

Long-term Effects of Parenthood on Life Satisfaction

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Abstract

The literature on life satisfaction of parents focuses predominantly on the early years of parenting, neglecting the period when the child is older. Using the Swiss Household Panel (SHP), our paper attempts to fill this gap by observing the long-term dynamics of life satisfaction associated with parenthood.

The focus on long-term life satisfaction consequences of parenthood is important for three main reasons. First, it allows accounting for rewards and challenges of parenthood, which vary according to the children's ages. Second, these consequences may affect fertility choices, as individuals who decide if to have a child are exposed to examples of families with children of various ages. Finally, our perspective allows identifying particularly difficult stages of parenthood, which may signify structural or institutional problems, and therefore be of interest for designing and implementation of family policies.

Our analysis uses fixed effects models to analyze changes of life satisfaction of both mothers and fathers controlling for the unobserved heterogeneity. We follow the parents from the period of 4-6 years before the birth, up to the moment when the child is 26-30 years old. In face of limited duration of the panel (13 waves) we propose an new analytic design that uses shorter panels to reconstruct the long-term dynamics of the process.

Our analysis extends the literature on life satisfaction consequences of parenthood to a new data-set, that is SHP, and a new country, that is Switzerland. This allows us to verify how general are the previously formulated conclusions, which were based on a limited pool of data-sets and countries. Moreover, our study proposes an innovative methodological approach, which can be used to analyze long-term dynamics of a process even with data of limited length.

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1 Introduction

Parenthood not only is a life-long commitment, but also consists of various stages, each of which brings their own joys and challenges. Still, large part of the literature studying life satisfaction consequences of parenthood either focused mainly on child-birth (Clark et al., 2008) or treated parenthood as an experience relatively homogeneous over time (Angeles, 2010; Kohler et al., 2005). Only a few studies considered how the life satisfaction of parents changes in the long run (Baetschmann et al., 2012; Myrskylä and Margolis, 2012; Pollmann-Schult, 2014). In this study, we adopt a long-term perspective and analyze the life satisfaction dynamics during various stages of parenthood.

A long-run perspective is important for three main reasons. First, rewards and challenges of parenthood vary with the ages of children. Each stage of parenthood brings specific financial costs (Stanca, 2012). Indirect costs matter too. In particular, early stage of parenthood requires intense care thus constraining parents' time use, which may be problematic especially for dual earners couples. However, early stage of parenthood is often also the period of strong intimate relationship between parents and the child (Nomaguchi, 2012). Later, especially during child's adolescence, peers become more important. Thus when the child is older, parents may gain more freedom to organize their time, but at the same time the relationship with the child may become less rewarding. When the child enters early adulthood, cohabitation with parents may create new potential conflicts.

Second, long-term effects of parenthood on life satisfaction may shed light on fertility choices of men and women. Individuals who decide if to have a child interact with, and are exposed to examples of families with children of various ages. The experiences of other families – for example with a difficult adolescent – may affect individuals' fertility choices (Billari, 2009; Morgan and King, 2001).

Third, analyzing long-term consequences of parenthood may identify particularly difficult stages of parenthood. Such problematic stages may signify structural or institutional problems, and therefore be of interest for designing and implementation of family policies that would support families at these stages.

Apart from the long-term perspective, the novel aspect of our analysis is that we extend the existing literature to a new data-set, that is Swiss Household Panel (SHP), and a new country, that is Switzerland. Previous longitudinal analyses used data for Germany (Baetschmann et al., 2012; Myrskylä and Margolis, 2012; Pollmann-Schult, 2014), Great Britain (Myrskylä and Margolis, 2012), and – to a lesser extent – Poland (Baranowska and Matysiak, 2011) and Australia (Parr, 2010). Analysis for a new country allows us to verify how general are previously formulated conclusions.

Finally, another novelty of our study is the proposed methodology. We use an age-as-event approach: the “event” of interest is the age of a child, and we observe the variation of the parents' life satisfaction around each age. In contrast to previous studies, which performed the analyses only for respondents experiencing a childbirth during the panel (e.g. Myrskylä and Margolis, 2012), we extend the analysis to persons experiencing various stages of parenthood. This allows us, first, to perform a long-term analysis with panel data of limited length, and second, to use a larger sample, and thus to present more robust results, especially for the stratified analysis. Previous papers solved the small sample problem by aggregating various ages of the child in broader categories, sometimes spanning over 10 years (e.g. Myrskylä and Margolis, 2012). This

increases the sample size, but reduces the possibility to observe the variation over time of parental life satisfaction. Our approach overcomes this limitation, and may be used to analyze the long-term dynamics of other process even with data of limited length.

2 Theoretical approaches to life satisfaction consequences of parenthood

Several theoretical approaches refer to the changes of parents' life satisfaction according to the age of the child. According to the *set-point theory*, life events only temporary affect the level of life satisfaction. After the event, be it positive or negative, people adapt to the new situation and their life satisfaction returns to the pre-event level. In other words, life events affect life satisfaction only temporarily, and its baseline level is shaped by personality and genetic traits (Headey and Wearing, 1989). Set-point theory predicts that life satisfaction changes temporarily after the birth of the child or during pregnancy, and returns to pre-birth level when the child gets older. Note, however, that the theory does not predict at what age of the child parental life satisfaction would return to the baseline level. Neither does it specify if a childbirth is a positive or negative effect.

The *economic approach* to fertility stresses the costs of children. The direct, monetary costs could become especially important when children access the tertiary education (Nomaguchi, 2012). Except of the direct costs, the economic approach stresses also the opportunity costs, which are particularly high for working parents of young children (Becker, 1991). Ages below three are particularly difficult in countries where the day care facilities are in short supply. Mothers have higher opportunity costs associated with childbearing than fathers (Becker, 1991), as they rather than fathers interrupt employment, reduce working time, or in other ways sacrifice the career. This approach suggests that parenthood is a more difficult experience for women than for men, and may therefore more negatively affect women's life satisfaction. Note that opportunity costs of childbearing can produce a accumulated disadvantage in women's work lives, therefore the negative effect on life satisfaction may be also long-term.

In a life-cycle perspective, the economic theory look at children as "investment good". The process of the modernization has changed the relationship between generations and the economic advantages of having a child have largely diminished before the old ages, when children can give financial or instrumental help to their parents (Cigno, 1993; Werding, 2014). According to this approach, the benefits of having a child will exceed the costs only when the parents' reach old age. Consequently, we may expect predominantly negative effect of parenthood on life satisfaction, which becomes positive for elderly parents.

According to the *demand-reward theory*, benefits of parenthood will be highest when the child is young, because self-esteem, self-efficacy, and parental satisfaction are highest when children are under five years old (Nomaguchi, 2012). In contrast to that, school age and adolescence are periods when the emotional intimacy in the parent-child relationship declines (Nomaguchi, 2012; Pollmann-Schult, 2014).

Other authors emphasize the role played by the institutional and cultural context (Aassve et al., 2012; Billari, 2009). For example, family policies may reduce the direct and indirect costs of raising a child. Consistent and stable system of family policies creates a climate of confidence that can in the long run increase fertility (Micheli, 2011,

Chesnais XX) and foster life satisfaction of parents. The culture play a role as greater value attached to parenthood improves the expectation of life satisfaction increase after childbearing. According to the *prospect theory*, such a positive expectation may determine the actual increase (Aassve et al., 2012). Overall, the institutional approaches to the parenthood-happiness relations claim for comparative and multi-context studies to ascertain the context-specific happiness of parenthood.

3 Previous empirical research on parenthood and life satisfaction

The empirical research, especially in demography, often analyzed life satisfaction of parents as a function of the number of children without considering their ages, or focused on the early stage of parenthood surrounding the childbirth (Aassve et al., 2012; Baranowska and Matysiak, 2011; Kohler et al., 2005; Margolis and Myrskylä, 2011). Studies using panel data showed that parenthood positively though weakly affects life satisfaction (Aassve et al., 2012; Kohler et al., 2005). Results differ for mothers and fathers, and depend on the number of children already in the family. Kohler et al. (2005) showed that the first child increased life satisfaction of women, but the effect of additional children was negative. In contrast to that, parenthood did not affect men's life satisfaction once partnership status was controlled for. Also Aassve et al. (2012) and Baranowska and Matysiak (2011) showed that arrival of a first child increased women's life satisfaction. The results for men were more ambiguous and the positive effect of parenthood disappeared when the youngest child was older than one year old.

More interesting for our purpose are studies which explicitly consider the relationship between life satisfaction and parenthood at various ages of the child (Baetschmann et al., 2012; Myrskylä and Margolis, 2012; Pollmann-Schult, 2014). The tenuous, non-existent, or negative effect of parenthood on life satisfaction showed by previous studies may depend on the choice of the reference category (Baetschmann et al., 2012). For example, if life satisfaction of parents is compared to the period shortly before the birth, when life satisfaction is overall high, then the results may exaggerate the adaptation occurring after the birth. Choosing a reference point about five years before the birth (when the life satisfaction trajectories of prospective parents start diverging from the trajectories of the childless, see Baetschmann et al., 2012) may lead to different conclusions (Myrskylä and Margolis, 2012). An analysis following this schema showed an increase of life satisfaction one year before birth and in the year of birth, consistently higher for women than for men. One-two years after the birth the adaptation process brought back life satisfaction to the level observed 4-5 years before birth, which supports the set-point theory. However, there are exceptions. In particular, older parents (35-49 years old) and highly educated men with a 1-2-year old child are still happier than they were 4-5 years before the birth (Myrskylä and Margolis, 2012). Another differentiating factor is marital status: among married parents, but not among the unmarried, happiness decreases after birth, as generally observed in other studies, but then increases again when the child is 5-9 years old (Myrskylä and Margolis, 2012) – trajectory consistent with the indirect cost hypothesis.

Pollmann-Schult (2014) performs a fixed effects analysis where all the years preceding parenthood, rather than a specified pre-birth period, are treated as a reference category. Consistently with previous analyses, life satisfaction of parents is higher

during pregnancy and when the child is 0-1 years old than in the pre-birth period. An interesting contribution Pollmann-Schult (2014) is demonstrating the role of mediators: income and relative time use of parents. Specifically, the positive effect of parenthood on life satisfaction when the children are 1-18 years old becomes visible only after controlling for the two mediators. Moreover, even though life satisfaction of parents is higher during the 18 years of parenthood (age of the oldest child) compared to the pre-parenthood period, some ages of the child are less positive than others. The ages 6-12 are a less positive period for mothers, and the ages 2-5 are a less positive period for fathers. After controlling for income, significant becomes also the positive effect of births of all orders on life satisfaction, especially of third child.

To summarize, most of the literature on the happiness of parenthood gives support to the set-point theory: life satisfaction increases during pregnancy and after the birth of the child; then, already when the child is one year old, it returns to the pre-birth level. Newer evidence considers a long run perspective. Myrskylä and Margolis (2012) showed that after an adaptation period, and for married couples only, life satisfaction increases again when the child is 5-9 and 10-19 years old, giving support to the opportunity cost hypothesis. Controlling income and the relative time of parents, parenthood has a positive effect on life satisfaction compared to the pre-birth period (Pollmann-Schult, 2014). Results for women seem to support the demand-reward hypothesis as ages 6-12 are slightly less happy years (in contrast with Myrskylä and Margolis giving support to the opportunity cost hypothesis).

3.1 Current analysis

The current research extends the previous analyses of the life satisfaction consequences of parenthood. The novelty of our approach sums up in three points.

First, we extend the existing evidence to new panel data, that is to the Swiss Household Panel.

Second, in contrast to many previous research, which either focused primarily on childbirth or did not differentiate between various stages of parenthood, we consider long-term consequences of parenthood for life satisfaction. In other words, we investigate the life satisfaction of (prospective) parents from the period of 4-6 years before the birth of their first child to the moment when the child reaches the age of 30.

Third, we discuss some technical aspects of performing this type of analysis and we propose a method of estimating long-term effects of life course transitions, even if panel data at hand has a limited span. In the analysis we pay particular attention to clarifying which population we study and which is the comparison group.

4 Data and Method

4.1 Data

We are using data from the Swiss Household Panel (SHP), which aims to observe social change, in particular the dynamics of changing living conditions in the population of Switzerland. Data are collected annually using computer-assisted telephone interviewing (CATI). The survey started in 1999, with a refreshment sample initiated in 2004. Last data available at the time of analysis were for the year 2011; hence, we used 13 waves of observation for the main sample and 8 years for the refreshment.

We estimate our models on selected panels, i.e. on subsamples of respondents who were observed in the panel during a specific stage of parenthood. The stages of parenthood for the purpose of this analysis include:

- three stages preceding childbirth (these panels include only the respondents who became parents in further years):
 - 4 to 6 years before the birth,
 - 2 or 3 years before the birth,
 - the year preceding the birth, which often will be the year of the pregnancy;
- 11 stages following the birth of the child:
 - the year directly following childbirth, i.e. when the child is aged 0,
 - the period when the child is aged 1 or 2,
 - the period when the child is aged 3 or 4,
 - the period when the child is aged between 5 and 7,
 - the period when the child is aged between 8 and 10,
 - the period when the child is aged between 11 and 13,
 - the period when the child is aged between 14 and 16,
 - the period when the child is aged between 17 and 19,
 - the period when the child is aged between 20 and 22,
 - the period when the child is aged between 23 and 25,
 - the period when the child is aged between 26 and 30,
 - the period when the child is older than 30.

Our data is limited to 13 waves, therefore we are able to trace back members of each panel maximum 12 years before or 12 years after the event. In most cases the window of observation surrounding the reference category covers between 6 and 9 waves. The panels used in the analysis are not balanced. Out of N respondents observed during the stage which defines the panel (t), a reduced number is observed at stages $t + 1$ (or $t - 1$), a further reduced number at stages $t + 2$ (or $t - 2$), etc.

We include in our analysis periods preceding the birth, because literature showed that life satisfaction of prospective parents may change already 5 years (Baetschmann et al., 2012) or 2-3 years (Myrskylä and Margolis, 2012) before birth of the first child.

The sample size varies considerably between models. The smallest sample (32 women observed at 256 person-points, and 25 men observed at 188 person-points) was used in the analysis of the panel defined by the third child being 26-30 years old. The largest sample (2,615 women observed at 15,381 person-points, and 2,399 men observed at 12,709 person-points) was used in the analysis of the panel defined by the first child being 17-19 years old. (The detailed sample size used in each estimation are listed in Tables 1-3.) Overall, the samples are larger for panels of parents of school-age children, which suggests that at this stage of family life households have more stable residence. The smallest sample size characterized the panels defined by a period preceding the birth, and those defined by the child being an adult. Panels for the third child are much smaller than for the first and second birth, which reflects the low number of third births overall.

4.2 Method

Our dependent variable is life satisfaction, captured with the question: “In general, how satisfied are you with your life if 0 means *not at all satisfied* and 10 means *completely satisfied*?” The variable approximates a normal distribution, is negatively skewed, and peaks at the value of 8 which is both its overall mean and median.

The main analysis comprises fixed effects regression models of life satisfaction on the stages of parenthood. Fixed effects models control for the time-invariant unobserved heterogeneity of individuals (Allison, 2009), which may be particularly important for assessing the life-satisfaction changes associated with parenthood, because selection has been shown to play a role (Parr, 2010, showed selection of happier persons into parenthood).

We estimate separate models for each of the 14 panels. Because literature showed different life-satisfaction dynamics depending on parity (Myrskylä and Margolis, 2012) we also estimate separate models for the first, second, and third child (the number of births of higher parity is low, therefore we do not analyze higher order births). Moreover, because the experience of parenthood may be different for men and women (Myrskylä and Margolis, 2012), we estimate separate models for each gender. This leaves us with $(14 \cdot 3 \cdot 2 =)$ 84 estimations.

The effects of parenthood stages on life satisfaction are captured with a set of dichotomous variables. In each estimation the reference category is the stage of parenthood which we used to select this particular panel; the preceding and following stages are coded as dichotomous variables. This choice of reference categories is motivated by the relatively large sample size during the stage which has been used to define each panel.

No respondents were observed during all 14 stages of parenthood. For each respondent, and for each panel we were able to account only for some stages of parenthood. This may be seen in Equation 1 which presents the model estimated on the panel defined by the birth of the first child.

$$\begin{aligned}
 LS_{it} = & \beta_{BB(4-6)}BB_{(4+)it} + \beta_{BB(2-3)}BB_{(2-3)it} + \beta_{BB(1)}BB_{(1)it} + \\
 & + \beta_{AB(1-2)}AB_{(1-2)it} + \beta_{AB(3-4)}AB_{(3-4)it} + \beta_{AB(5-7)}AB_{(5-7)it} + \beta_{AB(8-10)}AB_{(8-10)it} + \\
 & + \beta_{B2}B_{2it} + \beta_{B3}B_{3it} + \\
 & + B_K X_{it} + (\alpha_{it} + u_{it})
 \end{aligned} \tag{1}$$

In Equation 1, coefficients $\beta_{BB(4-6)}-\beta_{BB(1)}$ describe the dynamics of life satisfaction in the period preceding the birth, and coefficients $\beta_{AB(1-2)}-\beta_{AB(8-10)}$ refer to the effects of aging of the child. The first childbirth is the omitted reference category. The range of stages of parenthood included in the model is determined by time-span of the data. In the panel observed during the first childbirth, no effect of having the first child aged 10 or older could be estimated. The coefficients β_{B2} and β_{B3} capture the effect of the second and third birth. B_K is a vector of effects of control variables, which include age (linear and quadratic component), satisfaction with own health, being single, being divorced (married is the reference category), equivalent yearly household income per capita, and own unemployment. We also include dummies marking the waves of the survey.

Both satisfaction with finances and the use of time change considerably when peo-

ple become parents, they also change during the stages of parenthood. Pollmann-Schult (2014) showed that lower financial satisfaction and less satisfactory time use of parents are responsible for the null effect of parenthood on life satisfaction. Therefore, to test the robustness of our results, we estimate additional models which control also for financial satisfaction, satisfaction with free time, satisfaction with housework division, and own weekly hours of housework.

5 Results

5.1 Descriptive results

We start by investigating the changes of average life satisfaction associated with parenthood. Figure 1 presents these data for the first, second, and third birth for a sample of men and women who have experienced a childbirth during the panel. (Therefore, at each time point, the sample used to compute the average is a sub-sample of the group who has experienced the birth.)

Although already about five years before the first birth the sample is reduced to only about 50 persons, it seems safe to conclude that life satisfaction steadily increases in the period preceding the first birth, both among men and women. The birth of the first child is the period of particularly high life satisfaction among women. After the birth of the first child the average life satisfaction steadily decreases. Similar decrease occurs after the second and third births.

5.2 Multivariate analysis

Tables 1-3 show the results of fixed effects regressions for women and men, for the first child, second child, and third child respectively. Each column in the tables shows results of an estimation done on a different panel, for example model 1 in all tables takes as the reference the period 4-6 years before birth of a child, model 2 takes as reference the period 2-3 years before birth of a child, etc.

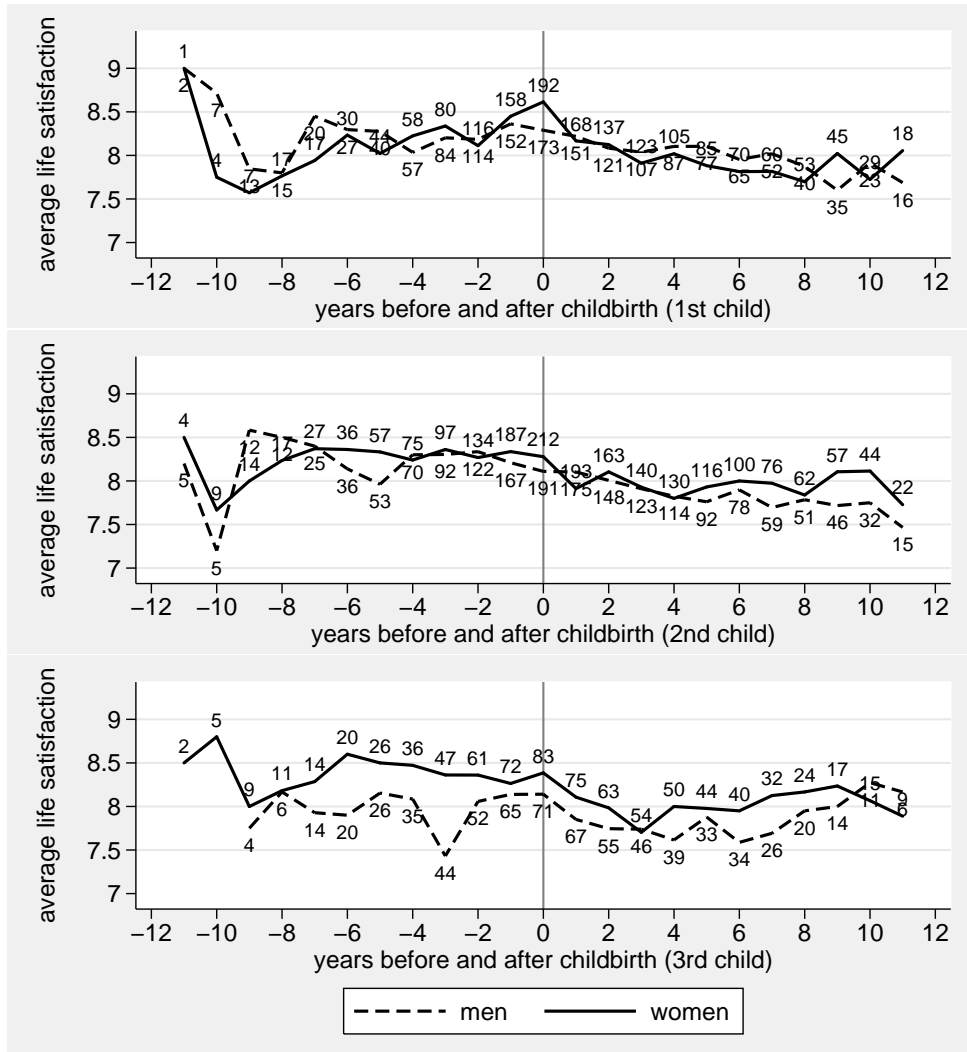


Figure 1: Average life satisfaction before and after childbirth (separately for the 1st, 2nd, and 3rd child).

Source: SHP data waves 1-13

Note: The graphs show the average life satisfaction of respondents who experienced a childbirth during the panel. Numbers show the groups' size.

Table 1: Effect of first child's age on well-being of women and men. Fixed effects estimations.

Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WOMEN														
-6y/-4y	(ref)	-0.05	-0.16	-0.20	0.00	-0.21	-0.30							
-3y/-2y	0.25	(ref)	-0.16	-0.22***	0.09	-0.01	-0.05	0.17						
-1y	0.64***	0.25***	(ref)	-0.06	0.27***	0.27***	0.21*	0.25						
0y	0.84***	0.43***	0.12	(ref)	0.40***	0.49***	0.46***	0.50***	0.24					
1y/2y	0.37	-0.08	-0.37***	-0.48***	(ref)	0.09*	0.01	-0.01	-0.06					
3y/4y	0.51	-0.26	-0.62***	-0.76***	-0.23***	(ref)	-0.07	-0.04	-0.08	-0.14				
5y/7y	0.59	-0.39	-0.73***	-0.89***	-0.24***	-0.00	(ref)	0.02	0.06	0.02	0.33***			
8y/10y	0.72	-0.09	-0.67***	-0.86***	-0.16	0.15*	0.05	(ref)	0.05	0.06	0.23***	0.17		
11y/13y			-0.58	-0.80***	-0.24	0.17	0.07	-0.04	(ref)	-0.04	0.11*	0.10	-0.18	
14y/16y					-0.40	0.27*	0.15	-0.03	0.04	(ref)	0.11***	0.11***	-0.04	-0.35*
17y/19y							0.16	-0.09	-0.06	-0.10***	(ref)	0.03	-0.04	-0.35***
20y/22y								-0.15	-0.04	-0.11***	-0.07***	(ref)	-0.02	-0.22***
23y/25y									-0.04	-0.10***	-0.02	-0.10***	(ref)	-0.11*
26y/30y										-0.06	-0.14***	-0.05	0.04	(ref)
31y+											-0.56***	-0.34***	-0.21*	-0.17
N	636	1282	1617	1617	4242	5156	7097	9239	10990	13088	15381	13167	8286	4598
N(id)	72	157	208	208	615	731	1047	1409	1741	2180	2615	2108	1130	545
MEN														
-6y/-4y	(ref)	0.07	-0.02	0.04	0.00	0.06	-0.37							
-3y/-2y	-0.12	(ref)	-0.09	0.01	0.02	0.08	0.30***	0.34						
-1y	-0.10	0.11	(ref)	0.13	0.16*	0.17	0.42***	0.50***						
0y	-0.12	0.04	-0.12	(ref)	0.03	-0.03	0.27***	0.29*	0.28					
1y/2y	-0.15	-0.10	-0.25***	-0.11	(ref)	0.02	0.18***	0.26***	0.17					
3y/4y	-0.40	-0.27	-0.45***	-0.28***	-0.10*	(ref)	0.11***	0.21***	0.19*	0.17				
5y/7y	-0.58	-0.50***	-0.63***	-0.43***	-0.20***	-0.09*	(ref)	0.04	0.04	-0.07	0.08			
8y/10y	-0.74	-0.54*	-0.80***	-0.57***	-0.19*	-0.05	-0.04	(ref)	0.01	-0.06	0.14*	0.15		
11y/13y			-0.88***	-0.63***	-0.16	-0.00	-0.08	-0.03	(ref)	-0.01	0.15***	0.18***	-0.05	
14y/16y					-0.14	0.18	-0.02	-0.04	-0.06	(ref)	0.10***	0.14***	0.09	-0.03
17y/19y							-0.20	-0.15	-0.22***	-0.10***	(ref)	0.04	-0.01	-0.07
20y/22y								-0.16	-0.27***	-0.12***	-0.02	(ref)	0.01	-0.02
23y/25y									-0.22	-0.10	-0.05	-0.05	(ref)	-0.03
26y/30y										-0.10	-0.06	-0.07	0.05	(ref)
31y+											0.20	-0.18	-0.03	-0.06
N	678	1191	1478	1478	3754	4320	5758	7385	8785	10472	12709	11075	7048	4019
N(id)	81	155	198	198	566	662	934	1228	1527	1939	2399	1990	1101	549

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, second and third births, and the wave.

Source: SHP data waves 1-13

5.2.1 Mothers, first child

The results of Table 1 show that women experience high life satisfaction levels when their first child is an infant (that is, under 1 year old).¹ Life satisfaction in this period is 0.84 point (on an 11-point scale) higher than 4-6 years before birth and 0.43 point higher than 2-3 years before the birth (see models 1 and 2). The period of 1 year before the birth, which is in many cases the period of first pregnancy, also stands out with high life satisfaction. The difference between the period of pregnancy and the infancy of the first child is not statistically significant. However, judging from models 5-8, in the period of the first child's infancy life satisfaction of mothers is about 0.10-0.15 point higher than during the pregnancy.

After the birth, life satisfaction of mothers steadily declines. Compared to the child's infancy, it falls by -0.48 when the child is 1-2 years old, by -0.76 – when the child is 3-4 years old, by -0.89 – when the child is 5-7 years old, and by -0.86 – when the child is 8-10 years old. (Compared to the pregnancy the fall is smaller and takes the values of -0.37, -0.62, -0.73, and -0.67 respectively.) These values are not statistically significantly different than in the period 4-6 or 2-3 years before the birth. (However models 1 and 2 which provide this test are estimated on relatively small samples of $N = 72$ and $N = 157$ respectively.)

Compared to the period when the child is 3-4 years old, life satisfaction of mothers does not decline in the following period (see models 6, 7 and 8). It only declines when the child enters young adulthood: When the child is 17-19 years old, mothers' life satisfaction falls under the levels experienced when the child was between 5 and 16 years old (see model 11). However, after the child reaches this age, the downward trend of life satisfaction terminates (see models 12 and 13). It also seems that life satisfaction of mothers gradually grows following the child's late adolescence (model 14).

5.2.2 Fathers, first child

Table 1 shows also the results for first-time fathers. For men, the period of highest life satisfaction is the year preceding the birth of the first child rather than the period directly after the birth, although this difference is statistically significant only in some models (see models 7 and 8). The size of this effect is smaller than the one estimated for women.

The period of lower life satisfaction of fathers occurs when the first child is 5-7 years old, which in Switzerland is the period of entering compulsory education. In this period life satisfaction of fathers is -0.50 point lower than 2-3 years before childbirth (model 2), -0.63 point lower than in the year preceding the birth (model 3), -0.43 point lower than during the child's infancy (model 4), and -0.20 point lower than when the child was 1-2 years old (model 5). Also (see model 7) life satisfaction of fathers when the child is 5-7 years old is consistently lower than in the whole preceding period. This period of lower life satisfaction extends to the period when the child is 8-10 years old (model 8).

Also child's teenage years and early adulthood are associated with low life satisfaction of fathers. When the child is 17-22 years old, life satisfaction of fathers is lower

¹We use following terminology of child's ages: infancy – before reaching 1 year old, toddler – 1-3 years old, preschool – 3-5 years old, childhood – 5-12 years old, adolescence – 12-18 years old, young adulthood – 18-25 years old, later adulthood – 25 years old and older.

than when the child was 11-13 years old (model 9, 11, and 12), and when it was 14-16 years old (model 10, 11, and 12).

Table 2: Effect of second child's age on well-being of women and men. Fixed effects estimations.

Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WOMEN														
-6y/-4y	(ref)	0.03	0.01	0.03	0.12	0.06	0.07							
-3y/-2y	0.09	(ref)	-0.04	-0.02	0.14	0.07	-0.09	0.14						
-1y	0.24	0.02	(ref)	0.04	0.17***	0.18*	0.07	0.28*						
0y	0.20	0.02	-0.03	(ref)	0.16***	0.21***	0.13	0.38***	0.11					
1y/2y	0.02	-0.16	-0.26***	-0.23***	(ref)	-0.01	-0.06	0.09	-0.10					
3y/4y	0.02	-0.32*	-0.39***	-0.35***	-0.10*	(ref)	-0.11***	0.13***	0.00	-0.12				
5y/7y	0.44	-0.05	-0.22	-0.17	0.02	0.14***	(ref)	0.14***	0.14*	0.20***	0.03			
8y/10y	0.04	-0.21	-0.34	-0.29	0.03	0.12	-0.10***	(ref)	0.01	0.02	-0.12	-0.38***		
11y/13y			-0.73***	-0.68***	0.05	0.19	-0.15***	-0.09***	(ref)	0.02	-0.02	-0.15	-0.12	
14y/16y					0.31	0.21	-0.08	-0.08	0.04	(ref)	0.00	-0.11	-0.28*	-0.55*
17y/19y							-0.11	-0.12	-0.03	-0.07*	(ref)	-0.04	-0.19*	-0.28
20y/22y								-0.17	-0.06	-0.09	0.00	(ref)	-0.09	-0.07
23y/25y									-0.10	0.02	0.02	(ref)	(ref)	-0.03
26y/30y										-0.05	0.00	0.10	0.07	(ref)
31y+											0.48	0.64	0.62	0.56
N	864	1596	1970	1970	4363	5149	6844	8033	8955	9568	8692	5994	3356	1530
N(id)	96	189	234	234	562	680	943	1143	1327	1512	1360	845	413	169
MEN														
-6y/-4y	(ref)	-0.23***	-0.16*	-0.13	-0.12	-0.06	0.14							
-3y/-2y	0.17	(ref)	0.10	0.15*	0.18*	0.19*	0.23*	0.09						
-1y	0.14	-0.15	(ref)	0.06	0.04	0.09	0.22*	0.33*						
0y	0.05	-0.22*	-0.08	(ref)	-0.02	0.02	0.15	0.16	0.16					
1y/2y	-0.08	-0.29***	-0.10	-0.02	(ref)	0.07	0.17***	0.17*	0.33***					
3y/4y	-0.19	-0.41***	-0.20	-0.10	-0.13***	(ref)	0.07	0.09	0.10	0.26				
5y/7y	-0.16	-0.52***	-0.29*	-0.18	-0.28***	-0.09	(ref)	0.01	0.06	0.17	0.13			
8y/10y	-0.07	-0.59*	-0.38	-0.24	-0.27***	-0.04	-0.01	(ref)	0.06	0.17***	0.15	-0.22		
11y/13y			-0.71***	-0.56*	-0.30*	-0.08	-0.10	-0.11***	(ref)	0.10***	0.14*	-0.28***	-0.49*	
14y/16y					0.05	-0.07	-0.13	-0.19***	-0.07	(ref)	0.09***	-0.17*	-0.40***	-0.45
17y/19y							-0.20	-0.27***	-0.17***	-0.10***	(ref)	-0.15***	-0.30***	-0.28
20y/22y								-0.22	-0.13	-0.07	0.06	(ref)	-0.09	-0.06
23y/25y									-0.25	-0.14	0.01	0.03	(ref)	0.05
26y/30y										-0.18	-0.14	-0.00	0.01	(ref)
31y+											-1.36***	-1.10***	-1.00*	-1.09***
N	803	1438	1722	1722	3626	4165	5493	6377	7048	7490	6958	4727	2711	1222
N(id)	94	187	226	226	523	609	848	1022	1190	1337	1189	758	374	154

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, first and third births, and the wave.

Source: SHP data waves 1-13

5.2.3 Mothers, second child

Table 2 shows the same results for the second child. Similarly as in the case of the first child, women's life satisfaction is highest in the year of pregnancy and child's infancy. However this effect is weaker than in case of the first child. Life satisfaction in these periods is not significantly different than in the periods 2-6 years before the birth, but it is significantly higher than in the periods when the child is 1-4 years old (models 3 and 4).

The preschool period are characterized by moderate levels of mothers' life satisfaction. Mothers of children aged 3-4 years are less happy than 2-3 years before their birth (model 2). Life satisfaction in this period is also lower than during pregnancy and infancy (models 3-6). Further, life satisfaction of mothers temporarily decreases even more when the child enters teenage years (i.e., after the child is 8-13 years old).

The changes of mothers' life satisfaction in the later period are minor. Mothers of children aged 23-30 are more satisfied with their life than they were in the period when the child was 14-19 years old (models 13 and 14).

5.2.4 Fathers, second child

For fathers, the period before the birth of their second child, similarly as in the case of the first child, stands out with high life satisfaction. In case of the second child, not only in the year of pregnancy but also the period 2-3 years before the birth life satisfaction of fathers is higher than in the period when the child is between 1 and 10 years old (models 5, 6, 7, and 8).

After the birth of the second child (model 2) and during the preschool and early school years of the second child (model 5), life satisfaction of fathers gradually declines. This decline is even more pronounced during the teenage years (models 8-11), and is reverted when the child is 20-25 years old. Life satisfaction of fathers increases after the child is 20 years old compared to the period when the child was 11-19 years old (models 12 and 13).

Table 3: Effect of third child's age on well-being of women and men. Fixed effects estimations.

Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WOMEN														
-6y/-4y	(ref)	0.15	0.18	0.09	0.26	-0.06	-0.08							
-3y/-2y	-0.24	(ref)	0.02	-0.11	0.15	0.14	0.18	0.29						
-1y	-0.22	-0.10	(ref)	-0.18	-0.00	0.05	-0.08	-0.11						
0y	-0.15	0.04	0.16	(ref)	0.14	0.17	0.12	0.12	0.71*					
1y/2y	-0.10	-0.02	0.09	-0.10	(ref)	0.16***	0.09	0.16	0.37					
3y/4y	0.04	-0.06	-0.05	-0.28	-0.19***	(ref)	-0.03	-0.13	0.04	-0.12				
5y/7y	0.00	-0.01	0.03	-0.24	-0.27***	0.05	(ref)	-0.05	0.10	-0.17	-0.18			
8y/10y	0.02	0.30	0.31	0.01	-0.29*	0.06	0.08	0.08	0.11	-0.01	-0.16	0.32		
11y/13y			0.39	0.06	-0.42*	0.06	0.13	-0.07	(ref)	-0.05	-0.13	-0.10	0.10	
14y/16y					-0.67*	0.15	0.20	-0.13	-0.05	(ref)	-0.03	0.01	0.27	0.50
17y/19y							0.08	-0.25	-0.10	-0.01	(ref)	-0.02	0.30	0.55
20y/22y								-0.09	-0.10	0.09	0.13	(ref)	0.18	0.61
23y/25y									-0.03	0.05	0.15	-0.08	(ref)	0.36
26y/30y										-0.15	-0.04	-0.33	-0.31	(ref)
31y+												-0.97	-1.08	-0.69
N	473	659	808	808	1864	2192	2995	3150	3414	3281	2419	1457	805	256
N(id)	52	76	96	96	227	281	403	436	489	493	348	197	101	32
MEN														
-6y/-4y	(ref)	0.28*	0.10	0.06	0.09	-0.14	-0.21							
-3y/-2y	-0.49***	(ref)	-0.32***	-0.38***	-0.16	-0.17	-0.16	0.35						
-1y	-0.31	0.30*	(ref)	-0.08	0.13	0.13	0.06	0.15						
0y	-0.12	0.40***	0.06	(ref)	0.28***	0.25*	0.27	0.40	0.41					
1y/2y	-0.49	0.12	-0.20	-0.28*	(ref)	-0.03	-0.14	-0.06	0.12					
3y/4y	-0.42	0.07	-0.30	-0.40***	-0.16*	(ref)	-0.14*	-0.11	0.16	0.07				
5y/7y	-0.42	0.13	-0.32	-0.43*	-0.10	0.05	(ref)	0.03	0.21*	0.15	-0.10			
8y/10y	-0.76	0.24	-0.30	-0.42	0.11	0.16	0.06	(ref)	0.11	0.11	-0.01	-0.56		
11y/13y			0.16	0.03	0.12	0.13	0.02	-0.12	(ref)	0.03	0.05	-0.28	0.53	
14y/16y					0.16	0.11	0.09	0.02	-0.01	(ref)	0.02	-0.09	0.61	0.23
17y/19y							0.10	-0.04	-0.02	0.01	(ref)	-0.05	0.50*	-0.17
20y/22y								-0.02	0.08	0.06	0.05	(ref)	0.41***	-0.07
23y/25y									-0.12	-0.18	-0.21	-0.20	(ref)	-0.11
26y/30y										0.14	-0.06	-0.03	-0.01	(ref)
31y+												-1.65***	-2.00***	-1.72***
N	454	563	688	688	1536	1770	2394	2417	2594	2522	1849	1080	609	188
N(id)	51	68	87	87	210	253	352	370	419	424	294	163	87	25

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, first and second births, and the wave.

Source: SHP data waves 1-13

5.2.5 Mothers, third child

Table 3 presents the results for the third child. Note that the sample size is lower than for the first and second child, which may also explain the overall lower significance of the results.

In case of the third child we do not observe the elevated life satisfaction of mothers during the pregnancy and infancy of the child which were clear in case of the first and the second child. Only in one estimation (model 9) the period of child's infancy stands out with higher levels of life satisfaction than when the child is 11-13 years old. Life satisfaction of mothers when the child is between 3 and 10 years old is lower than during the toddler period (model 6), which suggests moderate but steady decline.

5.2.6 Fathers, third child

Differently than in the case of the first and the second birth, the third birth is associated with increased levels of life satisfaction of fathers. During infancy of the third child fathers' life satisfaction is 0.40 point higher than 2-3 years before the birth, and about 0.28-0.25 point higher than in the later period, when when the child is 1-4 years old. This specificity may result from stronger selection of men to third birth than to first and second births. The period when the third child is 1-4 years old is characterized by relatively low life satisfaction of fathers (see model 4), and is followed by a weak though significant increase when the child is 5-7 years old (model 7). Finally, another period of low life satisfaction of fathers is early adulthood of the third child (see models 12-14).

* * *

Graphs in Figure 2 show predicted levels of life satisfaction at various stages of parenthood for men and women, and for the first, second, and third child respectively. Grey lines show predictions from models shown in Tables 1-3, and the black line shows the average of these predictions (weighted by the sample size used in analysis).

5.2.7 Robustness checks

We perform robustness checks in two ways. First, we include in our models satisfaction with time use (i.e. satisfaction with own free time and satisfaction with the division of housework), weekly housework hours, and satisfaction with financial situation. We do this because these variables were presented as mediators of life satisfaction effects of parenthood (Pollmann-Schult, 2014). Pollmann-Schult (2014) suggested that worse financial conditions and stronger limitations on time use lower life satisfaction of parents, and in order to observe the positive effects of parenthood on life satisfaction one must control for these factors.

The results are shown in Tables 4-6. Except for the effects of the stages of parenthood, these tables also show the effects of newly included variables on life satisfaction. The satisfaction with free time and with financial situation positively correlate with life satisfaction. Satisfaction with the division of housework also positively correlates with life satisfaction, however in models 1-4 (for the first child for both parents, for the second child only for fathers) the effect is not statistically significant. Even though the weekly hours of housework have weak and often statistically insignificant effect

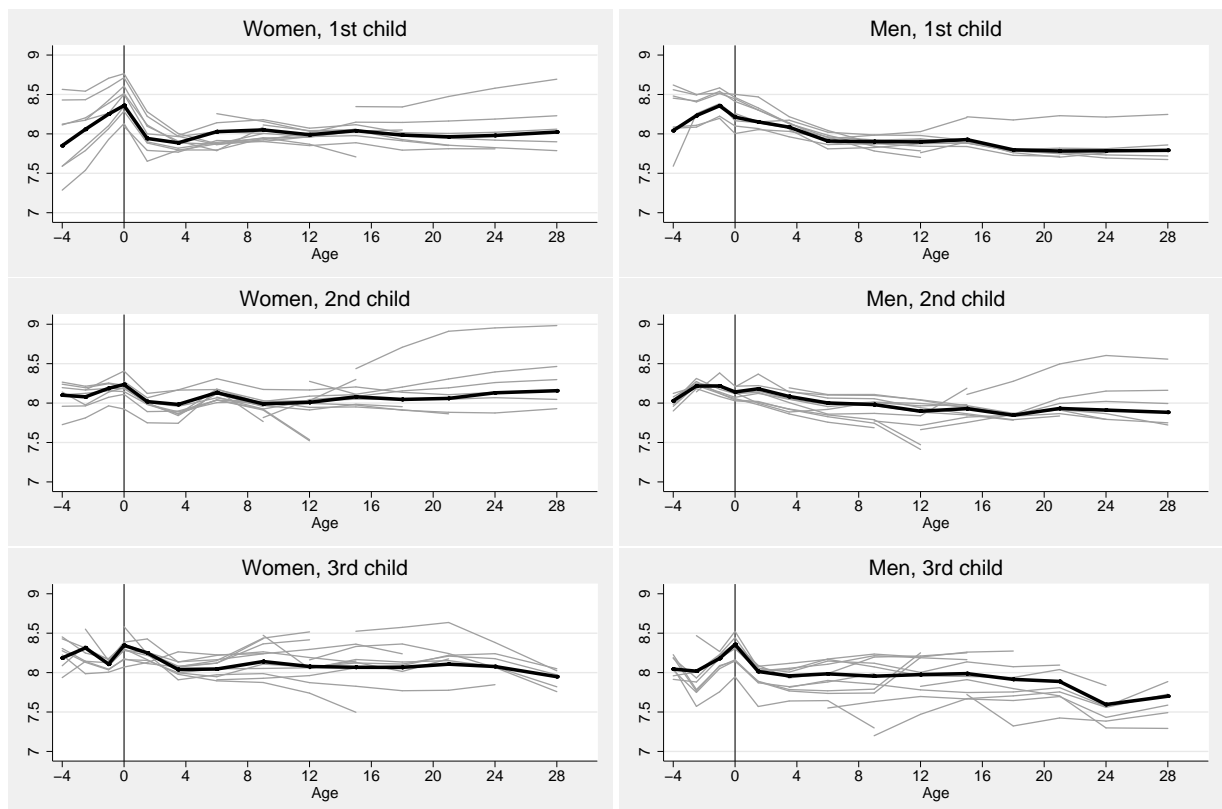


Figure 2: Predicted life satisfaction at various stages of parenthood
 Note: The grey lines show the prediction (intercept + β coefficient) based on results showed in Tables 1-3. The black line shows the average of these predictions (weighted by sample size).
 Source: SHP data waves 1-13

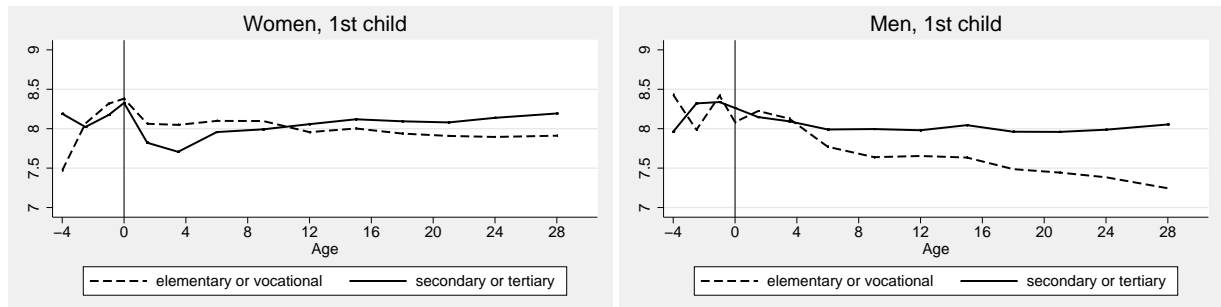


Figure 3: Predicted life satisfaction at various stages of parenthood depending on the level of education

Note: The line shows the average of the predictions (intercept + β coefficient) weighted by sample size.
Source: SHP data waves 1-13

on life satisfaction, some gender differences appear. For men, the effect becomes negative and statistically significant at older ages of the child. However, for women having their first child (Table 4, models 2-7), and to a lesser extent for mothers of a second and third child (model 1 in Table 5 and models 5-6 1 in Table 6) more housework is associated with higher life satisfaction.

The results of this robustness check are overall consistent with the results of main part of the analysis. In some cases, inclusion of additional controls lower the statistical significance of the results. However, controlling for time use and financial satisfaction does not allow us to observe a stronger positive effect of parenthood on life satisfaction, as suggested by Pollmann-Schult (2014).

Our second robustness check consists in performing the analysis on a sample limited to parents residing with the child (Tables 7-9). This limitation affects somewhat the results for parents of children who already entered adulthood. In case of the first child, the increase of mothers' life satisfaction during child's adulthood, and the decline of life satisfaction of fathers after the child is 20 years old become statistically insignificant. This loss of significance may result from a smaller sample size in estimations taking as a reference the older ages on the child.

5.3 Moderating factors

Previous literature showed that married, more educated, and older persons derive more life satisfaction from parenthood than, respectively, the single, the lower educated, and the younger (Myrskylä and Margolis, 2012). (Note that we are not able to validate the result that the effect of parenthood on life satisfaction is more positive among married people, because 90% of births in our sample occurs within marriage, which leaves a small comparison sample of non-married persons.) To validate if these conclusions hold for Switzerland, we repeat our analysis in a stratified design.

Figure 3 shows different trajectories of life satisfaction for parents with vocational or elementary, versus secondary or tertiary education. Higher educated mothers, compared to the lower educated, experience stronger well-being loss during the child's early childhood. This may be associated to more frequent combining employment and parenthood among the higher educated women than among the lower educated. For both men and women, the predicted life satisfaction at older ages of the child is higher for the higher educated than for the lower educated.

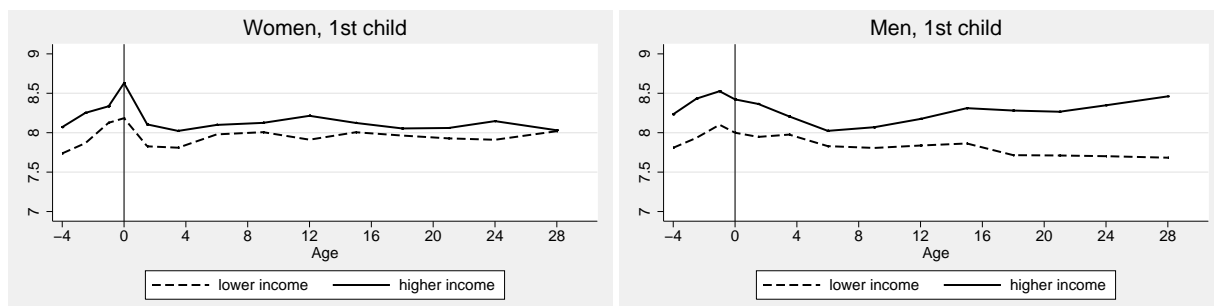


Figure 4: Predicted life satisfaction at various stages of parenthood depending on the level of income

Note: The line shows the average of the predictions (intercept + β coefficient) weighted by sample size.

Source: SHP data waves 1-13

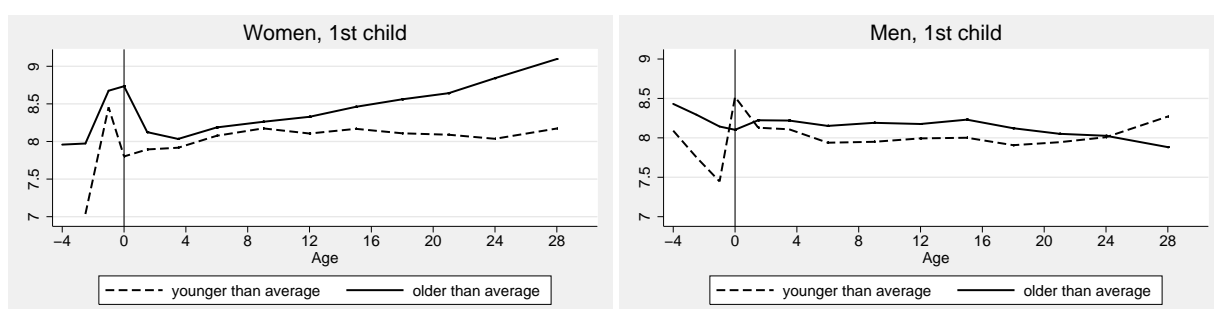


Figure 5: Predicted life satisfaction at various stages of parenthood depending on age at birth

Note: The line shows the average of the predictions (intercept + β coefficient) weighted by sample size.

Source: SHP data waves 1-13

Differences depending on the overall level of income (the distinction is made on the basis of the person-specific average of the net household income per capita expressed in relation to the wave-specific average) are presented in Figure 4. The trajectories for the lower- and higher income groups are similar, both for men and for women; the life satisfaction of the higher-income groups is consistently higher than life satisfaction of the lower income group.

Figure 5 presents trajectories of life satisfaction of parents who had their first child before and after the average age at first childbirth (which in our sample is 28.8 years for women and 31.5 years for men). The trajectories of older parents are overall above those of younger parents, also in the period before the birth. The advantage of older-age parenthood is especially visible for women during the infancy of the child. In contrast to that, infancy of the child among younger fathers is associated with stronger increase of life satisfaction than among older parents.

6 Discussion of results

The goal of this research was to investigate the long-term effects of parenthood for life satisfaction. We investigated changes of life satisfaction that occur before and after the first, second, and third birth, for men and women separately. Even though the panel data at hand were of limited length, we followed the parents from the period of 4-6

years before the birth of their first child to the moment when their child reached the age of 30.

We performed the study on a data set which has not been previously used for this purpose, that is the Swiss Household Panel. The analysis confirmed a number of earlier results. As pointed out by Baetschmann et al. (2012) and Myrskylä and Margolis (2012), we find that life satisfaction of prospective parents increases already before the birth of the child. However, in our analysis the increase occurred mainly in the year preceding the birth, which in most cases was also the year of the pregnancy. The increase of life satisfaction 2-3 years before the birth (compared to the period 4-6 years before the birth) found by Baetschmann et al. (2012) and (for Germany) by Myrskylä and Margolis (2012) in our study was not statistically significant.

Consistently with Baetschmann et al. (2012) and Myrskylä and Margolis (2012), we observed a sharp increase of life satisfaction of mothers during pregnancy and directly after the birth. The effect is stronger than estimated by Clark et al. (2008), Baetschmann et al. (2012) and Myrskylä and Margolis (2012). We find a weaker effect for fathers, which occurs mainly before the birth and not after (pattern consistent with Clark et al., 2008). The increase is also stronger in case of the first birth than in case of subsequent births (Myrskylä and Margolis, 2012), which shows that entering parenthood is an important and desired life-course transition.

Our results confirm the previously found effect of moderating variables showed by Myrskylä and Margolis (2012). We find that older and higher educated persons experience higher life satisfaction when they become parents. However, we do not manage to replicate the results of Pollmann-Schult (2014) that controlling for the time use and financial satisfaction shows a more positive effect of parenthood on life satisfaction. Our results are robust to inclusion of variables measuring time use and satisfaction with time use, as well as satisfaction with financial condition. Note however that due to data limitations we are not able to control for exactly the same measures as Pollmann-Schult (2014).

A result not observed before in the literature is a temporary decline of life satisfaction of mothers during children's preschool years, i.e. when the first child is between 1 and 7 years old, and when the second child is between 1 and 4 years old. A similar pattern has been suggested by Clark et al. (2008), and – for some of the subsamples – by Myrskylä and Margolis (2012). Our results show that the decline is specific for the early stage of parenthood and it does not occur when the child is older. For fathers, we show a similar temporary decline of life satisfaction at later ages of the child – predominantly between the ages of 3 and 10 for the first and second child. This results has not been shown in previous literature.

Another result not documented by previous studies is the relatively high life satisfaction of parents in early teenage years of the child. This stays in contrast to the common belief that teenage years are particularly difficult period in raising children. On the contrary, our results show the late teenage years and early adulthood as a period of lower life satisfaction of parents. This declining trend is reversed at later ages of the child, which may suggest a presence of conflicts stemming from co-residence of parents with young adult children, which get solved after the child moves out of parental household. This result is novel, as previous studies barely focused on the period when the child reaches young adulthood. (Myrskylä and Margolis (2012) accounted for the period up to when the child was 18 years old. However, they use the period before the birth as the reference category; as a result the relevant coefficient are probably es-

estimated for a small subsample – parents observed from before the birth up to when their child is 18 – which may preclude obtaining statistically significant coefficients.)

The results allow us to draw several conclusions on the validity of theoretical mechanisms linking parenthood and life satisfaction proposed by the literature. First, we find some support for the set-point theory, which states that life satisfaction after experiencing an event returns to the initial level. In particular entering parenthood seems to strongly affect people life satisfaction; so does – though to a lesser extent – the arrival of subsequent children. However, the validity of the set-point approach is limited because parenthood is a multi-stage process. Demands and rewards of parenthood change over time and parenthood as such is a serie of event rather than single event. For this reason presenting it as a single event and focusing mainly on the childbirth may be a simplification.

Second, our results only weakly support the economic model of parenthood. Even though the opportunity costs of parenthood are higher for women, we observe strong positive effect of becoming a mother on life satisfaction. Moreover, we find no sign of progressively declining life satisfaction of women, which we could expect as a consequence of the accumulated over time economic disadvantage of mothers. Such a declining trajectory characterizes rather fathers than mothers, even though the economic disadvantage of men is much less an issue than in case of women.

Third, the changes of life satisfaction of parents do not support the “children as investment” approach. Our results show that the parents are happiest in the period when their children are very small, when the gains from investing into children are none and the costs are high. Moreover, our investigation of moderating factors shows that the higher educated and richer men experience a more ascending trajectory of life satisfaction, which is not consistent with the “children as investment” approach, because these are the groups that would be likely less dependent of their children. On the other hand however, women who are older at the time of childbirth also experience more ascending trajectory of life satisfaction, which is consistent with this theoretical approach.

The main policy conclusion of our work concerns the low life satisfaction of parents with pre-school and early school age children. Note that even though the preceding period of infancy requires more intense parental care, the life satisfaction of parents in this period is higher. This suggests that the state policies for parents of small children (such as maternity and parental leaves) more efficiently support their child-rearing obligations than the policies for families with older children. In other words, our results suggests that either the provision of childcare is insufficient, or that the childcare system is not sufficiently compatible with other (e.g. the employment) obligations of parents.²

Our research has limitation. First, it analyzes situation in a country which in terms of policies, culture, and level of development is relatively similar to previously analyzed Germany and Great Britain. An informative extension would be an analysis of a Scandinavian, Mediterranean, and Eastern European (i.e. post-communist) country. Moreover, our use of panel data allows observing the life satisfaction trajectory of parents, but the length of the panel limits our possibility to test which differences are statistically significant. In particular, assessing the significance of difference of life satisfaction between time points distant in time is not possible. This can only be solved

²Indeed, the provision of childcare in Switzerland is lower than in countries at similar development level.

by using panel of longer observation span.

7 Appendix: Results controlling for satisfaction with financial situation, and time use.

Table 5: Effect of second child's age on well-being of women and men. Fixed effects estimations controlling for satisfaction with financial situation and time use.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Child's age							WOMEN							
-6y/-4y	(ref)	-0.03	-0.05	-0.10	0.05	0.04	0.18							
-3y/-2y	0.14	(ref)	-0.06	-0.12	0.08	0.05	-0.02	0.27						
-1y	0.33	0.04	(ref)	-0.07	0.07	0.11	0.08	0.23						
0y	0.36	0.14	0.08	(ref)	0.15*	0.23***	0.20*	0.46***	0.29					
1y/2y	0.26	0.03	-0.10	-0.20***	(ref)	0.01	-0.01	0.18***	-0.01					
3y/4y	0.28	-0.12	-0.20	-0.31***	-0.09*	(ref)	-0.07	0.18***	0.05	-0.14				
5y/7y	0.66	0.13	-0.04	-0.17	-0.01	0.10*	(ref)	0.15***	0.14*	0.10	0.03			
8y/10y	0.37	0.10	-0.07	-0.21	-0.01	0.09	-0.10***	(ref)	-0.00	-0.04	-0.10	-0.35***		
11y/13y			-0.43	-0.58*	0.03	0.16	-0.15***	-0.07*	(ref)	0.00	0.00	-0.12	-0.10	
14y/16y					0.33	0.22	-0.07	-0.07	0.04	(ref)	0.02	-0.08	-0.21	-0.32
17y/19y							-0.10	-0.11	-0.03	-0.06	(ref)	-0.04	-0.17	-0.13
20y/22y								-0.15	-0.05	-0.06	-0.00	(ref)	-0.08	0.00
23y/25y									-0.09	-0.09	-0.01	0.04	(ref)	0.04
26y/30y										-0.05	-0.05	0.06	0.03	(ref)
31y+											0.19	0.35	0.34	0.32
satisf. with free time	0.07***	0.07***	0.06***	0.06***	0.04***	0.04***	0.04***	0.03***	0.03***	0.03***	0.03***	0.04***	0.04***	0.05***
satisf. with housework	0.02	0.04***	0.03*	0.03*	0.06***	0.06***	0.06***	0.06***	0.06***	0.06***	0.06***	0.05***	0.03***	0.03
housework hours weekly	0.01***	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	-0.00	-0.00	-0.00*	-0.00	0.00
satisf. with financial sit.	0.14***	0.15***	0.14***	0.14***	0.12***	0.14***	0.13***	0.14***	0.15***	0.12***	0.11***	0.11***	0.09***	0.09***
N	824	1522	1888	1888	4210	4971	6610	7722	8593	9140	8257	5682	3170	1439
N(id)	96	189	233	233	558	674	934	1133	1311	1488	1344	841	410	169
Child's age							MEN							
-6y/-4y	(ref)	-0.22***	-0.15	-0.12	-0.07	0.03	0.38***							
-3y/-2y	0.11	(ref)	0.12	0.16*	0.18*	0.15	0.31***	0.22						
-1y	0.00	-0.16	(ref)	0.04	0.02	0.04	0.25***	0.34***						
0y	-0.12	-0.22*	-0.05	(ref)	-0.00	0.02	0.22***	0.21	0.32					
1y/2y	-0.33	-0.27*	-0.04	0.01	(ref)	0.07	0.21***	0.19***	0.40***					
3y/4y	-0.53	-0.41***	-0.14	-0.08	-0.12***	(ref)	0.10***	0.12*	0.20	0.37***				
5y/7y	-0.52	-0.49*	-0.19	-0.12	-0.27***	-0.09	(ref)	0.03	0.13	0.22***	0.05			
8y/10y	-0.54	-0.56	-0.25	-0.17	-0.27***	-0.05	-0.05	(ref)	0.08	0.18***	0.09	-0.19		
11y/13y			-0.53	-0.44	-0.30*	-0.08	-0.15*	-0.10***	(ref)	0.10***	0.09	-0.25*	-0.40	
14y/16y					0.05	-0.06	-0.18*	-0.15***	-0.07	(ref)	0.07	-0.17*	-0.31*	-0.10
17y/19y							-0.21	-0.18*	-0.15*	-0.08*	(ref)	-0.13***	-0.22*	-0.00
20y/22y								-0.14	-0.14	-0.07	0.05	(ref)	-0.06	0.09
23y/25y									-0.24	-0.17	0.00	0.02	(ref)	0.08
26y/30y										-0.31***	-0.16	-0.03	-0.04	(ref)
31y+											-1.23***	-0.98*	-0.91*	-0.93*
satisf. with free time	0.05***	0.04***	0.04***	0.04***	0.04***	0.03***	0.02***	0.03***	0.03***	0.03***	0.04***	0.03***	0.02*	0.05***
satisf. with housework	-0.04	0.02	0.02	0.02	0.08***	0.07***	0.06***	0.05***	0.05***	0.04***	0.04***	0.06***	0.06***	0.05***
housework hours weekly	-0.00	0.01	0.00	0.00	-0.00	-0.00	-0.00	0.01	0.00	0.00	-0.00	-0.01*	-0.02***	-0.02***
satisf. with financial sit.	0.03	0.07***	0.09***	0.09***	0.10***	0.11***	0.12***	0.12***	0.11***	0.11***	0.09***	0.09***	0.11***	0.14***
N	748	1377	1654	1654	3533	4081	5382	6256	6883	7327	6800	4626	2648	1190
N(id)	93	186	225	225	521	605	843	1016	1179	1328	1181	754	373	153

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, births of the first and third child, and the wave.

Table 6: Effect of third child's age on well-being of women and men. Fixed effects estimations controlling for satisfaction with financial situation and time use.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Child's age							WOMEN							
-6y/-4y	(ref)	0.16	0.21	0.09	0.17	-0.09	-0.08							
-3y/-2y	-0.22	(ref)	0.06	-0.13	0.08	0.07	0.08	0.14						
-1y	-0.26	-0.11	(ref)	-0.24*	-0.06	-0.03	-0.13	-0.12						
0y	-0.11	0.14	0.25	(ref)	0.18	0.17	0.12	0.07	0.56					
1y/2y	-0.15	0.01	0.17	-0.12	(ref)	0.14***	0.09	0.12	0.29					
3y/4y	-0.15	-0.17	-0.09	-0.42***	-0.19***	(ref)	-0.02	-0.16	-0.02	-0.19				
5y/7y	-0.22	-0.18	-0.02	-0.41*	-0.21*	0.06	(ref)	-0.08	0.04	-0.24	-0.22			
8y/10y	-0.26	-0.09	0.10	-0.35	-0.28*	0.05	0.09	(ref)	0.07	-0.03	-0.11	0.25		
11y/13y			0.01	-0.49	-0.30	0.12	0.18*	-0.01	(ref)	-0.03	-0.05	-0.08	0.23	
14y/16y					-0.51	0.23	0.27*	-0.05	-0.05	(ref)	-0.04	-0.01	0.32	0.11
17y/19y							0.17	-0.12	-0.10	0.01	(ref)	-0.02	0.29	0.43
20y/22y								0.04	-0.14	0.08	0.08	(ref)	0.15	0.45
23y/25y									-0.09	0.06	0.11	-0.05	(ref)	0.10
26y/30y										0.06	0.13	-0.12	-0.18	(ref)
31y+														
satisf. with free time	0.06***	0.06***	0.04***	0.04***	0.03***	0.02	0.03***	0.02	0.02*	0.02	0.02	0.01	0.04*	0.05
satisf. with housework	0.03	0.04	0.05*	0.05*	0.06***	0.05***	0.04***	0.07***	0.05***	0.06***	0.05***	0.08***	0.07***	0.15***
housework hours weekly	0.01	0.01	0.00	0.00	0.00*	0.00*	0.00	0.00	0.00	0.00	-0.00	-0.00	0.00	-0.00
satisf. with financial sit.	0.16***	0.18***	0.19***	0.19***	0.18***	0.16***	0.16***	0.17***	0.15***	0.13***	0.13***	0.10***	0.05*	0.16***
N	459	636	777	777	1819	2140	2895	3031	3286	3135	2301	1387	762	234
N(id)	52	76	96	96	226	281	401	430	481	487	344	197	101	32
Child's age							MEN							
-6y/-4y	(ref)	0.32***	0.07	0.05	0.12	-0.05	-0.10							
-3y/-2y	-0.56***	(ref)	-0.40***	-0.44***	-0.20	-0.15	-0.13	0.38						
-1y	-0.26	0.39***	(ref)	-0.05	0.17	0.10	0.14	0.21						
0y	-0.11	0.48***	0.03	(ref)	0.29***	0.30***	0.35***	0.49*	0.45					
1y/2y	-0.48	0.26	-0.22	-0.26*	(ref)	-0.01	-0.09	0.03	0.14					
3y/4y	-0.37	0.27	-0.30	-0.36*	-0.14	(ref)	-0.09	-0.01	0.15	0.08				
5y/7y	-0.31	0.39	-0.30	-0.37	-0.09	0.04	(ref)	0.07	0.20	0.15	-0.10			
8y/10y	-0.74	0.46	-0.30	-0.37	0.06	0.10	0.03	(ref)	0.10	0.09	-0.01	-0.50		
11y/13y			0.19	0.11	0.05	0.06	-0.03	-0.13*	(ref)	0.02	0.06	-0.22	0.56	
14y/16y					0.24	0.05	0.06	-0.01	0.01	(ref)	0.02	-0.07	0.60	0.47
17y/19y							0.05	-0.12	-0.01	0.01	(ref)	-0.04	0.48*	-0.03
20y/22y								-0.09	0.08	0.06	0.05	(ref)	0.39***	0.06
23y/25y									-0.23	-0.28	-0.31*	-0.27*	(ref)	-0.10
26y/30y										0.07	-0.03	0.01	0.12	(ref)
31y+												-1.55***	-1.69***	-1.79***
satisf. with free time	0.08***	0.04	0.05*	0.05*	0.04***	0.01	0.02*	0.02***	0.03***	0.03***	0.01	0.01	0.03	-0.03
satisf. with housework	0.03	0.11***	0.07***	0.07***	0.05***	0.06***	0.04***	0.04*	0.02	0.05***	0.08***	0.07***	0.08***	0.01
housework hours weekly	0.01	0.01	0.01	0.01	0.00	0.02***	0.01	0.00	0.01	-0.00	-0.00	-0.02*	-0.00	-0.02
satisf. with financial sit.	0.14***	0.19***	0.16***	0.16***	0.12***	0.09***	0.12***	0.11***	0.09***	0.10***	0.11***	0.10***	0.10***	0.10***
N	443	554	674	674	1506	1732	2343	2370	2534	2470	1809	1045	590	183
N(id)	50	67	86	86	207	251	352	369	416	424	294	163	87	25

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, births of the first and second child, and the wave.

8 Appendix: Results for parents residing with children, without controls for financial satisfaction and time use.

Table 7: Effect of first child's age on well-being of women and men. Fixed effects estimations for parents residing with the child, without controlling for satisfaction with financial situation and time use.

Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WOMEN														
-6y/-4y	(ref)	-0.05	-0.16	-0.20	-0.01	-0.21	-0.31							
-3y/-2y	0.25	(ref)	-0.16	-0.22***	0.09	-0.01	-0.05	0.20						
-1y	0.64***	0.25***	(ref)	-0.06	0.27***	0.27***	0.21	0.28						
0y	0.84***	0.43***	0.12	(ref)	0.40***	0.49***	0.45***	0.52***	0.27					
1y/2y	0.37	-0.08	-0.37***	-0.48***	(ref)	0.09*	0.00	0.01	-0.04					
3y/4y	0.51	-0.26	-0.62***	-0.76***	-0.22***	(ref)	-0.07	-0.03	-0.08	-0.18				
5y/7y	0.59	-0.39	-0.73***	-0.89***	-0.23***	0.00	(ref)	0.03	0.07	-0.01	0.20*			
8y/10y	0.72	-0.09	-0.67***	-0.86***	-0.14	0.15*	0.06	(ref)	0.06	0.04	0.15***	0.14		
11y/13y			-0.58	-0.80***	-0.21	0.17	0.08	-0.05	(ref)	-0.05	0.04	0.06	-0.01	
14y/16y					-0.36	0.28*	0.16	-0.05	0.02	(ref)	0.09***	0.07	0.13	0.34
17y/19y							0.18	-0.13*	-0.07*	-0.08***	(ref)	0.01	0.05	0.02
20y/22y								-0.23***	-0.09	-0.09***	-0.04	(ref)	-0.01	0.03
23y/25y									-0.06	-0.04	-0.00	0.02	(ref)	0.04
26y/30y										-0.12	-0.10	-0.03	-0.05	(ref)
31y+											-0.73*	-0.32	-0.49	-0.28
N	636	1282	1617	1617	4242	5156	7097	9239	10973	13053	15248	12117	5719	1983
N(id)	72	157	208	208	615	731	1047	1409	1739	2176	2595	1967	804	258
MEN														
-6y/-4y	(ref)	0.07	-0.05	0.02	-0.01	0.04	-0.41*							
-3y/-2y	-0.12	(ref)	-0.05	0.03	0.02	0.07	0.26*	0.31						
-1y	-0.10	0.11	(ref)	0.17***	0.16*	0.16	0.39***	0.40***						
0y	-0.12	0.04	-0.01	(ref)	0.03	-0.03	0.24***	0.18	0.08					
1y/2y	-0.15	-0.10	-0.09	-0.01	(ref)	0.02	0.16***	0.20***	0.00					
3y/4y	-0.40	-0.27	-0.22	-0.13	-0.08	(ref)	0.11***	0.18***	0.05	0.10				
5y/7y	-0.58	-0.50***	-0.30*	-0.20	-0.15***	-0.07	(ref)	0.02	-0.05	-0.14*	0.06			
8y/10y	-0.74	-0.54*	-0.28	-0.17	-0.12	-0.02	0.00	(ref)	-0.03	-0.08	0.12*	0.09		
11y/13y			-0.31	-0.22	-0.06	0.04	-0.03	-0.01	(ref)	-0.01	0.15***	0.13*	-0.11	
14y/16y					-0.03	0.22	0.06	0.00	0.02	(ref)	0.10***	0.10***	-0.04	0.17
17y/19y							-0.09	-0.09	-0.08*	-0.06***	(ref)	0.02	-0.08	0.06
20y/22y								-0.09	-0.08	-0.04	-0.00	(ref)	-0.03	0.05
23y/25y									0.02	-0.01	-0.01	-0.03	(ref)	0.03
26y/30y										-0.02	-0.05	-0.08	-0.01	(ref)
31y+											0.03	-0.02	0.04	0.02
N	678	1191	1478	1478	3754	4320	5752	7353	8743	10373	12554	10348	5301	1975
N(id)	81	155	198	198	566	662	932	1224	1522	1929	2380	1869	849	289

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, second and third births, and the wave.

Source: SHP data waves 1-13

Table 8: Effect of second child's age on well-being of women and men. Fixed effects estimations for parents residing with the child, without controlling for satisfaction with financial situation and time use.

Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WOMEN														
-6y/-4y	(ref)	0.03	0.01	0.03	0.12	0.08	0.05							
-3y/-2y	0.09	(ref)	-0.04	-0.02	0.14	0.08	-0.11	0.08						
-1y	0.24	0.02	(ref)	0.04	0.17***	0.19*	0.06	0.22						
0y	0.20	0.02	-0.03	(ref)	0.16***	0.22***	0.12	0.32***	0.12					
1y/2y	0.02	-0.16	-0.26***	-0.23***	(ref)	-0.00	-0.07	0.04	-0.11					
3y/4y	0.02	-0.32*	-0.39***	-0.35***	-0.08	(ref)	-0.11***	0.10	0.00	-0.15				
5y/7y	0.44	-0.05	-0.22	-0.17	0.04	0.13***	(ref)	0.13***	0.15***	0.17***	0.04			
8y/10y	0.04	-0.21	-0.34	-0.29	0.06	0.11	-0.07*	(ref)	0.02	-0.01	-0.12	-0.32***		
11y/13y			-0.73***	-0.68***	0.07	0.17	-0.12*	-0.05	(ref)	0.01	-0.01	-0.06	0.01	
14y/16y					0.35	0.19	-0.04	-0.01	0.05	(ref)	0.01	-0.04	-0.07	-0.71
17y/19y							-0.06	-0.02	-0.02	-0.05*	(ref)	-0.02	-0.08	-0.59
20y/22y								-0.01	-0.04	-0.06	0.01	(ref)	-0.03	-0.32
23y/25y									-0.08	-0.17***	-0.05	-0.07	(ref)	-0.26
26y/30y										0.11	0.06	0.06	0.08	(ref)
31y+														
N	864	1596	1970	1970	4363	5144	6844	8026	8906	9525	8571	5328	2186	512
N(id)	96	189	234	234	562	679	943	1142	1322	1507	1345	761	280	62
MEN														
-6y/-4y	(ref)	-0.23***	-0.16*	-0.13	-0.15	-0.06	0.15							
-3y/-2y	0.17	(ref)	0.10	0.15*	0.15*	0.19*	0.24*	-0.00						
-1y	0.14	-0.15	(ref)	0.06	0.03	0.10	0.23*	0.23						
0y	0.05	-0.22*	-0.08	(ref)	-0.02	0.03	0.16	0.07	0.07					
1y/2y	-0.08	-0.29***	-0.10	-0.02	(ref)	0.08	0.17***	0.08	0.24*					
3y/4y	-0.19	-0.41***	-0.20	-0.10	-0.09	(ref)	0.07	0.03	0.02	0.15				
5y/7y	-0.16	-0.52***	-0.29*	-0.18	-0.20***	-0.08	(ref)	-0.01	0.01	0.08	-0.01			
8y/10y	-0.07	-0.59*	-0.38	-0.24	-0.15	-0.04	-0.01	(ref)	0.05	0.13***	0.11	-0.28		
11y/13y			-0.71***	-0.56*	-0.15	-0.08	-0.09	-0.06	(ref)	0.09***	0.08	-0.25***	-0.22	
14y/16y					0.23	-0.10	-0.13	-0.09	-0.02	(ref)	0.06*	-0.15***	-0.23	-0.72*
17y/19y							-0.19	-0.12	-0.08	-0.05	(ref)	-0.15***	-0.24***	-0.45
20y/22y								-0.03	-0.01	0.02	0.07*	(ref)	-0.09	-0.05
23y/25y									-0.11	-0.04	0.04	-0.01	(ref)	0.13
26y/30y										-0.02	-0.06	-0.03	-0.07	(ref)
31y+														
N	803	1438	1722	1722	3626	4165	5470	6340	7004	7427	6854	4351	2000	483
N(id)	94	187	226	226	523	609	844	1017	1185	1330	1175	704	282	64

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, first and third births, and the wave.

Source: SHP data waves 1-13

Table 9: Effect of third child's age on well-being of women and men. Fixed effects estimations for parents residing with the child, without controlling for satisfaction with financial situation and time use.

Age	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
WOMEN														
-6y/-4y	(ref)	0.15	0.18	0.09	0.20	-0.11	-0.09							
-3y/-2y	-0.24	(ref)	0.02	-0.11	0.11	0.11	0.16	0.16						
-1y	-0.22	-0.10	(ref)	-0.18	-0.01	0.02	-0.10	-0.23						
0y	-0.15	0.04	0.16	(ref)	0.15	0.16	0.10	0.01	0.60					
1y/2y	-0.10	-0.02	0.09	-0.10	(ref)	0.16***	0.05	0.03	0.19					
3y/4y	0.04	-0.06	-0.05	-0.28	-0.10	(ref)	-0.05	-0.22***	-0.06	-0.24				
5y/7y	0.00	-0.01	0.03	-0.24	-0.12	0.12	(ref)	-0.08	0.06	-0.27***	-0.26			
8y/10y	0.02	0.30	0.31	0.01	-0.07	0.17	0.10	(ref)	0.10	-0.09	-0.24	-0.10		
11y/13y			0.39	0.06	-0.13	0.21	0.16	-0.03	(ref)	-0.09	-0.19	-0.37	-0.22	
14y/16y					-0.32	0.34	0.25*	-0.01	0.01	(ref)	-0.04	-0.18	-0.12	0.11
17y/19y							0.14	-0.08	-0.03	0.02	(ref)	-0.13	-0.04	-0.01
20y/22y								0.12	0.06	0.18***	0.17***	(ref)	0.00	0.78
23y/25y									0.15	0.26*	0.31***	0.16	(ref)	1.58***
26y/30y										0.11	0.14	-0.00	-0.30	(ref)
31y+														
N	473	659	808	808	1864	2192	2977	3130	3382	3250	2331	1249	442	66
N(id)	52	76	96	96	227	281	401	434	486	490	338	171	63	11
MEN														
-6y/-4y	(ref)	0.28*	0.10	0.07	0.01	-0.15	-0.24							
-3y/-2y	-0.41***	(ref)	-0.31***	-0.37***	-0.21*	-0.18	-0.19	0.38						
-1y	-0.17	0.30*	(ref)	-0.07	0.11	0.12	0.04	0.18						
0y	0.05	0.40***	0.08	(ref)	0.28***	0.25*	0.26	0.43*	0.27					
1y/2y	-0.28	0.12	-0.16	-0.25*	(ref)	-0.03	-0.14	-0.03	-0.01					
3y/4y	-0.16	0.07	-0.26	-0.37*	-0.05	(ref)	-0.13*	-0.07	0.05	-0.11				
5y/7y	-0.08	0.13	-0.26	-0.39	0.07	0.07	(ref)	0.06	0.15	0.03	-0.29			
8y/10y	-0.37	0.24	-0.23	-0.37	0.38***	0.20	0.10	(ref)	0.09	0.03	-0.17	-0.71*		
11y/13y			0.25	0.09	0.50***	0.21	0.10	-0.07	(ref)	-0.00	-0.05	-0.36	-0.49	
14y/16y					0.82***	0.24	0.19	0.06	0.06	(ref)	-0.03	-0.10	0.09	-4.19***
17y/19y							0.20	-0.01	0.10	0.07	(ref)	-0.04	0.30	-2.78***
20y/22y								-0.02	0.22	0.15	0.08	(ref)	0.32	-1.66***
23y/25y									0.12	-0.05	-0.15	-0.15	(ref)	-0.61
26y/30y										0.48	-0.19	-0.35	-0.04	(ref)
31y+														
N	454	563	688	688	1536	1764	2383	2405	2577	2500	1800	952	353	50
N(id)	51	68	87	87	210	252	350	369	417	421	289	148	55	9

* $p < .10$, *** $p < .05$

Note: Control variables include: age (linear and quadratic component), satisfaction with own health, being single, being divorced, equivalent household income, own unemployment, first and second births, and the wave.

Source: SHP data waves 1-13

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