

Parenthood and Life Satisfaction in Germany

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Abstract: This article examines the association between parenthood and life satisfaction. It focuses on the question to which extent parental life satisfaction is influenced by individual and familial context. The empirical study is based on the data from the first wave of the German Family Panel (pairfam). All in all, the analyses show that although parents are less satisfied with their leisure time, their social contacts and their relationship, they are nonetheless more satisfied with their life in general than their childless peers. Increased life satisfaction is observed in particular in the first years following the birth of a child. The satisfaction of parents is, however, dependent upon different contextual factors. Parents in the medium and higher income ranges report a comparatively high degree of life satisfaction, whereas only a weak association is observed between parenthood and life satisfaction among low-income persons. Moreover, the life satisfaction of mothers, but not of fathers, varies with their employment status. For instance, only non-employed and part-time employed mothers report a greater life satisfaction than childless women. Finally, fathers whose family formation was presumably unplanned record no higher level of satisfaction than men without children.

Keywords: Life satisfaction · Parenthood · Happiness

1 Introduction

Familial events such as starting a family are central status passages in the life course, which bring about an extensive restructuring of lifestyles. They affect, for example, employment, the use of leisure time and the social participation. The transition to parenthood can have both positive and negative effects on the various spheres of life (cf. *Nomaguchi/Milkie* 2003).

On the one hand, starting a family can be a stressful event accompanied by restrictions to one's own needs and interests. Fathers and mothers often report a lower marital satisfaction (*Keizer et al.* 2010; *Twenge et al.* 2003) and a greater psychological distress (*Ross/van Willigen* 1996) than childless people. Furthermore,

starting a family causes a decline in leisure activities away from home (*Knoester/Eggebeen 2006; Pollmann-Schult 2010*).

In spite of the diverse stressful effects of parenthood, we frequently also observe an increase – at least temporarily – in general life satisfaction after starting a family (*Kohler et al. 2005; Pollmann-Schult 2010; Myrskylä/Margolis 2012*). The happiness-enhancing effect of children is usually explained by the fact that children satisfy a variety of their parent's psychological needs. The Value of Children (VOC) approach (*Nauck 2001*) ties in with the social production function theory (*Ormel et al. 1999*) and postulates that parents attempt to use having children to maximise both their social and physical well-being. In modern societies, children contribute mainly to optimising social well-being, in other words, by having children, close, intimate and long lasting social relationships are created that satisfy the parents' emotional needs. Also, children can be a status symbol that generates social esteem. Finally, children can promote the social integration of their parents, since parenthood results in opportunities for new social contacts and social involvement. For example, the institutional participation of a child in kindergarten, school or a sports club often demands the civic engagement of fathers and mothers and generates new opportunities for contact with other parents (*Eggebeen/Knoester 2001; Knoester/Eggebeen 2006*).

The question arises, however, whether an increase in life satisfaction following the start of a family is lasting or instead of a temporary nature. The dominant explanatory approaches in happiness research – i.e. the adaptation level theory (*Brickman/Campbell 1971*) and the set point theory (*Headey/Wearing 1989*) – grasp life satisfaction as a time-constant individual trait. According to empirical studies, life satisfaction is chiefly influenced by personality traits such as neuroticism and extraversion that remain stable over time (*Diener/Lucas 1999*). All in all, it is assumed that significant life events only temporarily alter the subjective well-being and that after a certain time span it again approximates the original level of satisfaction. Corresponding studies do show that major life events only influence the level of satisfaction for a shorter term (*Lucas et al. 2003; Clark et al. 2008*). For instance, matrimony only has a positive effect on life satisfaction during the first years of marriage (*Stutzer/Frey 2006*), but even negative events such as divorce or the death of a partner have a relatively short-term effect on the subjective well-being (*Andreß/Bröckel 2007; Lucas et al. 2003*). With regard to the effect of parenthood on life satisfaction, we can therefore anticipate that an increased level of satisfaction can be mainly found during the first years after the birth of a child.

In this article, parental life satisfaction is seen against different contextual factors such as the income situation, participation in employment and family planning. Moreover, I examine the extent to which biological children and stepchildren influence their parents' level of satisfaction in different ways. Although we use a causal language, the available data allow us to examine only the association between parenthood and life satisfaction. The following second section outlines the current state of research with regard to the effects of parenthood on life satisfaction. Then in the third section, I describe the data basis and methodical procedure. The fourth section presents findings on the association between subjective well-being and par-

enthood, and the fifth section discusses methodological problems of the analysis. In the last section, the results are discussed.

2 Parenthood and Life Satisfaction

Although in the past two decades life satisfaction has enjoyed an enormous interest, the association between fertility and life satisfaction has hardly been explicitly examined in either German-language or in international studies. Many studies on subjective well-being take the existence of children into account as one of many explanatory variables. This particularly applies to longitudinal studies that investigate how crucial life events – marriage, divorce, death of a spouse, unemployment and the birth of a child – affect life satisfaction. Usually, these studies reveal an increase in life satisfaction in the time period of the birth of a child and an ensuing decrease from the child's first birthday (*Clark et al. 2008; Frijters et al. 2011; Clark/Georgellis 2012; Angeles 2010*). Some of these studies observe a drop in life satisfaction below the pre-birth level and conclude that parenthood in the long-term has a negative effect on the subjective well-being (*Clark et al. 2008; Clark/Georgellis 2012*). Such a long-term negative effect is ascribed to a decrease in shared leisure time with the partner (*Claxton/Perry-Jenkins 2008*) and an increase in marital conflicts (*Nomaguchi/Milkie 2003*) and depression (*Evenson/Simon 2005*).

However, the above-mentioned longitudinal studies do not take into consideration that the effect of parenthood on life satisfaction can vary with the individual and the familial context. This study therefore pursues the question to which extent parental life satisfaction is influenced by context factors.

First, the life satisfaction of fathers and mothers may differ. Frequently, the assumption is made that starting a family has a more negative effect on women's lifestyles and well-being than on men's (*Nomaguchi/Milkie 2003; Umberson/Grove 1989*). *Nomaguchi* and *Milkie* ascribe this to the fact that mothers do a greater share of the housework and family-related work and experience greater problems reconciling family and work than fathers. Contradictory to this view, however, various studies reveal a greater increase in life satisfaction after starting a family among women than among men (*Clark et al. 2008; Kohler et al. 2005; Myrskylä/Margolis 2012; Clark/Georgellis 2012*).

Parental life satisfaction also varies with the marital status. For example, single parents report a considerably lower life satisfaction than the childless (*Aassve et al. 2011; Frey/Stutzer 2000*). The lesser life satisfaction of single parents appears to result mainly from financial problems and psychological stress, which are observed among this group of persons at above-average frequency. An enduring cohabitation or marriage is apparently a basic prerequisite for an increase in life satisfaction following the start of a family.

Moreover, the life satisfaction of parents can be influenced by the income and employment situation. Children bring about high financial costs, which are particularly stressful for low-income households. For instance, *Bird (1997)* argues that children as such do not impair the psychological well-being of parents, but primarily

the economic and social burdens that accompany the starting of a family (cf. also *Ross/van Willigen* 1996). Even though financial stress among German parents are lessened by social benefits such as child allowances or parental leave benefits and the findings of US studies cannot be transferred to German circumstances without further ado, we can nonetheless assume that starting a family has a more positive effect on the life satisfaction of high-earning couples than of low-income couples. Differences in life satisfaction also exist with regard to the employment status of the parents. Among dual-income couples, parental child-raising and childcare tasks lead to an increased work–life imbalances (*Winslow* 2005) and can therefore lessen marital satisfaction and exacerbate marital conflict (*Claxton/Perry-Jenkins* 2008). Since parents in single-earner households are subjected to such a dual burden to a lesser extent, we can expect that these people demonstrate a greater life satisfaction than parents in dual-income households. Working mothers, who often do the larger share of housework and family-related work alongside their gainful employment (*Grunow et al.* 2007), are affected by work–life conflicts to a special extent. We therefore anticipate that mothers in dual-income households will report a low level of satisfaction. Among fathers, who frequently only do a small share of the household work, life satisfaction by contrast should be influenced by the employment arrangement only to a low extent.

Finally, the life satisfaction of parents can vary with the type of kinship relation to the child as well as family planning. For example, parent-child conflicts, which can impair subjective well-being, are observed more frequently in stepfamilies (*Schlomer et al.* 2010). In fact, various studies indicate that parents of stepchildren are less satisfied than parents of only biological children (*Kohler et al.* 2005; *Rogers/White* 1998). Also, the life satisfaction of parents can depend on whether they planned to start a family or whether their families were unplanned. Unplanned families have a negative effect on the quality of parental relationships (*Cox et al.* 1999) and the subjectively perceived distress (*Leathers/Kelley* 2000). In particular, unwanted children can have long-term negative consequences on life satisfaction (*Barber et al.* 1999). All in all, we anticipate parents of stepchildren reporting a lesser life satisfaction than parents with exclusively biological children and unplanned families leading to a lower level of satisfaction than planned families.

3 Data, Operationalisation and Method

3.1 Data basis

The data from the German Family Panel (pairfam), supervised by Josef Brüderl, Johannes Huinink, Bernhard Nauck and Sabine Walper (*Huinink et al.* 2011) is used for the following analyses. The pairfam study is designed as an annually recurring survey and is funded by the German Research Foundation (DFG) as a long-term project. In the first survey wave conducted in 2008/09 approximately 12,000 young people and adults from the birth cohorts 1971-1973, 1981-1983 and 1991-1993 were interviewed. At the time of the first survey, therefore, the respondents were 15-17, 25-27

and 35-37 years old. In addition to the 12,402 anchors, 3,729 partners of the anchors were also interviewed, whose responses on life satisfaction are not, however, taken into account in this study. The pairfam study focuses on surveying information on intimate relationships, having children and on parent-child relationships. Furthermore, the study records information on general life satisfaction, as well as marital satisfaction or leisure satisfaction. Moreover, the dataset contains basic information on labour market participation and income.

In the following, cross-sectional analyses are conducted using the data from the first survey wave. It is therefore not possible to adequately control for selection effects and to clearly determine the causal direction of the association between parenthood and life satisfaction. Following the discussion of results, I will talk about the implications resulting from this.

The analysis is limited to the data from the two older cohorts, hence that of the 25-27 and 35-37-year-old respondents as well as to women and men with a heterosexual partner. Therefore, single parents are not included in the analyses. In addition, people with adult children as well as childless couples that are physically unable to have children and people with only modest or poor German skills are excluded from the analysis. Ultimately, the analysis is restricted to childless people and parents living together with their children in one household. Restricting the survey sample to coupled men and women who do not live apart from their children avoids possible confounding between parenthood and marital status. However, this also means that the analyses do not enable any conclusions about the life satisfaction of single parents or parents living apart from their children.

The data of the birth cohorts 1981-1983 and 1971-1973 are pooled in the analyses. To take into account the disproportionate stratified sample and the systematic nonresponse, the design weighting recommended by *Brüderl et al.* (2010) is used in all analyses.

3.2 Operationalisation and method

The key explanatory variable of the study is the life satisfaction of the respondents. Life satisfaction is based upon an assessment of their own lives (*Diener/Lucas* 1999; *Diener et al.* 1999). It results from a judgment process in which an individual evaluates his or her quality of life according to his or her own chosen criteria. Therefore, life satisfaction is a purely cognitive construct and independent of moods, however it is usually impossible to clearly differentiate between a momentary mood and life satisfaction in empirical research. Life satisfaction as well as satisfaction with leisure time, the relationship and social contacts were surveyed in the pairfam study using an 11-point scale (0 = very dissatisfied; 10 = very satisfied). The measurement of satisfaction in the pairfam study largely corresponds to that used by the German Socio-Economic Panel (SOEP) and other representative population surveys. In happiness research, life satisfaction is frequently measured using multi-item scales, however various studies show that the measurement of satisfaction using one single item also generates reliable and valid results. For instance, *Lucas and Donnellan* (2012) use the longitudinal information on life satisfaction in the SOEP

to calculate a reliability of 0.74. *Abdel-Khalek* (2006) reports of a high test-retest reliability ($r = 0.86$) in measuring life satisfaction by means of a single-item scale at one-week intervals. Furthermore, *Abdel-Khalek* describes a satisfactory correlation between the single-item scale and established multi-item scales such as the Oxford Happiness Inventory ($r = 0.63$) and the Satisfaction with Life Scale ($r = 0.58$), which indicates a good criterion validity of the single-item scale.

The main covariate of the analysis is the familial situation. It is portrayed in the various models through the existence of parenthood or the age of the youngest child. Other important covariates are the employment status, the income situation, the type of kinship relation to the child and family planning. The different categories of the employment status are the non-employed, part-time employed (up to 30 hours per week) and full-time employed (30 hours per week and more). In order to account for the income situation, the respondents are divided into four income groups using the household equivalent income. Based on the categorisation of the "Datenreport" (*Statistisches Bundesamt* 2011), the following income groups are formed: less than 75 % of the mean household equivalent income (*poverty and precarious prosperity*), 75-100 % of the mean household equivalent income (*lower and medium income range*), 100-125 % of the mean household equivalent income (*medium to upper income range*) and over 125 % of the mean household equivalent income (*upper income range*). The average household equivalent income in 2009 was exactly € 1499 (*Statistisches Bundesamt* 2011).

With regard to the type of kinship relation between parents and children, three groups are differentiated: respondents with only biological children of both partners, respondents with at least one stepchild, and respondents with at least one biological child from an earlier relationship.¹ Family planning was not explicitly surveyed in the pairfam study, so this is indicated based on the time the partners commenced cohabitation. In the following, a family is referred to as "unplanned" when the partners commenced cohabitation following conception – or 9 months before the birth of the first child. A family is referred to as "planned" when the partners began cohabitating before conception. Although the validity of the indicator used is limited, in particular because unplanned pregnancies can also occur in married or cohabitating couples, all in all we can assume that an unplanned pregnancy occurs far more frequently if the couple is not yet living together at the time of conception. The average life satisfaction of women and men differentiated according to primary socio-demographic variables is shown in Table 1.

Furthermore, various control variables are taken into account, their coefficients are, however, not reported here. Relevant tables that also show the coefficients of the control variables are to be found in the appendix. I control for the birth cohort (1971-1973, 1981-1983), the region (Eastern Germany, Western Germany), the respondent or their partner being pregnant, the migration background (no migration background, the first immigrant generation, the second immigrant generation),

¹ In five cases, both partners brought a child from an earlier relationship into the current relationship. These persons were not included in this stage of the analysis.

Tab. 1: Average life satisfaction of women and men differentiated according to socio-demographic variables

	Women		Men	
	Mean	SD	Mean	SD
<i>Parenthood</i>				
No children	7.8	1.6	7.7	1.5
At least 1 child	7.9	1.6	7.7	1.6
<i>Income position ^a</i>				
No children, max. precarious prosperity ^a	7.5	1.5	7.5	1.8
Children, max. precarious prosperity ^a	7.6	1.8	7.3	1.9
No children, lower to medium income range ^b	7.6	1.5	7.5	1.5
Children, lower to medium income range ^b	7.9	1.6	7.8	1.4
No children, medium to upper income range ^c	7.6	1.8	7.8	1.3
Children, medium to upper income range ^c	8.0	1.4	8.0	1.4
No children, upper income range ^d	8.0	1.5	8.1	1.2
Children, upper income range ^d	8.3	1.3	8.1	1.4
<i>Employment arrangement</i>				
No children, man full-time, woman non-employed	7.9	1.6	7.6	1.7
No children, man full-time, woman part-time	7.3	1.9	7.6	1.4
No children, man full-time, woman full-time	7.8	1.6	7.9	1.4
Children, man full-time, woman non-employed	8.0	1.7	7.8	1.6
Children, man full-time, woman part-time	7.9	1.5	8.0	1.5
Children, man full-time, woman full-time	7.7	1.7	7.7	1.6
<i>Type of relationship to the children</i>				
Only biological children	7.9	1.6	7.6	1.7
At least 1 stepchild: respondent	7.7	1.7	7.3	1.4
At least 1 stepchild: partner	7.6	1.7	7.7	1.6
<i>Family planning</i>				
„Planned“ family	7.9	1.6	7.8	1.6
„Unplanned“ family	7.8	1.7	7.5	1.6

SD = Standard Deviation

^a lower than 75 % of the mean equivalent net income (max. 1124 €);

^b 75-100 % of the mean equivalent net income (1125 €-1499 €);

^c 101-125 % of the mean equivalent net income (1500 €-1875 €);

^d over 125 % of the mean equivalent net income (over 1875 €).

Source: pairfam, author's calculations

the educational level (in training, no certification, apprentice certificate, vocational school, university of applied science, university degree), the occupational class based on the Goldthorpe class scheme (7 classes) as well as for the employment status (employed, in training, non-employed, unemployed) and for the subjectively perceived health (poor, not good, satisfactory, good, very good). The personality

traits surveyed in the first pairfam survey (explosiveness and anger, emotional autonomy, self-worth, shyness) are also incorporated. All four scales are composed of three items each (Walper *et al.* 2010). The Cronbach's alpha of these four scales ranges between 0.63 and 0.80 (Walper *et al.* 2010: 55), so that the internal consistency of the scales can be assessed as satisfactory.

The information on the level of satisfaction is ordinal and analysed using ordered logit regression (cf. e.g. Long/Freese 2003). Due to the skewed distribution of the satisfaction data, instead of the more common logit-link function, the complementary log-log link function was used. The tables show the non-standardised β coefficients.

Almost all of the regression models are estimated separately for women and men. Possible differences in the effect size between men and women are checked using the test method designed by Williams (2009) to compare logit coefficients.

4 Results

In a first step, we look at the effect of parenthood on satisfaction with leisure time, the relationship, social contacts and general life satisfaction (Table 2). As can be seen in the first model, mothers as well as fathers report a lesser satisfaction with leisure time than childless women and men. Furthermore, fathers record a lesser satisfaction with social contacts and mothers a lesser marital satisfaction compared to people without children. The coefficients of the final models, however, indicate that mothers and fathers experience a significantly greater life satisfaction than childless people. In general, these findings confirm the results of earlier studies: although starting a family apparently leads to conflicts and tensions in the relationship and greatly limits opportunities for leisure time activities, parenthood appears to have a positive influence on the general satisfaction with life.

In the second step, we now look at the life satisfaction of parents depending on the age of the children (Fig. 1). Due to the low number of cases in the individual age classes, a combined model is estimated for women and men. In accord with the assumptions of the set-point theory, there is an increased level of life satisfaction especially among young parents, whereby a particularly high degree of life satisfaction is observed during the first year of the youngest child's life. A distinctly increased level of life satisfaction is only observed until the third birthday of the youngest child, and from the sixth birthday, the difference in life satisfaction between parents and childless people is only minor and no longer statistically significant. The assumptions of the set-point theory also include anticipation effects, meaning that life satisfaction ought to increase during pregnancy. For instance, the analyses by Clark *et al.* (2008) reveal a significantly increased life satisfaction in the year before the birth of a child. This effect cannot be ascertained, however, in the analyses conducted here. Although the coefficient for pregnancy is positive in all model estimations, it is not statistically significant (cf. the tables in the appendix).

The next step of the analysis looks at the life satisfaction of parents depending on the household income (Table 3). Since the psychological costs of parenthood

Tab. 2: Effect of parenthood on subjective well-being, separate estimates for women and men (ordered logit regression)

	Satisfaction with leisure time	Satisfaction with social contacts	Marital satisfaction	Life satisfaction
<i>Women</i>				
Mother (vs. childless)	-0.2823**	0.0477	-0.2144*	0.1616**
Number of cases	2728	2729	2705	2731
LR Chi ² (Df=30)	174.97**	206.67**	257.09**	433.77**
<i>Men</i>				
Father (vs. childless)	-0.3123**	-0.2549**	0.1158	0.1360*
Number of cases	2196	2196	2173	2197
LR Chi ² (Df=30)	187.12**	239.75**	209.55**	386.24**
<i>Likelihood ratio test: coefficient „mother“ vs. coefficient „father“</i>				
LR Chi ² (Df=1)	1.00	8.83**	17.53**	0.00

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

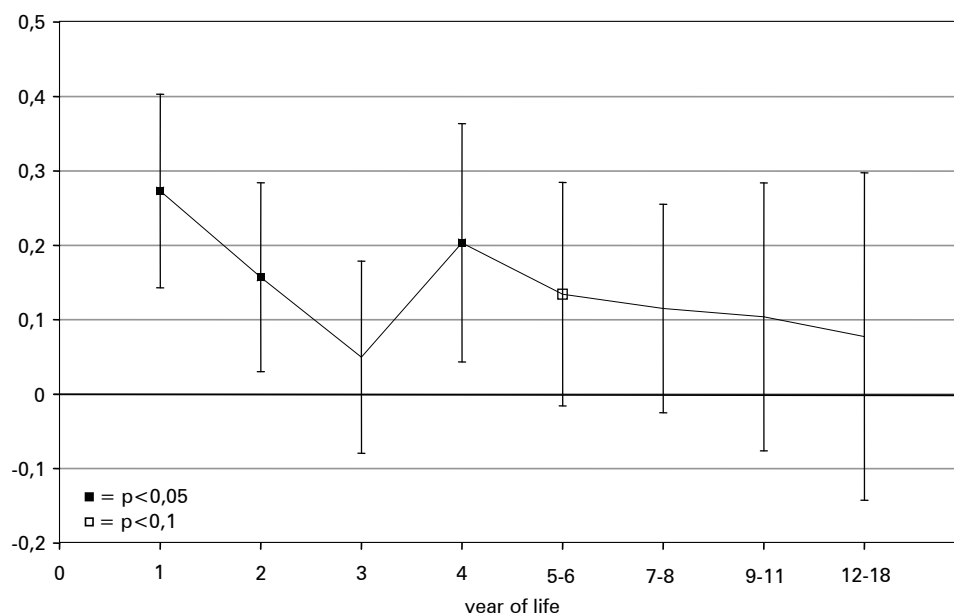
Control variables: birth cohort, region, interaction term „birth cohort x region“, wife/partner pregnant, migration background, educational level, vocational situation, personality traits, health.

Source: pairfam, author's calculations

can be intensified by the financial burdens related to having children (*Bird* 1997), we can assume that low-income parents will report a comparatively low life satisfaction. In order to check this, separate analyses for four income groups are conducted. As can be recognized in the first model, there is no significant effect of parenthood on life satisfaction among people living in poverty or precarious prosperity, thereby confirming the assumption of lower life satisfaction among low-income parents.

By contrast, among women and men in the medium and higher income ranges there is a significantly positive association between the family situation and life satisfaction. Surprisingly, the effect of parenthood on life satisfaction is strongest in the lower to medium income range, whereas this effect is also statistically significant yet less pronounced in the two upper income ranges. Possibly this comparatively weak association between parenthood and life satisfaction among high-income people is due to a higher percentage of dual-income couples among them. Parents in dual-income households experience work–life imbalances between work and family far more frequently than working parents whose partners are non-employed (*Winslow* 2005). In fact, in the upper income groups dual-income households are overrepresented, whereas single earner households are underrepresented. In the group of parents with an above-average household equivalent income, the percentage of dual-income couples is 20 % and the percentage of single earner households is 36 %. By contrast, among parents with a below-average household equivalent income,

Fig. 1: Effect of the age of the youngest child on life satisfaction (ordered logit regression, coefficients and 95 % confidence interval)



Reference group: Childless women/men.

Control variables: birth cohort, region, interaction term „birth cohort*region“, wife/partner pregnant, migration background, educational level, vocational situation, personality traits, health.

Source: pairfam, author's calculations

both partners are employed full-time in only 13 % of the households, while in 46 % of the households only the man is gainfully employed. We can assume that gainful employment of both partners is more of a burden for mothers than for fathers, since women do most of the family work even when they are employed full-time and are therefore subject to multiple burdens of gainful employment, housework and child-care, whereas the time spent by fathers doing housework hardly increases once they start a family (*Haberkern 2007*).

The results displayed in Table 4 now explicitly account for the employment arrangement within the relationship while also controlling for income. The analysis sample is limited to the most common employment arrangement. Since the pairfam dataset contains only a few non-employed fathers (105 persons) as well as fathers in marginal or part-time employment (36 persons), the following analysis is restricted to men who are employed full-time. Due to the number of cases, women with a non-employed or part-time employed partner are also not included. The reference group are women or men in a childless, dual-income relationship.

As the calculations for women show (Table 4), non-employed mothers report a significantly greater life satisfaction than the reference group (full-time employed

Tab. 3: Effect of parenthood on life satisfaction differentiated according to the household income (ordered logit regression)

	Max. precarious prosperity ^a	Lower to medium income range ^b	Medium to upper income range ^c	Higher income range ^d
Father/mother (vs. childless)	0.0878	0.2877**	0.2791*	0.2302*
Number of cases	1332	928	737	966
Chi ² (Df=31)	276.94**	206.23**	160.75**	226.32**

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

^a equivalent net income between 0 and lower than 75 %;

^b equivalent net income 75-100 %;

^c equivalent net income 101-125 %;

^d equivalent net income > 125 %

Control variables: gender, birth cohort, region, interaction term „birth cohort*region“, wife/partner pregnant, migration background, educational level, vocational situation, personality traits, health.

Source: pairfam, author's calculations

Tab. 4: Effect of parenthood on life satisfaction differentiated according to employment arrangement (ordered logit regression)

	Women	Men	Likelihood ratio test „women“ vs. „men“
No children, man full-time, woman non-employed	0.1648	-0.0296	0.17
No children, man full-time, woman part-time	-0.0237	-0.1815	0.10
No children, man full-time, woman full-time (ref.)	-	-	
Children, man full-time, woman non-employed	0.4220**	0.0346	11.10**
Children, man full-time, woman part-time	0.2359**	0.1069	1.03
Children, man full-time, woman full-time	0.1449	-0.0207	0.02
Number of cases	1921	1427	
Chi ² (Df=28)	398.74**	258.06**	

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

Control variables: birth cohort, region, interaction term „birth cohort*region“, wife/partner pregnant, income situation, migration background, educational level, personality traits, health.

Source: pairfam, author's calculations

childless women). Mothers in part-time employment also report a significantly higher level of satisfaction; however the effect size is distinctly lesser. By contrast, full-time working mothers are not significantly more satisfied than full-time working childless women. All in all, the assumption that mothers in dual-income relationships experience a comparatively low level of satisfaction is affirmed. Apparently, only non-employed and part-time employed women experience an increase in life satisfaction as a result of parenthood. The finding that mothers in dual-income relationships are less satisfied than mothers in traditional relationships with a male single earner concurs with earlier findings by *van Schoor* and *Seyda* (2011).

The corresponding analyses for men, by contrast, show that the employment arrangement within the relationship does not influence the life satisfaction of fathers. The comparatively high level of satisfaction of fathers in dual-income relationships can be explained by the fact that they are less often subjected to a dual burden of paid and unpaid work than their employed female partners.

Finally, we will look at the life satisfaction of parents depending on their type of kinship relation to the child and on family planning (Table 5). In the upper model of Table 5, mothers and fathers with exclusively biological children are the reference group. As we can see, these parents are significantly more satisfied than childless women and men. However, parents who live in a household with stepchildren are not significantly less happy than parents with exclusively biological children. Although stepfamilies suffer more from familial conflicts, it seems that the type of kinship relationship to the child does not essentially influence the general life satisfaction of the parents. However, women who live with a stepchild and men who bring a biological child into the relationship exhibit a comparatively low life satisfaction. This is not the case for men with a stepchild or women with a biological child from an earlier relationship. Possibly there are greater conflicts and lesser life satisfaction for both partners when the man brings a child from an earlier relationship into the new family.

The lower model of Table 5 examines the extent to which family planning has an influence on the life satisfaction of parents. Fathers and mothers who presumably planned to start a family exhibit a significantly greater life satisfaction than childless parents. By contrast, fathers with a presumed unplanned family are not more satisfied than childless men. These results concur with the expectations. However, mothers who we can assume did not plan their family also exhibit a significantly greater life satisfaction than childless women. Possibly, an unplanned family only has a negative effect on the life satisfaction of fathers, but not of mothers. This gender difference could be due to the fact that compared to men, women less often perceive unplanned families as unwanted.

Tab. 5: Effect of the type of kinship relation and family planning on life satisfaction (ordered logit regression)

	Women	Men	Likelihood ratio test „women“ vs. „men“
<i>Type of relationship to the children</i>			
No children	-0.1665**	-0.1555**	0.03
Only biological children (ref.)	-	-	
At least 1 stepchild: respondent	-0.2249	-0.0345	0.63
At least 1 stepchild: partner	-0.0041	-0.3263	2.93 ⁺
Number of cases	2708	2151	
Chi ² (Df=32)	441.34**	366.89**	
<i>Family planning</i>			
No children (ref.)	-	-	
„Planned“ family	0.1474**	0.1661*	0.29
„Unplanned“ family	0.2733*	0.0278	3.24 ⁺
Number of cases	2708	2151	
Chi ² (Df=31)	453.62**	370.57**	

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

Control variables: birth cohort, region, interaction term “birth cohort*region”, wife/partner pregnant, migration background, educational level, vocational situation, personality traits, health.

Source: pairfam, author’s calculations

5 Correlation or Causality: Methodological Problems of the Analysis

The analyses are based on cross-sectional data, so that the causal direction of the observed association cannot be determined empirically. In concrete terms, the analyses presented here have two serious problems that prevent a causal interpretation of the results. The first is the problem of reverse causality. The findings presented here might not be a result of parenthood having a causal affect on the life satisfaction, but an increase in life satisfaction might rather influence the decision to start a family. The second is that the results may be biased by unobserved heterogeneity, in that unobserved personality traits mark both the level of satisfaction as well as affect the probability of transition to parenthood, although in fact there is no causal association between parenthood and life satisfaction.

The methodological problems outlined here can be met by the use of suitable longitudinal analysis methods. Using fixed effects regressions practically eliminates biases caused by time-constant unobserved heterogeneity. A comparison of the results of cross-sectional and longitudinal analyses therefore indicates to which extent the results of cross-sectional analyses are able to reflect the causal effect of

parenthood on life satisfaction. Both analysis techniques produce similar results. The studies by *Frijters et al.* (2011) for Australia as well as by *Myrskylä and Margolis* (2012) for Germany and Great Britain observe an increase in life satisfaction at the time of the birth of a child and a decrease after the child's first birthday for OLS as well as fixed effects estimates. Furthermore, for the longitudinal panel regressions for Germany, *Myrskylä and Margolis* (2012) report greater positive effects than for the cross-sectional OLS regressions, which indicates that cross-sectional analyses for Germany do not overestimate, but underestimate a positive effect of parenthood on life satisfaction. *Hansen* (2012: 40) discusses these findings and states, "It seems unlikely that reverse causation or unobserved third factors (e.g., personality traits) are accounting for cross-sectional associations between parental status and well-being."

The results of longitudinal studies therefore indicate that the findings in this article demonstrate a causal effect of parenthood on life satisfaction. However, the coefficients for small children shown here are far greater than the coefficients reported in earlier longitudinal studies. There are at least two reasons for this. Firstly, we cannot exclude that the effect size of the coefficients shown here may have been overestimated due to insufficient control for unobserved heterogeneity. Secondly, the analyses conducted here only include parents in a relationship, whereas earlier longitudinal studies did not make any such restriction and also included single, divorced and widowed parents. Having children may well have a far lesser positive effect on the subjective well-being of this group of people than on coupled people (*Hansen* 2012).

Finally, I would like to point out again that due to the restriction of the sample to people between the ages of about 25 and 35 years in this study, primarily parents with young children are observed. Thus, almost half of the mothers and fathers included in the analyses have a child of a maximum of 2 years of age. The presented results therefore primarily allow for conclusions about the life satisfaction of parents of young children in a relationship.

6 Conclusions

Most family sociology studies indicate that starting a family can have both positive as well as negative effects on the lives of the parents. While relevant studies from the 1980s and 1990s mainly focus on the negative effects of parenthood – in particular the drop in relationship satisfaction (cf. *Nomaguchi/Milkie* 2003; *Twenge et al.* 2003) – more recent studies give more attention to the positive effect of parenthood on the subjective well-being.

The analyses also reveal a positive association between parenthood and life satisfaction. Nonetheless, the life satisfaction of parents depends on a variety of contextual factors. For instance, unlike the predictions of the „value of children“ approach, children only appear to significantly influence the life satisfaction during their first years of life. This result affirms the assumptions of the set-point theory,

whereby incisive life events only increase or reduce the level of satisfaction temporarily.

Other contextual factors taken into account were the income situation, the employment arrangements, the type of kinship relation as well as family planning. On the one hand, parental life satisfaction varies distinctly with the available household income. Parents living in poverty or in precarious prosperity are not more satisfied than their childless peers, whereas in the medium and higher income ranges we can observe a distinct association between parenthood and life satisfaction. However, in the upper income group there is a weaker association between parenthood and the level of satisfaction than in the medium income groups. This finding is apparently due to the fact that an over-proportional number of high-income mothers and fathers live in dual-income households and therefore suffer from work-life imbalances to a greater extent. This association between work strain and life satisfaction is observed more frequently among mothers. While non-employed mothers are distinctly more satisfied than childless women, full-time working mothers experience no higher level of satisfaction than women without children.

Furthermore, the analyses revealed that familial factors such as the type of kinship relation between parents and children or family planning only slightly influence the life satisfaction of parents. Hence, biological parents report no significantly greater life satisfaction than parents living in a household with stepchildren. Furthermore, mothers whose families were presumably unplanned are not less satisfied than mothers who consciously planned to start a family. However, fathers whose families were presumably unplanned report a comparatively low life satisfaction.

Finally, these findings illustrate that the data from the German Family Panel are very well suited for the analysis of the psychological consequences of parenthood. This study not only recorded subjective well-being more precisely than many other data surveys, but also familial processes and contexts. Although the data surveyed so far do not allow for any reliable causal analyses, corresponding longitudinal analyses ought to be conducted once information is available from a sufficient number of survey waves.

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Appendix

Tab. A1: Effect of parenthood on subjective well-being (ordered logit regression)

	Satisfaction with leisure time		Satisfaction with social contacts		Marital satisfaction		Life satisfaction	
	Women	Men	Women	Men	Women	Men	Women	Men
Father/mother ^a	-0.2823**	-0.3123**	-0.0477	-0.2549**	-0.2144**	-0.1158	0.1617**	0.1360*
Woman/partner pregnant	-0.2027	-0.0725	0.0678	-0.1247	0.1042	0.2230 ⁺	0.0321	0.1251
Eastern Germany	0.1151	0.1050	0.0528	0.0832	-0.0331	0.0351	0.0763	0.1687 ⁺
Birth cohort: 1970-1973 ^b	0.0951	-0.0475	-0.1077	-0.2208 ⁺	-0.0727	0.2847*	-0.1517	-0.2099 ⁺
Birth cohort*E. Germany	0.0339	-0.0234	0.0406	0.0262	-0.0352	-0.1479	0.1562	0.2618*
1 st immigrant generation ^c	-0.1822**	-0.1023	-0.1815*	0.0080	0.0518	0.3151**	0.0178	0.0698
2 nd immigrant generation ^c	-0.0230	0.0842	-0.0590	-0.0426	0.0333	0.1484	0.0886	-0.0033
Lower service rank ^d	0.1215	0.0972	0.1687 ⁺	0.1255	-0.0344	-0.0588	-0.0102	-0.1613*
Non-manual routine work ^d	0.0649	0.2060 ⁺	0.2058*	0.2198 ⁺	0.1512	-0.1419	0.0381	-0.1635
Self-employed ^d	-0.1171	-0.0065	0.2316	-0.0756	-0.0741	-0.2664 ⁺	-0.2410	-0.1873
Technician, supervisor ^d	0.1547	0.0098	0.2438	-0.0134	-0.2433	0.0431	0.0020	-0.1994
Skilled worker ^d	0.1192	0.2951**	0.3091	0.2931**	0.1922	0.0306	-0.1941	-0.1589 ⁺
Unskilled and semi-skilled worker ^d	0.0172	0.1709 ⁺	0.3124**	0.1484	0.0505	0.1431	-0.1472	-0.2046*
Presently in training ^d	0.1953	0.0468	0.1488	0.1733	-0.1183	-0.0714	-0.0005	-0.2465*
Unemployed ^d	0.1266	0.1995	0.2055	0.2353	0.1954	0.2523	-0.2080	-0.6413**
Non-employed ^d	0.1050	0.4023	0.1660 ⁺	0.1713	0.2379*	0.2265	0.1904*	-0.6733**
Health: poor ^a	0.0514	-0.1372	0.0530	-0.0050	0.2124	-0.4033 ⁺	-0.7080**	-0.4925 ⁺
Health: not good ^e	-0.3080**	-0.3396**	-0.1922*	-0.0180	-0.3599**	-0.1702	-0.4918**	-0.4756**
Health: satisfactory ^a	-0.4330**	-0.3688**	-0.2618**	-0.1935*	-0.2401**	-0.3566**	-0.5374**	-0.6227**
Health: good ^e	-0.2584**	-0.2006**	-0.1301*	-0.0473	-0.2529**	-0.1932**	-0.2844**	-0.3598**
Education: in training ^f	0.0522	0.1269	0.1529	-0.1031	0.1822	-0.1088	0.0957	0.0546
Education: no certification ^f	0.1695 ⁺	0.0649	0.1859 ⁺	0.1887	0.0268	0.1997	-0.0436	0.1053
Education: apprentice certificate ^f	0.0953	0.1746*	0.1326 ⁺	0.1201	-0.1523*	0.0826	-0.0901	0.0498
Education: secondary education ^f	0.1180	0.0766	0.1260	0.0762	-0.1900*	-0.0906	-0.0966	-0.0417
Education: vocational school ^f	-0.0263	0.1499	0.1058	0.1562	-0.0883	-0.0713	-0.0015	0.0608
Education: univ. of applied science ^f	0.1067	0.0793	-0.0053	0.0206	-0.1066	-0.0654	-0.0438	0.1455
Personality: explosiveness	-0.0136 ⁺	0.0004	-0.0273**	-0.0260*	-0.0579**	-0.0558**	-0.0392**	-0.0515**
Personality: emotional autonomy	0.0067	0.0422**	0.0173	0.0346*	0.0142	0.0480**	-0.0040	0.0357**
Personality: self-worth	0.0538**	0.0413**	0.0609**	0.0582**	0.0981**	0.0656**	0.1485**	0.1410**
Personality: shyness	-0.0236*	-0.0354	-0.0641**	-0.0788**	-0.0143	-0.0223 ⁺	-0.0399**	-0.0134

Significance level: ** = p<0.01; * = p<0.05; + = p<0.1. Reference groups: ^a childless; ^b birth cohort 1980-83;

^c no migration background; ^d upper service rank; ^e health: very good; ^f university degree.

Source: pairfam, author's calculations

Tab. A2: Effect of the age of the youngest child on life satisfaction (ordered logit regression)

	Women and Men
Up to 1 year old ^a	0.2731**
1 to 2 years old ^a	0.1573*
2 to 3 years old ^a	0.0498
3 to 4 years old ^a	0.2034*
4 to 6 years old ^a	0.1345 ⁺
6 to 8 years old ^a	0.1151
8 to 11 years old ^a	0.1040
11 to 18 years old ^a	0.0775
Man	-0.1786**
Woman/partner pregnant	0.0974
Eastern Germany	0.0968
Birth cohort: 1970-1973 ^b	-0.1819*
Birth cohort*E. Germany	0.2288*
1 st immigrant generation ^c	0.0627
2 nd immigrant generation ^c	0.0601
Lower service rank ^d	-0.0996 ⁺
Non-manual routine work ^d	-0.0668
Self-employed ^d	-0.2017*
Technician, supervisor ^d	-0.1055
Skilled worker ^d	-0.1139
Unskilled and semi-skilled worker ^d	-0.1857*
Presently in training ^d	-0.1321
Unemployed ^d	-0.4235**
Non-employed ^d	0.0252
Health: poor ^e	-0.6107**
Health: not good ^e	-0.4897**
Health: satisfactory ^e	-0.5792**
Health: good ^e	-0.3166**
Education: in training ^f	0.0635
Education: no certification ^f	0.0335
Education: apprentice certificate ^f	-0.0091
Education: secondary education ^f	-0.0514
Education: vocational school ^f	0.0398
Education: univ. of applied science ^f	0.0593
Personality: explosiveness	-0.0429**
Personality: emotional autonomy	0.0124
Personality: self-worth	0.1424**
Personality: shyness	-0.0283**

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

Reference groups: ^a childless; ^b birth cohort 1980-83; ^c no migration background;

^d upper service rank; ^e health: very good; ^f university degree.

Source: pairfam, author's calculations

Tab. A3: Effect of parenthood on life satisfaction differentiated according to household income (ordered logit regression)

	Max. precarious prosperity ¹	Lower to medium income range ²	Medium to upper income range ³	Higher income range ⁴
Father/mother ^a	0.0878	0.2877**	0.2791*	0.2302*
Man	-0.1685*	-0.1470	-0.1287	-0.1416 ⁺
Woman/partner pregnant	-0.0373	0.1732	-0.2637	0.2606
Eastern Germany	0.0381	-0.1608	0.1191	0.2126
Birth cohort: 1970-1973 ^b	-0.1938	-0.3666*	-0.2039	0.0294
Birth cohort*E. Germany	0.3483*	0.5070**	-0.0178	-0.0517
1 st immigrant generation ^c	0.0537	0.1372	-0.0349	-0.0479
2 nd immigrant generation ^c	0.0515	0.1821	0.0475	0.0449
Lower service rank ^d	-0.3344	0.1841	-0.0350	-0.0119
Non-manual routine work ^d	-0.1710	-0.0592	-0.1265	0.2202
Self-employed ^d	-0.6622**	-0.1764	0.0663	-0.1623
Technician, supervisor ^d	-0.4890 ⁺	-0.0455	-0.3379	0.4016
Skilled worker ^d	-0.2678	-0.0713	0.0126	-0.1426
Unskilled and semi-skilled worker ^d	-0.3884 ⁺	0.0546	-0.3770 ⁺	0.1438
Presently in training ^d	-0.4256*	0.3250	-0.2846	0.2881
Unemployed ^d	-0.6569**	0.3103	-0.6137	0.0272
Non-employed ^d	-0.1158	0.2130	0.1588	0.1856
Health: poor ^e	-0.5202 ⁺	-0.5885*	-0.1565	-0.5693*
Health: not good ^e	-0.4336**	-0.6381**	-0.5319**	-0.1390
Health: satisfactory ^e	-0.6397**	-0.7081**	-0.4431**	-0.4843**
Health: good ^e	-0.2960**	-0.4342**	-0.1632	-0.1506
Education: in training ^f	0.1449	0.3295	0.3812	-0.5257*
Education: no certification ^f	0.0237	0.0660	0.2783	-0.3275
Education: apprentice certificate ^f	-0.0580	0.0977	0.2211	-0.2728*
Education: secondary education ^f	-0.0117	-0.0808	-0.0419	-0.1660
Education: vocational school ^f	0.1476	0.1175	0.0094	-0.1148
Education: univ. of applied science ^f	0.0892	0.1080	-0.0054	-0.0924
Personality: explosiveness	-0.0461**	-0.0235	-0.0689**	-0.0460**
Personality: emotional autonomy	0.0042	-0.0180	0.0220	0.0729**
Personality: self-worth	0.1348**	0.1534**	0.1753**	0.1888**
Personality: shyness	-0.0090	-0.0465*	0.0037	-0.0382*

 Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

 Reference groups: ^a childless; ^b birth cohort 1980-83; ^c no migration background;

^d upper service rank; ^e health: very good; ^f university degree.

¹ equivalent net income between 0 and lower than 75%;

² equivalent net income 75-100%;

³ equivalent net income 101-125%;

⁴ equivalent net income > 125%

Source: pairfam, author's calculations

Tab. A4: Effect of employment constellation on life satisfaction differentiated according to employment arrangement (ordered logit regression)

	Women	Men
No children, man full-time, woman non-employed ^a	0.1648	-0.0296
No children, man full-time. woman part-time ^a	-0.0237	-0.1815
Children, man full-time. woman non-employed ^a	0.4220**	0.0346
Children, man full-time. woman part-time ^a	0.2359**	0.1069
Children, man full-time. woman full-time ^a	0.1449	-0.0207
Woman/partner pregnant	-0.1608	0.2961 ⁺
Eastern Germany	0.1949 ⁺	-0.0974
Birth cohort: 1970-1973 ^b	-0.0578	-0.3320*
Birth cohort*E. Germany	0.0781	0.4658**
Lower to medium income range ^c	-0.0293	0.1008
Medium to upper income range ^c	0.0278	0.2232*
Upper income range ^c	0.2332**	0.2280*
1 st immigrant generation ^d	0.0593	0.0716
2 nd immigrant generation ^d	0.0878	-0.0023
Health: poor ^e	-0.6753**	-0.8002**
Health: not good ^e	-0.5033**	-0.4314**
Health: satisfactory ^e	-0.5709**	-0.5368**
Health: good ^e	-0.2237**	-0.3165**
Education: in training ^f	0.1052	-0.1515
Education: no certification ^f	-0.1376	-0.0366
Education: apprentice certificate ^f	-0.0721	-0.0626
Education: secondary education ^f	-0.0724	-0.1435
Education: vocational school ^f	0.0140	-0.0147
Education: univ. of applied science ^f	-0.0404	0.0629
Personality: explosiveness	-0.0423**	-0.0499**
Personality: emotional autonomy	-0.0034	0.0536**
Personality: self-worth	0.1785**	0.1431**
Personality: shyness	-0.0222 ⁺	-0.0058

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

Reference groups: ^a No children, man full-time, woman full-time; ^b birth cohort 1980-83;

^c max. precarious prosperity; ^d no migration background; ^e health: very good;

^f university degree.

Source: pairfam, author's calculations

Tab. A5: Effect of the type of kinship relation to the child on life satisfaction (ordered logit regression)

	Women	Men
No children ^a	-0.1665**	-0.1555**
At least 1 stepchild: respondent ^a	-0.2249	-0.0345
At least 1 stepchild: partner ^a	-0.0041	-0.3263
Woman/partner pregnant	0.0726	0.1703 ⁺
Eastern Germany	0.1430	0.2357 ⁺
Birth cohort: 1970-1973 ^b	-0.1383	-0.1879
Birth cohort*E. Germany	0.0310	0.0574
1 st immigrant generation ^c	0.0859	-0.0021
2 nd immigrant generation ^c	0.0326	0.1287
Lower service rank ^d	-0.0208	-0.1663*
Non-manual routine work ^d	0.0301	-0.1702
Self-employed ^d	-0.2562 ⁺	-0.2060
Technician, supervisor ^d	-0.0143	-0.1490
Skilled worker ^d	-0.1948	-0.1580
Unskilled and semi-skilled worker ^d	-0.1444	-0.2171*
Presently in training ^d	-0.0035	-0.2452*
Unemployed ^d	-0.2037	-0.6218**
Non-employed ^d	0.1779 ⁺	-0.6814**
Health: poor ^e	-0.7510**	-0.5049 ⁺
Health: not good ^e	-0.4883**	-0.4620**
Health: satisfactory ^e	-0.5558**	-0.5986**
Health: good ^e	-0.2894**	-0.3484**
Education: in training ^f	0.0997	0.0582
Education: no certification ^f	-0.0619	0.1035
Education: apprentice certificate ^f	-0.0837	0.0553
Education: secondary education ^f	-0.0905	-0.0377
Education: vocational school ^f	0.0057	0.0608
Education: univ. of applied science ^f	-0.0386	0.1469
Personality: explosiveness	-0.0388**	-0.0525**
Personality: emotional autonomy	-0.0029	0.0340*
Personality: self-worth	0.1512**	0.1412**
Personality: shyness	-0.0402**	-0.0122

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

Reference groups: ^a Only biological children; ^b birth cohort 1980-83;

^c no migration background; ^d upper service rank; ^e health: very good;

^f university degree.

Source: pairfam, author's calculations

Tab. A6: Effect of family planning on life satisfaction (ordered logit regression)

	Women	Men
„Planned“ family ^a	0.1474*	0.1661*
„Unplanned“ family ^a	0.2733*	0.0278
Woman/partner pregnant	0.0315	0.1294
Eastern Germany	0.0717	0.1690 ⁺
Birth cohort: 1970-1973 ^b	-0.1367	-0.2059 ⁺
Birth cohort*E. Germany	0.1442	0.2459*
1 st immigrant generation ^c	0.0340	0.0539
2 nd immigrant generation ^c	0.0862	-0.0055
Lower service rank ^d	-0.0262	-0.1695*
Non-manual routine work ^d	0.0275	-0.1670
Self-employed ^d	-0.2639 ⁺	-0.2151
Technician, supervisor ^d	-0.0304	-0.1442
Skilled worker ^d	-0.1996	-0.1506
Unskilled and semi-skilled worker ^d	-0.1542	-0.2128*
Presently in training ^d	-0.0115	-0.2501*
Unemployed ^d	-0.2018	-0.6279**
Non-employed ^d	0.1778 ⁺	-0.6622**
Health: poor ^e	-0.7758**	-0.5132*
Health: not good ^e	-0.4917**	-0.4499**
Health: satisfactory ^e	-0.5571**	-0.6016**
Health: good ^e	-0.2938**	-0.3492**
Education: in training ^f	0.0999	0.0574
Education: no certification ^f	-0.0614	0.1092
Education: apprentice certificate ^f	-0.0857	0.0559
Education: secondary education ^f	-0.0931	-0.0485
Education: vocational school ^f	0.0103	0.0643
Education: univ. of applied science ^f	-0.0385	0.1418
Personality: explosiveness	-0.0388**	-0.0524**
Personality: emotional autonomy	-0.0036	0.0354**
Personality: self-worth	0.1518**	0.1403**
Personality: shyness	-0.0404**	-0.0125

Significance level: ** = $p < 0.01$; * = $p < 0.05$; + = $p < 0.1$.

Reference groups: ^a No children; ^b birth cohort 1980-83; ^c no migration background;

^d upper service rank; ^e health: very good; ^f university degree.

Source: pairfam, author's calculations

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