting to examine how people's preferences and values vary over their life course, to what extent this affects their choices in life and, consequently, their happiness. Thirdly, over the last few decades, economic and cultural developments in Western countries, such as the increase of women's labour market participation, increased educational levels, the development towards more egalitarian gender norms, and the social shift from male-breadwinner families to dual earner families, have affected people's preferences and choices, which had consequences for their happiness. Putting the results in a historical perspective by examining changes in happiness and its determinants over time and investigating generational differences would be a valuable extension of our current findings.







# Samenvatting

(Summary in Dutch)



## 1. Inleiding

De inrichting van de levensloop is de afgelopen decennia ingrijpend veranderd. Mensen in Europese samenlevingen volgen langer onderwijs, trouwen op latere leeftijd (of helemaal niet), scheiden vaker, stellen het krijgen van kinderen uit en krijgen er minder. Onder invloed van maatschappelijke ontwikkelingen zoals het proces van individualisering, de emancipatie van vrouwen en een stijgend welvaartsniveau, heeft de standaardlevensloop, waarbij de man voltijds werkte en de vrouw na het trouwen stopte met werken en thuis voor het huishouden en de kinderen zorgde, plaats gemaakt voor een biografie waaraan mensen meer dan voorheen zelf invulling kunnen geven. Persoonlijke keuzes en autonomie vormen daarbij steeds belangrijkere waarden (Román, 2006; Van der Lippe, Dykstra, Kraaykamp, & Schippers, 2007).

Een hoger opleidingsniveau en meer verdiencapaciteit maken het voor vrouwen aantrekkelijker om te werken, ook wanneer er kinderen komen. Moderne sociale normen die een grotere gelijkheid tussen vrouwen en mannen stimuleren, versterken dat effect nog eens. Als gevolg daarvan groeit het aantal huishoudens waarin beide partners betaald werk en zorgtaken combineren (Blossfeld & Drobnič, 2001; Bovenberg, 2005; Schippers, 2001).

Niet alleen verandert de rol van betaald en onbetaald werk in het leven van vrouwen en mannen, ook arbeidsorganisaties veranderen. Met de opkomst van het 'nieuwe werken' gaan werknemers en werkgevers flexibeler om met werktijden en thuiswerken, waardoor de grenzen tussen werk en privé minder scherp worden. Deze ontwikkelingen stellen nieuwe eisen aan de organisatie van het dagelijks leven van mensen. Zowel de arbeidsorganisaties als het huishouden kunnen gekarakteriseerd worden als 'gulzige instituties' die tegelijkertijd tijd en energie vergen van de leden die er toe behoren (Coser, 1974; Tausig & Fenwick, 2001). Voor partners in moderne huishoudens betekent dit dat ze hun betaalde en onbetaalde arbeid onderling moeten zien te verdelen en te combineren met de eisen die hun werk aan hen stelt (Gill, 1998; Hochschild, 1997; Perlow, 1998).

Welke gevolgen hebben deze ontwikkelingen voor het werk en privéleven van mensen? Wat betekent dat voor hun welzijn en geluk? In de wetenschappelijke literatuur bestaan verschillende visies naast elkaar. Sommige auteurs wijzen erop dat de toegenomen keuzevrijheid in combinatie met een hogere welvaartsstandaard ons gelukkiger zal maken (Delhey, 2010; Inglehart, 2008). Anderen stellen dat de complexe organisatie van ons dagelijks leven, met haar

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zware werklust en de vaak tegenstrijdige eisen die werk en gezin aan ons stellen, leidt tot stress en een verstoorde balans tussen werk en privé. En dat is slecht voor ons geluk (Hamermesh & Lee, 2007; Hochschild, 1997; Jacobs & Gerson, 2001; Schor, 1993). Weer een andere benadering voorspelt dat ons geluk uiteindelijk helemaal niet afhangt van veranderde persoonlijke omstandigheden of maatschappelijke ontwikkelingen. Geluk zit in onze genen, volgens dit perspectief, en ons welzijn wordt vooral bepaald door onze persoonlijkheid (Easterlin, 1974; Heady & Wearing, 1989; Lykken & Tellegen, 1996).

In dit proefschrift onderzoeken we in vijf empirische studies in hoeverre mensen gelukkig worden van hun werk en gezin en waarom. Het doel is om meer zicht te krijgen op de mechanismen die het geluk bepalen tijdens de levensloop. Drie thema's staan daarbij centraal: i) wederzijdse beïnvloeding binnen huishoudens, ii) levensgebeurtenissen en iii) tijdsbestedingsbeslissingen. Voor het onderzoek maken we gebruik van twee databronnen: het Duitse Sociaal-Economische Panel (GSOEP) (Haisken-DeNew & Frick, 2005) en het Nederlandse Time Competition Survey 2003 (Van der Lippe & Glebbeek, 2003).

### **Wederzijdse beïnvloeding binnen huishoudens, levensgebeurtenissen en tijdsbestedingsbeslissingen**

Het onderzoek naar individueel geluk heeft de afgelopen jaren een grote vlucht genomen en het aantal studies naar geluk stijgt exponentieel. Het overgrote deel van dit onderzoek heeft zich tot nu toe vooral gericht op het identificeren van de talrijke factoren die samenhangen met geluk. Naast inkomen zijn werk en gezin daarin belangrijke determinanten gebleken (Layard, 2005). Arbeidsmarktstatus (of mensen werken of niet), partnerstatus (of mensen een partner hebben, samenwonen, getrouwd of gescheiden zijn) en de aanwezigheid van kinderen in het huishouden worden tegenwoordig standaard opgenomen als (controle)variabelen in modellen ter voorspelling van het individuele geluk. Het bestaande onderzoek baseerde zich lange tijd voornamelijk op studies naar het geluk van individuele mensen op één moment in de tijd. In dit proefschrift identificeren we drie nieuwe thema's van waaruit we de relatie tussen werk, gezin en geluk te bestuderen en waarmee we het bestaande onderzoek op dit gebied kunnen uitbreiden en aanvullen (hoofdstuk 1).

*Wederzijdse beïnvloeding binnen huishoudens.* Sociologisch en economisch onderzoek heeft eerder laten zien dat de sociaal-economische status en het gedrag van mensen niet alleen bepaald worden door hun eigen achtergrondkenmerken en gedrag. De status en het gedrag van mensen kunnen ook

beïnvloed worden door het huishouden waarin zij leven en door de achtergrondkenmerken en het gedrag van hun partner. Dat geldt bijvoorbeeld voor werkloosheid en arbeidsmarktstatus (Henkens, Kraaykamp, & Siegers, 1993; Ultee, Dessens, & Janssen, 1988), carrières (Verbakel, 2008) en gezondheid en aan gezondheid gerelateerd gedrag (Clark & Etilé, 2006; Monden, 2007). In dit proefschrift onderzoeken we in hoeverre de achtergrondkenmerken en het gedrag van partners ook elkaars geluk beïnvloeden en hoe dat komt. We sluiten daarbij aan bij recente inzichten uit economisch onderzoek van Winkelman (2005), Powdthavee (2009d) en Booth and Van Ours (2007, 2009, 2010).

*Levensgebeurtenissen.* Recentelijk is er een kleine groep studies verschenen die bestudeert in hoeverre belangrijke levensgebeurtenissen effect hebben op het geluk van mensen op de korte en lange termijn. Aan de hand van longitudinale data beschrijven deze studies de patronen van geluk rond één of meer belangrijke levensgebeurtenissen. Onderzocht werden de effecten van werkloosheid (Clark, 2006; Clark et al., 2008; Powdthavee, 2009b) en trouwen en scheiden (Lucas et al., 2003; Lucas & Clark, 2006; Zimmermann & Easterlin, 2006). Een recente studie van Clark et al. (2008) bestudeerde ook de effecten op geluk van pensionering, verweeduwing en de geboorte van een kind. In dit proefschrift onderzoeken we vooral de *mechanismen* die de geluksdynamiek rond levensgebeurtenissen kunnen verklaren. Waarom verandert het geluk rond een bepaalde levensgebeurtenis? In welke mate is deze verandering verschillend voor vrouwen en mannen? Aan de hand van een analyse over de veranderingen in geluk van ouders rond de geboorte van het eerste kind worden deze vragen beantwoord.

*Tijdsbestedingsbeslissingen.* Zoals gezegd zijn inkomen, werk en gezin belangrijke bronnen van geluk. Ze hebben echter ook een kostenkant: werk en huiselijke activiteiten, zoals opruimen, wassen, koken, strijken en zorgen voor de kinderen, kosten tijd. Het zijn bovendien activiteiten die vaak als onplezierig bestempeld worden. Deze tijdskosten zijn tot nu toe nog weinig onderzocht. In dit proefschrift bestuderen we in hoeverre tijdsbesteding aan werk en gezin een effect heeft op geluk. Twee aspecten staan daarbij centraal: i) de tijdskosten van inkomen en kinderen en ii) de rol van tijdsdruk en stress in de relatie tussen tijdsbesteding aan werk en zorg enerzijds en geluk anderzijds.

Daarnaast bestuderen we welke factoren de tijdsbesteding aan werk en zorg binnen huishoudens beïnvloeden. Behalve inzicht verkrijgen in deze factoren, is het doel van het onderzoek in dit proefschrift ook om inzicht te krijgen in de mechanismen die zorgen voor gevoelens van tijdsdruk en een verstoorde balans

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tussen werk en privé. We breiden het bestaande onderzoek naar de tijdsbesteding en taakverdeling binnen het huishouden uit door naast de huishoudcontext ook de werkcontext op te nemen in de analyse. Ook onderzoeken we in hoeverre partners strategieën inzetten en formele en informele afspraken maken op het werk en thuis om te beslissen waar zij hun dagelijkse tijd en energie aan besteden.

## **Hoofdstuk 2: Gelukkig samen. Een studie naar gelukshomogamie bij getrouwde partners**

In hoofdstuk 2 onderzoeken we in hoeverre het geluk van partners onderling samenhangt en hoe dat komt. We gaan na of deze samenhang bestaat omdat partners i) in hetzelfde huishouden wonen en daarom dezelfde restricties kennen, ii) ook in andere opzichten op elkaar lijken omdat ze elkaar daarop hebben uitgezocht op de relatiemarkt iii) elkaars geluksniveau beïnvloeden door middel van hun hulpbronnen en gedrag. Voor de analyse gebruiken we gegevens van 2.681 getrouwde paren uit golf 2004 van de GSOEP.

De resultaten laten een positieve samenhang zien tussen het geluk van beide partners. Gelukkige mensen zijn vaker getrouwd met gelukkige mensen dan je op basis van toeval mag verwachten, ongelukkige mensen vaker met ongelukkige. De kans om zelf ongelukkig te zijn is zeven keer zo hoog als je partner ongelukkig is. De kans om zelf zeer gelukkig te zijn is zelfs twaalf keer zo hoog als je partner zeer gelukkig is. Een klein deel van deze 'gelukshomogamie' is toe te schrijven aan partnerselectie. Doordat partners op elkaar lijken wat betreft leeftijd, opleiding, gezondheid en arbeidsmarktstatus, lijken ze ook een beetje op elkaar qua geluk. Ook is een klein deel te verklaren doordat partners hetzelfde huishoudinkomen delen, met dezelfde kinderen in huis wonen en een gemeenschappelijk huwelijksverleden hebben. De gezamenlijke restricties verklaren samen met partnerselectie tien tot twintig procent van de gelijkens in geluk. Wederzijdse beïnvloeding kan gelukshomogamie niet verklaren.

Een groot deel van de gelijkens in geluk blijft daardoor onverklaard. De partnercorrelatie voor partners die beiden 'gelukkig' zijn is nog steeds hoog na controle voor partnerselectie, gezamenlijke restricties, en wederzijdse beïnvloeding:  $r = 0.40$ . De partnercorrelaties voor partners die beiden 'gelukkig', 'niet gelukkig, niet ongelukkig' of 'ongelukkig' zijn bedragen respectievelijk nog  $r = 0.23$ ,  $r = 0.26$  en  $r = 0.29$ . Een mogelijke verklaring voor deze aanzienlijke onverklaarde samenhang zou kunnen zijn dat partners elkaar uitzoeken op de

relatiemarkt op grond van hun gelukkige persoonlijkheid en zonnige karakter (*directe partnersselectie*). Mogelijk is de samenhang ook toe te schrijven aan andere processen binnen de relatie die het geluk van beide partners op dezelfde manier beïnvloeden, zoals het geven en ontvangen van praktische en emotionele steun aan elkaar. Een andere denkbare verklaring is dat het geluk van de ene partner direct van invloed is op het geluk van de andere partner en andersom. De ene partner is gelukkig *omdat* de ander gelukkig is (*spill-over effect*). Toekomstig onderzoek zal daarover uitsluitsel moeten geven.

Al met al hebben sommige huishoudens dus meer succes in hun zoektocht naar geluk dan andere, waardoor er een tweedeling in de samenleving kan ontstaan tussen ‘gelukkige’ en ‘ongelukkige’ huishoudens. Het lijkt erop dat gunstige en ongunstige kenmerken binnen huishoudens cumuleren, niet alleen met betrekking tot leeftijd, opleiding, gezondheid of arbeidsmarktpositie, maar ook met betrekking tot geluk.

### **Hoofdstuk 3: Gelukkig met de kinderen? Het effect van tijdsbesteding en domeinsatisfactie op het geluk rondom de geboorte van het eerste kind**

In Hoofdstuk 3 bestuderen we de veranderingen in het geluk van ouders rond de geboorte van het eerste kind. Een nieuw aspect aan dit onderzoek is dat we ons concentreren op de mechanismen die schuilgaan achter de geluksdynamiek van ouders. Ook toetsen we in hoeverre de mechanismen voor moeders verschillen van die van vaders.

We hebben twee deelstudies uitgevoerd. In de eerste deelstudie onderzoeken we in welke mate de veranderingen in het geluk rond de geboorte van het eerste kind toe te schrijven zijn aan veranderingen in tijdsbesteding aan werk en zorg, die daar veelal mee gepaard gaan. In de tweede deelstudie gaan we na in hoeverre de geboorte van het eerste kind en de bijbehorende veranderingen in tijdsbesteding, gevolgen hebben voor de tevredenheid van ouders met hun inkomen, vrije tijd, huisvesting en gezondheid. Ook toetsen we in welke mate de veranderingen in het algehele geluk toe te schrijven zijn aan de veranderingen in de tevredenheid op deze vier domeinen. Voor de analyses in beide deelstudies gebruiken we gegevens van 1.130 vaders en moeders uit de eerste 22 golven van de GSOEP (1984-2005). De geluksdynamiek wordt geanalyseerd met behulp van multilevelmodellen voor individuele verandering.

Het geluk van ouders rond de geboorte van het eerste kind volgt gemiddeld genomen het volgende patroon. Een paar jaar voor het kind geboren wordt, zijn toekomstige ouders gelukkiger dan gemiddeld in de samenleving. In het jaar

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voordat het kind geboren wordt, neemt hun geluk een korte tijd nog eens sterk toe. Dat geldt voor vrouwen en mannen in gelijke mate. Onmiddellijk na de geboorte neemt het geluk echter langzaam af en worden de nieuwe ouders ongelukkiger dan voorheen. Als het kind 7,5 jaar is, bereikt het geluk van vaders zijn dieptepunt om vanaf dan weer te stijgen. Het geluk van moeders blijft langer afnemen: pas 15 jaar na de geboorte bereiken moeders het laagste punt van hun geluksniveau. Daarna neemt hun geluk weer langzaam toe.

De verklaringen voor deze patronen zijn voor vrouwen en mannen verschillend. Voor mannen geldt dat de toename in geluk vlak voor de geboorte van het kind volledig is toe te schrijven aan veranderingen in partnerstatus die ongeveer op datzelfde moment plaatsvinden. Niet de komst van de baby, maar het vinden van een partner en het vormen van een gezamenlijk huishouden dragen bij aan het verhoogde geluksniveau van mannen. Uit de eerste deelstudie blijkt dat de afname in geluk op het moment dat het kind geboren is voor mannen niet kan worden verklaard door veranderingen in hun tijdsbestedingspatronen. Deze blijven namelijk redelijk stabiel. De resultaten uit de tweede deelstudie laten zien dat een groot deel van de afname in algeheel geluk van mannen vooral het gevolg is van een verminderde tevredenheid met hun inkomen en deels van een verminderde tevredenheid met hun vrije tijd.

De verminderde tevredenheid van mannen met hun inkomen en vrije tijd is maar voor een zeer klein deel het gevolg van veranderingen in het werkelijke inkomen en de werkelijke tijdsbesteding. De afname van inkomens tevredenheid is mogelijk het gevolg van de hogere huidige en verwachte toekomstige kosten van het kind, waardoor geld en inkomsten voor vaders belangrijker zijn geworden. De afname van tevredenheid met vrije tijd wordt mogelijk veroorzaakt door toegenomen restricties in het gebruik en organisatie van de vrije tijd. De hoeveelheid vrije tijd in een jong gezin wordt dikwijls versnipperd en verspreid over de dag of week. Bovendien kunnen vaders hun tijd meestal minder autonoom invullen en wordt hun vrije tijd meer dan voorheen samen met het gezin doorgebracht.

Het geobserveerde gelukspatroon van vrouwen is deels het gevolg van veranderingen in hun tijdsbestedingspatroon en deels het gevolg van gewinning en aanpassing. Voor vrouwen die rond de geboorte niet werken of een kleine deeltijdbaan hebben, kan de geluksstijging rond de geboorte van het eerste kind worden beschouwd als een heuse *baby-piek*. De (aanstaande) geboorte van de baby maakt deze vrouwen extra gelukkig. Vrouwen die in dezelfde periode meer uren werken, blijven echter even gelukkig als voorheen. De afname in

geluk twee jaar na de geboorte van het kind kan worden toegeschreven aan veranderingen in tijdsbesteding. Gecontroleerd voor de veranderingen in tijdsbesteding blijken vrouwen niet langer ongelukkiger te worden na de geboorte van het eerste kind, maar past het geluk zich aan de gebeurtenis aan en zijn vrouwen even gelukkig als voorheen. Het aantal uren dat vrouwen na de geboorte besteden aan de zorg voor het kind heeft een blijvend een positief effect op het geluk van vrouwen.

Uit de tweede deelstudie blijkt dat de transitie naar het moederschap, anders dan bij mannen, op zichzelf weinig tot geen effect heeft op de tevredenheid van vrouwen met hun inkomen, vrije tijd, huisvesting of gezondheid. Dat wil niet zeggen dat de tevredenheid op deze vier terreinen niet verandert. De veranderingen in partnerstatus, inkomen en tijdsbesteding die gepaard gaan met de geboorte van het eerste kind hebben wel effect op hun tevredenheid met deze domeinen. Een afname in het aantal gewerkte uren heeft een negatief effect op de tevredenheid van vrouwen met hun inkomen en daardoor ook een negatief effect op hun algehele geluk. Dezelfde afname heeft echter een positief effect op de tevredenheid met vrije tijd, en daardoor een positief effect op het algehele geluk. Daarbij moet worden aangetekend dat het effect van inkomen op het algehele geluk van vrouwen sterker is dan het effect van vrije tijd. Het netto effect van de afname in gewerkte uren op het algehele geluk is daardoor negatief. Een toename in het aantal uren zorg voor kinderen leidt tot een afname van het algehele geluk via de verminderde tevredenheid met vrije tijd.

Samenvattend blijken de negatieve correlaties tussen het hebben van kinderen en geluk, die vaak gevonden worden in de literatuur, verklaard te kunnen worden door i) een afname van tevredenheid met inkomen en vrije tijd (vaders), ii) veranderde tijdsbesteding aan werk en zorg, zowel direct vanwege het negatieve effect op geluk, als indirect via de negatieve consequenties voor tevredenheid met inkomen en vrije tijd (moeders), en iii) processen van gewinning en aanpassing (moeders).

#### **Hoofdstuk 4: Inkomen, uren betaald werk en geluk**

In hoofdstuk 4 onderzoeken we de relatie tussen inkomen en geluk en de invloed daarop van tijdsbesteding aan betaald werk. We toetsen de hypothese dat het hebben van inkomen niet alleen voordelen oplevert, maar ook kosten met zich meebrengt. Mensen moeten hun inkomen immers verdienen op de arbeidsmarkt en dat kost tijd. We beargumenteren dat het negeren van de tijdsbesteding aan betaald werk in analyses van inkomen en geluk, leidt tot

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een onderschatting van het effect van inkomen op geluk. We hebben ordered-probitanalyses uitgevoerd op basis van gegevens van 1.349 getrouwde paren uit golf 1999 van de GSOEP.

De resultaten tonen grote verschillen tussen vrouwen en mannen. Voor vrouwen vinden we een positief effect van inkomen op geluk, maar geen effecten van tijdsbesteding aan betaald werk. Voor mannen wordt onze hypothese bevestigd en vinden we een negatief effect van gewerkte uren op geluk. Het weglaten van gewerkte uren uit de analyses onderschat het effect van inkomen op geluk met 25 procent.

### **Hoofdstuk 5: Tijdsbesteding, tijdsdruk en geluk**

Hoofdstuk 5 gaat over de tijdsbesteding aan werk en zorg en het effect daarvan op geluk. We veronderstellen dat de tijdsbesteding aan werk en zorg twee tegengestelde effecten heeft op geluk. Aan de ene kant houden mensen die meer tijd besteden aan werk en zorg, minder vrije tijd over. En vrije tijd wordt in het algemeen geassocieerd met een groter geluk. Bovendien worden werken en zorgen voor het huishouden en kinderen doorgaans beschouwd als onplezierige activiteiten waaraan mensen vaak meer tijd besteden dan ze eigenlijk zouden willen. Alles bij elkaar kan dat leiden tot gevoelens van tijdsdruk, welke een negatief effect hebben op geluk. Aan de andere kant kan de tijdsbesteding aan werk en zorg ook positief bijdragen aan geluk. De tijd die werknemers besteden aan betaald werk kan hen voordelen opleveren in termen van waardering, sociale contacten, status, betere promotiekansen en zelfvertrouwen. De tijd die mensen besteden aan huishoudelijk werk en de zorg voor kinderen kan bijdragen aan een plezierige huiselijke omgeving en kan de relaties tussen de gezinsleden versterken. Deze zaken zijn op zich zelf goed voor geluk.

We toetsen de twee tegengestelde effecten aan de hand van padmodellen. Op basis van data van 762 werknemers uit het Time Competition Survey 2003 gaan we na in wat het effect is van tijdsbesteding aan werk en zorg op geluk en in hoeverre deze relatie gemedieerd wordt door tijdsdruk. We vinden ondersteuning voor onze hypothese dat tijdsbesteding aan werk en zorg twee conflicterende effecten heeft op geluk. Uren betaald werk en huishoudelijk werk genereren tijdsdruk en tijdsdruk leidt tot verminderd geluk. Uren betaald werk en huishoudelijk werk hebben daarnaast ook een direct positief effect op geluk. Deze positieve en negatieve effecten zijn ongeveer even groot en heffen elkaar nagenoeg op. Onze studie toont aan dat mensen gelukkig worden van

betaald werk en huishoudelijk werk, maar dat ze ongelukkig worden van de tijdsdruk die daarmee gepaard gaat. De toevoeging van tijdsdruk aan de analyses werpt een nieuw licht op de mechanismen die ten grondslag liggen aan de relatie tussen tijdsbesteding en geluk.

### **Hoofdstuk 6: Gulzige organisaties en de verdeling van betaalde en onbetaalde arbeid binnen huishoudens**

Uit de voorgaande studies blijkt dat tijdsbestedingspatronen van mensen en de tijdsdruk en stress die daar soms mee gepaard gaan, belangrijk kunnen zijn voor hun geluk. Hoofdstuk 6 concentreert zich daarom op de wijze waarop deze tijdsbestedingspatronen vorm krijgen binnen huishoudens.

Eerder onderzoek heeft laten zien dat eisen vanuit het gezin, zoals de vraag naar tijd en energie die voortvloeiend uit de aanwezigheid van (jonge) kinderen, vergaande consequenties hebben voor de tijdsbesteding van en arbeidsverdeling tussen partners. Tegen deze achtergrond betogen we dat 'gulzige' organisaties eveneens hoge eisen stellen aan de tijd en energie die werknemers 'in hun baan' stoppen en dat deze eisen net zo goed van invloed zijn op de tijdsbesteding van en arbeidsverdeling tussen partners. In onze aanpak gaan we ervan uit dat werknemers zich niet zonder meer aanpassen aan deze eisen, maar dat ze strategieën inzetten en formele en informele besluitvormingsprocedures en -criteria gebruiken om te bepalen waar zij hun dagelijkse tijd en energie aan besteden.

De centrale vraag in dit deelonderzoek is in hoeverre de eisen die vanuit het werk aan vrouwen worden gesteld van invloed zijn op de taakverdeling tussen hen en hun partner thuis. In de tweede plaats onderzoeken we in hoeverre verschillende 'governance'-regimes op het werk en binnen het huishouden deze relatie beïnvloeden. Voor de empirische analyses gebruiken we gegevens van vrouwelijke werknemers, hun werkgevers en hun partners uit het Time Competition Survey 2003.

De uitkomsten van onze analyses laten zien dat behalve de relatieve verdien capaciteit, genderopvattingen en de eisen die vanuit de gezinssituatie worden gesteld, ook de eisen die vanuit het *werk* aan vrouwen worden gesteld de arbeidsverdeling tussen partners bepalen. Hoe meer een baan van een vrouw vraagt, hoe groter haar aandeel in het betaalde werk binnen het huishouden en hoe kleiner haar aandeel in het onbetaalde werk. Haar grotere aandeel in het betaalde werk is geheel toe te schrijven aan een toename van haar eigen betaalde uren. Haar kleinere aandeel in het onbetaalde werk wordt veroorzaakt

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doordat haar partner daar meer uren aan besteedt. Zoals sterke claims vanuit het huishouden bijdragen aan een traditionele rolverdeling tussen partners, zo dragen hoge eisen vanuit het werk en de organisatie bij aan een gelijkwaardigere verdeling van betaalde en onbetaalde activiteiten binnen huishoudens.

Het effect van de eisen die het werk stelt, is echter afhankelijk van de flexibiliteit en professionele autonomie die vrouwen hebben op het werk en van de regels die gelden binnen het huishouden. In de eerste plaats blijken huishoudregels het negatieve effect te versterken die de werkeisen hebben op het aandeel van de vrouw in huishoudelijk werk binnen het huishouden. Dergelijke regels en afspraken helpen vrouwen kennelijk grenzen te stellen aan hun huishoudelijke taken om zodoende beter de claims vanuit hun werk te kunnen honoreren. Meer regels en afspraken op huishoudenniveau vormen dus een nuttig instrumentarium om vrouwen aan de tijdsklem te helpen ontsnappen als de druk vanuit hun werk toeneemt.

In de tweede plaats blijken flexibiliteit en professionele autonomie een remmende invloed te hebben op het effect van werkeisen op het aandeel van de vrouw in betaald werk binnen het huishouden. Dit leidt tot de ietwat tegenstrijdige conclusie dat flexibiliteit en autonomie vrouwen enerzijds een wat ontspannener bestaan lijken te bieden, maar anderzijds bijdragen aan het in stand houden van een traditionelere taakverdeling binnen huishoudens. In lijn met eerder onderzoek suggereren de uitkomsten van ons onderzoek dat mannen hun tijdbestedingspatronen niet aanpassen en niet meer huishoudelijke taken op zich nemen, zolang hun vrouw daarvoor beschikbaar is (Noonan, Estes & Glass, 2007).

### **Implicaties voor beleid**

Dit proefschrift is op een punt heel duidelijk: er is geen standaardrecept voor geluk (zie ook Delhey, 2010). Geluk kan veranderen over de levensloop en *wat* iemand gelukkig maakt en *hoe* dat proces verloopt, verschilt tussen mensen. Beleid lijkt dan ook niet gebaat te zijn bij een *'one-size-fits-all'*-benadering. Bovendien zijn levenslopen mensen in de loop der jaren diverser geworden en vormen persoonlijke keuzes en autonomie belangrijker waarden bij het inrichten van de levensloop. Tegelijkertijd zijn persoonlijke keuze en autonomie ook belangrijker determinanten geworden van geluk (Delhey, 2010; Inglehart, 2008). Dit suggereert dat individuele mensen meer profijt zullen hebben van beleidsinterventies die resulteren in een grotere keuze-vrijheid en die mensen in staat stellen om zelf de juiste keuzes te maken in hun leven.

Een andere conclusie is dat tijdsbestedingspatronen van mensen van invloed zijn op hun geluk. Het is vooral de tijdsdruk die gepaard gaat met betaald werk en de zorg voor huishouden en kinderen die hun geluk negatief beïnvloedt. Beleidsinterventies die de combinatie tussen werk en privé faciliteren, zoals verbeterde beschikbaarheid en kwaliteit van kinderopvang, flexibele arbeidsregelingen en verlofregelingen, kunnen de tijdsdruk en stress verminderen en de balans tussen werk en privé verbeteren. Zo verlagen ze de kosten en verhogen ze de baten van werk en zorg voor individueel geluk.

### **Suggesties voor vervolgonderzoek.**

Ten eerste geeft de grote onverklaarde samenhang tussen de geluiksniveaus van partners uit hoofdstuk 2 redenen om te zoeken naar andere processen die ten grondslag liggen aan deze homogamie in geluk. Onderzoekswaardige alternatieven zijn *directe partnersselectie* (waarbij de homogamie het gevolg is van het feit dat partners elkaar uitzoeken op de relatiesmarkt op grond van hun gelukkige persoonlijkheid en zonnige karakter), *processen binnen de relatie* die het geluk van beide partners op dezelfde manier beïnvloeden (zoals het geven en ontvangen van praktische en emotionele steun) en *spill-over effecten*, waarbij het geluk van de ene partner direct van invloed is op het geluk van de andere.

Ten tweede verdient het aanbeveling om naast de wederzijdse beïnvloeding van partners ook wederzijdse beïnvloeding van ouders en kinderen te onderzoeken.

Ten derde zijn uitgebreidere analyses gewenst als het gaat om de effecten van belangrijke levensgebeurtenissen. Longitudinaal onderzoek kan van grote waarde zijn om te onderzoeken welke levensgebeurtenissen welke effecten hebben en voor wie.

Ten vierde zou een landenvergelijkende studie een welkome uitbreiding vormen van onze studie. Zoals de studies van Inglehart (2008) en Delhey (2010) laten zien, hebben economische factoren en materialistische en postmaterialistische waarden een grote invloed op de factoren die van belang zijn voor geluk. Het verdient aanbeveling om te onderzoeken in hoeverre de effecten van wederzijdse afhankelijkheid binnen gezinnen, levensgebeurtenissen en tijdsbestedingsbeslissingen op het geluk afhankelijk zijn van de context waarin mensen leven.

Ten slotte verdient het aanbeveling om onze resultaten in historisch perspectief te plaatsen door veranderingen over de tijd te bestuderen. Maatschappelijke veranderingen zoals de grote toename in arbeidsparticipatie van vrouwen, de

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maatschappelijke verschuiving naar meer egalitaire genderopvattingen en de groei van het aantal tweeverdienershuishoudens, hebben gevolgen gehad voor de wensen en het gedrag van individuele mensen op het gebied van relaties, levensgebeurtenissen en tijdsbesteding aan werk en zorg. Mogelijk heeft dat ook gevolgen gehad voor hun geluk. Onderzoek naar verschillen tussen generaties en naar verandering van geluk en haar determinanten over de tijd zou een waardevolle aanvulling zijn op de bevindingen in dit proefschrift.







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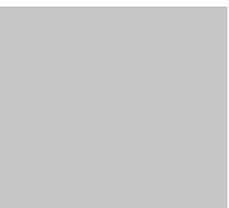
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## **Curriculum vitae**

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Babette Pouwels werd geboren op 6 februari 1972 te Nijmegen. In 1990 behaalde zij haar vwo-diploma aan de Nijmeegse Scholengemeenschap Groenewoud. Vervolgens studeerde zij sociologie aan de Katholieke Universiteit Nijmegen (later Radboud Universiteit) met specialisaties in empirische sociologie en genderstudies. Na haar afstuderen in 1997 werkte zij als beleidsonderzoeker in opleiding (BOiO) bij het Instituut voor Toegepaste Sociale wetenschappen (ITS) (1997 – 1998). Aansluitend was zij als docent en onderzoeker verbonden aan het Institute for Gender Studies en de afdeling Pedagogische Wetenschappen en Onderwijskunde van de Katholieke Universiteit Nijmegen, waar zij aan verschillende projecten werkte op het gebied van gender, ICT en onderwijs (1999 – 2001). Daarna werkte zij op dezelfde universiteit als onderzoeker bij de sectie Methoden & Technieken van de Faculteit Sociale Wetenschappen (2001 – 2003). Zij hield zich daar bezig met interventiemethodologie, voornamelijk op het terrein van crisisbeheersing en rampenbestrijding. In 2003 startte zij met haar promotieonderzoek bij de Utrecht School of Economics van de Universiteit Utrecht. Het onderzoek maakte deel uit van het multidisciplinaire universitaire onderzoeksprogramma *Changing patterns of interdependence and solidarity in family relations*. In de periode 2008 – 2010 was zij als onderzoeker verbonden aan het departement Arbeidsmarkt en Beleid van de OSA, Institute for Labour Studies.

Gedurende haar loopbaan volgde zij verschillende postdoctorale cursussen data-analyse en onderzoeksmethodologie, waaronder de reeks *Theory construction and modelling* (2003 – 2004), *Advanced research methods and techniques of empirical research* (2004) en *Integration of explanatory models with models of analysis and measurement* (2004 – 2005) van het Interuniversity Center for Social Science, Theory and Methodology (ICS).

Vanaf 1 oktober 2010 werkt Babette als postdoctoraal onderzoeker bij de sectie Sociologie van de Erasmus Universiteit Rotterdam, waar zij onderzoek doet naar arbeid, zorg en geluk.