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# How does parenthood affect life satisfaction in Russia?\*

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## Abstract

The literature on life satisfaction dynamics during parenthood relies largely on data from Western countries. This paper tests the generality of previous conclusions and theoretical models by confronting them with estimates from Russia. We apply fixed effects regression for panel data to the Russia Longitudinal Monitoring Survey data from years 1994-2012. We focus on the dynamics of life satisfaction during parenthood and we investigate the moderating effect of age at first birth, income, and education. The trajectory of life satisfaction during parenthood in Russia differs from the Western one. Life satisfaction of parents does not temporarily increase in the period surrounding the first birth, but it increases during the period surrounding the second birth. Moreover, the long-term effect of parenthood on life satisfaction is positive. These results provide little support to the set-point theory of happiness, but are consistent with selection to parenthood. Planning of parenthood may be an important issue for future studies.

**Keywords:** fertility; subjective well-being; set-point theory; demands and rewards of parenthood; selection; fixed-effects;

## 1 Introduction

Little is known about the relationship between parenthood and subjective well-being in the former socialist countries of Eastern Europe. This is unfortunate, because such analyses proved useful in explaining fertility patterns (Myrskylä and Margolis, 2014). Subjective well-being of parents may drive their fertility behavior: satisfactory transition to parenthood may encourage parents to have another child, and a difficult one may discourage it. Similarly, observing experiences of other parents may provide clues about one's preferred number of children and the preferred timing of own fertility.

Up to date, the evidence was restricted to a small group of Western countries, where long panel data were available. Previous studies analyzed the trajectories of parental life satisfaction in Germany (Baetschmann et al., 2012; Clark et al., 2008; Myrskylä and Margolis, 2014; Pollmann-Schult, 2014), United Kingdom (Clark and Georgellis, 2013; Myrskylä and Margolis, 2014), and Australia (Frijters et al., 2011). The picture drawn by these studies may be less relevant to situation in Eastern European countries, whose fertility patterns generally differ from the western one. This paper extends the evidence by estimating the effect of parenthood on subjective well-being in Russia.

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\*This study uses "Russia Longitudinal Monitoring survey, RLMS-HSE", conducted by the National Research University Higher School of Economics and ZAO "Demoscope" together with Carolina Population Center, University of North Carolina at Chapel Hill and the Institute of Sociology RAS.

This analysis also assesses how general are the current theoretical approaches, such as set-point theory of happiness (Clark et al., 2008; Clark and Georgellis, 2013), the demand-reward model of parenthood (Nomaguchi and Milkie, 2003), and the approach emphasizing self-selection to parenthood (Kravdal, 2014). Our analysis is the first one to confront these theories with the results from Russian sample.

The trajectories of life satisfaction estimated in our paper differ from those previously reported. We find no increase of life satisfaction in the period surrounding the first birth, but we observe an increase in the period surrounding the second birth. Additionally, we find a positive long-term effect of parenthood on life satisfaction. These results provide little support to the set-point theory of happiness. They also suggest that selection to parenthood and planning of parenthood may be important and neglected moderators of the effect of parenthood on life satisfaction.

## 2 Parenthood and subjective well-being

Previous studies addressed the relationship between parenthood and subjective well-being using a range of data and methods, leading to sometimes contradictory conclusions. For example, several cross sectional studies demonstrated that parents had lower subjective well-being than childless persons (Hansen, 2012; Margolis and Myrskylä, 2011; Stanca, 2012; Vanassche et al., 2013), while others showed a positive (Aassve et al., 2012) or a null correlation (for children under the age of six: Vanassche et al., 2013). These contradictory conclusions may result from the inability of cross-sectional studies to separate the causal effect of parenthood from selection. This may be partly done by controlling for individual fixed effects, i.e. the time invariant personal characteristics which may affect both subjective well-being and fertility decisions.

Some studies using longitudinal data showed that including individual fixed effects in the model changed the results (e.g. Angeles, 2010; Baranowska and Matysiak, 2011; Stutzer and Frey, 2006).<sup>1</sup> Yet, also the results of studies which controlled for individual fixed effects failed to draw a consistent picture. They provided the evidence of: a null effect of parenthood (Zimmermann and Easterlin, 2006), a null effect among men (Kohler et al., 2005), a positive albeit temporary effect of the first child among men (Baranowska and Matysiak, 2011), a positive effect among men which increased with the number of children (Angeles, 2010), a positive effect of the first child among women (Baetschmann et al., 2012; Baranowska and Matysiak, 2011; Kohler et al., 2005), and a persistent positive effect for both mothers and fathers (Pollmann-Schult, 2014).

### 2.1 Theoretical approaches

These puzzling results suggest the existence of some underlying heterogeneity of the relationship between parenthood and subjective well-being which was not properly accounted for. The theoretical approaches refer either to the heterogeneity of tastes when it comes to fertility (the *selection* approach), or to the fact that the experience of parenthood consists of differently gratifying stages (the *demands and rewards* approach, and the *set-point theory*).

The main idea expressed by the *selection* approach (Kravdal, 2014) is that people differ in their “taste for children”. In other words, they have different expectations of how (positively or negatively) parenthood will affect the quality of their lives. Moreover, persons who expect

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<sup>1</sup>Yet, also these results were not always consistent. For example, Angeles (2010) showed that including individual fixed effects changed the large negative effect of parenthood on subjective well-being into a small and positive one, but Stutzer and Frey (2006) observed a change from a positive to a small negative effect.

gratifying parenthood are more likely to have children than those who expect constraining and unpleasant parenthood. This limits the possibility to estimate the causal effect of parenthood on subjective well-being (Kravdal, 2014), but also suggests that neither parenthood nor childlessness affect subjective well-being; what counts is the match between preferences and behavior.

The *demands and rewards* approach emphasizes that the experience of parenthood alters as parents and children move from one stage of parenthood to another. This may be related to the costs and rewards of parenthood which change as children grow older (Nomaguchi, 2012). For example, the transition to parenthood among women is associated with longer hours of housework, stronger time constraints, and higher marital conflict (Evenson and Simon, 2005; Nomaguchi and Milkie, 2003), but the care-intense stage of parenthood is also the period of particularly satisfying emotional relationship with the child (Nomaguchi, 2012). Consistently with this approach, Pollmann-Schult (2014) showed that controlling for the financial cost of parenthood and the associated time constraints affects the estimates of parental life satisfaction.

The idea that the experience of parenthood changes over time is also captured by the *set-point theory* and by the notions of adaptation to life course transitions (Aassve et al., 2012; Brickman and Campbell, 1971; Clark et al., 2008; Diener and Diener, 1996; Headey and Wearing, 1989). This approach postulates the existence of an individual baseline level of happiness, which is only temporarily affected by positive and negative life events. Becoming a parent is one of such events – usually a positive one because most people who become parents chose to do so. However, after the event people adapt to the new conditions by adjusting their expectations and evaluation of their lives. This process, adaptation, pushes back subjective well-being to its initial, baseline level. This suggests that the positive effect of parenthood on subjective well-being is only temporary, as shown by various studies (e.g. Clark et al., 2008; Clark and Georgellis, 2013; Myrskylä and Margolis, 2014).

## 2.2 Life satisfaction dynamics during parenthood

The demands and rewards model and the set-point theory emphasize the need for investigating not only the *levels* of subjective well-being, but also its *changes* during parenthood. This has been done by part of the literature focusing on the dynamics of parental life satisfaction (for a review, see: Hansen, 2012).

### 2.2.1 Anticipation and the transition to parenthood

The seminal now analysis by Clark et al. (2008) showed that birth of the first child is the period of temporarily increased life satisfaction, which begins already before the birth (anticipation effect) and is followed by adaptation. These results were confirmed by other studies using similar methodology (Baetschmann et al., 2012; Frijters et al., 2011; Myrskylä and Margolis, 2014). The size of the effect of the first birth was either moderate or large.<sup>2</sup>

The anticipation effect was consistently observed 1 year before the birth [Clark et al. (2008) for men; Myrskylä and Margolis (2014) in joint analysis for men and women; Baetschmann et al. (2012) in an analysis limited to women]. In some studies the anticipation effect was found earlier [2-3 years before the birth in Germany Myrskylä and Margolis (2014) and in UK among women:

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<sup>2</sup>Its estimates ranged from 0.18 (Clark et al., 2008, women in Germany), 0.216 (Clark and Georgellis, 2013, among women in UK), 0.27-0.32 (Myrskylä and Margolis, 2014, men and women in Germany), 0.38-0.47 (Myrskylä and Margolis, 2014, men and women in the UK), up to the value of 0.52-0.56 (Baetschmann et al., 2012, women in Germany; all dependent variables measured on a 11-point scale).

Clark and Georgellis (2013)]. However, the analysis by Frijters et al. (2011) using quarterly data for Australia found an anticipation effect only 6-9 months before the birth.

The anticipation effect is interpreted as the effect of unobserved variables relevant to the birth, which the respondent experiences and reacts to them already before the birth (Frijters et al., 2011). In other words, the positive anticipation effect suggests that the childbirth occurs in a special moment when parents are emotionally, socially, and economically ready for the arrival of a child (Baetschmann et al., 2012). This is confirmed by the observation that the anticipation effect occurs only in case of planned births (Baetschmann et al., 2012).

### **2.2.2 Adaptation to parenthood and happiness at older ages of children**

After the birth of the first child, life satisfaction of parents decreases. Clark et al. (2008) and Myrskylä and Margolis (2014) observed a full adaptation already in the first year following the birth; Frijters et al. (2011) – five quarters (i.e. 15 months) after the birth.

The long-term effect of parenthood on happiness was rarely explored. The studies by Pollmann-Schult (2014) and Baetschmann et al. (2012) reported a long-term positive effect of parenthood. Yet, the study by Myrskylä and Margolis (2014) found no consistent effect of parenthood on life satisfaction up to the period of 10-18 years after the birth.

Studies focusing on the effect of parenthood and childlessness among older persons usually show that in the long run childlessness, especially voluntary one, does not harm subjective well-being (Connidis and McMullin, 1993; Umberson et al., 2010). However, some studies reported negative effects of childlessness [on life satisfaction and self-esteem of women: Hansen et al. (2009), on loneliness and depression among divorced or widowed men: Zhang and Liu (2007)]. Moreover, the consequences of parenthood for life satisfaction may be positive or negative depending on the quality of the relationship with the adult children and the events experienced by them (Connidis and McMullin, 1993; Knoester, 2003; Koropeckyj-Cox, 2002; Ward, 2008).

### **2.2.3 Moderating effect of parity**

Many studies, especially those testing the set-point theory, focused exclusively on the first birth; only some analyses accounted also for the births of higher order. Some of them reported that having more children increases parental happiness [e.g. Angeles (2010); Aassve et al. (2012) and Pollmann-Schult (2014) for men], but others showed that the first child has the most positive effect on parental life satisfaction.<sup>3</sup> This pattern is consistent with the set-point theory, which implicitly assumes that the birth of the first child is a more noticeable transition than the births of subsequent children (Aassve et al., 2012). If the process of adaptation gradually reduces the benefits of this transition, then the positive effect of parenthood should be observed mainly at the younger ages of the first child. The pattern of more positive effect on subjective well-being of the first child but not of subsequent children is also consistent with the observation that the burdens of parenthood (both financial and time constraints) increase with the number of children (Aassve et al., 2012), which is not necessarily compensated by the greater emotional rewards of multiple parenthood. Indeed, Pollmann-Schult (2014) found a positive effect of higher-order births on life satisfaction only after controlling for the financial and time costs of parenthood.

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<sup>3</sup>For example, Kohler et al. (2005) reported a positive effect of first child on life satisfaction of women, and a negative effect of additional children. Similarly, Aassve et al. (2012) found that women's happiness correlates with having at least one child, but was not affected by subsequent children. Also the study by Myrskylä and Margolis (2014) showed a more positive effect of the first birth than of the second and third births.

### 2.2.4 Moderating effect of parent's gender

Some research showed that the effect of parenthood on life satisfaction is more positive among women than among men (Baranowska and Matysiak, 2011; Clark et al., 2008; Clark and Georgellis, 2013; Kohler et al., 2005). However, results of other analyses concluded that the effect of parenthood on subjective well-being for women and men is similar (e.g. Angeles, 2010; Pollmann-Schult, 2014), or that the effect is more positive among men (second, third, and subsequent children in: Aassve et al., 2012).

The gender differences in the effect of parenthood on subjective well-being may be associated with various demands and rewards of parenthood for men and women. In particular, women may experience the burden of increased housework more than men (Nomaguchi, 2012), but they may also have a stronger preference for having children.

### 2.2.5 Moderating effects of age, education and income

Entering parenthood at young age limits the educational and work opportunities of parents (Umberson et al., 2010), therefore the moderating effects of parents' age at birth, educational level, and incomes on the relationship between parenthood and subjective well-being partly reflect the same mechanisms. Parents older at birth may be better prepared for parenthood, have higher incomes and more secure position at work (Gregory, 2007; Myrskylä and Margolis, 2014). Thus, older age at first birth, higher incomes and education may increase the positive correlation between parenthood and life satisfaction.

Research confirmed these regularities: parenthood is more beneficial for parents older at birth (Myrskylä and Margolis, 2014), for higher educated parents (Angeles, 2010; Myrskylä and Margolis, 2014), and for those with higher incomes (Angeles, 2010; Myrskylä and Margolis, 2014; Nomaguchi and Milkie, 2003).

## 2.3 Fertility and parenthood in Russia

The well-being consequences of transition to parenthood and of aging of the child likely reflect the conditions for fertility in a social context. Russia, compared to Western countries, stands out with low age at first birth, low childlessness, and low fertility at higher parity levels (Gerber and Berman, 2010).

Both women and men in Russia enter parenthood at younger ages than in the West (Kohler and Kohler, 2002; Kohlmann and Zuev, 2001; Zakharov and Ivanova, 1996).<sup>4</sup> The decline of fertility over past decades was not accompanied by postponing of marriage and childbearing, which characterized the second demographic transition in Western Europe (Lesthaeghe, 2010; Zakharov, 2008). The literature connects early parenthood with younger age of accomplishing education than in the West, strong reliance on help from grandparents (Rotkirch and Kesseli, 2012), and lack of perspectives for economic stability (waiting for economic stability may be a factor delaying parenthood, see: Billari et al., 2006; Rotkirch and Kesseli, 2012). Early first births are also associated with the lack of explicit couple's negotiations about whether and when to enter parenthood (Rotkirch and Kesseli, 2010).

Early parenthood coexists with low levels of childlessness (Philipov and Jasilioniene, 2008).<sup>5</sup> This feature is interpreted as a trace of the dominating role of motherhood among the life goals

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<sup>4</sup>Mean age of women at birth of first child in Russia in 2009 was 24.6 years (compared to 26.3 years in Poland, 28.8 in Germany, 27.6 in United Kingdom, see: United Nations, 2014).

<sup>5</sup>In seventies and eighties the proportion of childless women was around 4–7%, below 10% for the cohorts born in the 1970s, and under 15% for cohorts born in the 1980s (Zakharov, 2008).

of Russian women, which continues to be more important than career or self-realization (Zakharov, 2008). Low childlessness also suggests low selection to parenthood, which is consistent with results showing that entering parenthood in Russia is considered a natural consequence of forming a romantic relationship (Rotkirch and Kesseli, 2012).

Finally, Russian fertility is characterized by low number of second and third births (Kharkova and Andreev, 2000; Perelli-Harris, 2006).<sup>6</sup> Even though the norm for a two-child family remains strong in Russia, one-child families are frequent (especially among educated women from urban areas, see: Zakharov, 2008). As economic barriers, health concerns, and the difficulties in combining parenthood with employment may limit fertility at higher parities, having two or more children in Russia is often perceived as a sign of good material standing and of family success (Rotkirch and Kesseli, 2012).

## 2.4 Current study

This study estimates the effect of parenthood on life satisfaction in Russia. In contrast to some of previous analyses, it employs a life-course approach, which directs attention to continuity between the experiences of parents with young children and parents with adult children to understand how parenthood shapes life trajectories (Umberson et al., 2010).

Consistently with previous literature, we formulate the following predictions for Russia.

1. The first birth, i.e. the transition to parenthood, is accompanied by increased subjective well-being, especially among women, and it is preceded by anticipation effect.
2. Consistently with the set-point theory, after the transition to parenthood life satisfaction goes back to the pre-birth level. This decline may be related also to the time constraints and financial demands of parenthood. The long term effect of parenthood on life satisfaction is null.
3. Further births constitute less noticeable life course transitions than the first birth, and they increase the time constraints and financial costs of parenthood. Therefore, their effect on parental life satisfaction is less positive than the effect of the first birth.

Moreover, as postulated by Kravdal (2014), and consistently with the literature showing that the life-satisfaction effects of parenthood differ across individuals, we investigate a range of moderating factors. We formulate the following expectations.

4. The effect of transition to parenthood is more positive among women than among men, because they have more control over their fertility than men do, therefore the births likely better reflect women's preferences than men's preferences. However, as childcare remains predominantly women's responsibility, their life satisfaction may be more negatively affected in the care-intense stages of parenthood (i.e. up to the schooling age).
5. Parenthood is particularly demanding for young people, and those with lower education and incomes. Hence, the trajectories of life satisfaction may be more negative for them. Moreover, early parenthood may constrain educational and career choices, which may have a long-term negative effect on parental life satisfaction.

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<sup>6</sup>The parity progression ratio to the second child of the cohort born in 1959-63 in Russia is 68.6% [(Zakharov, 2008, Table A3); for comparison, other low-fertility countries: cohort born in 1960 range between 73.4% in Romania to 85.2% in England and Wales (Frejka and Sardon, 2007, Table 6).] The difference for the progression to the third child is even larger: it is 22.4% in Russia, whereas in Western countries it ranges from 29.2% (Czech Republic) to 43% (England and Wales).

Table 1: Characteristics of the sample used in the analysis

Wave	Years	N	Nr of births			Nr of parents with* all children under 25
			1st	2nd	3rd	
5	1994-1995	4329	107	70	18	4187
6	1995	4099	111	50	11	3888
7	1996	3946	88	54	6	3638
8	1997-1998	3827	84	47	14	3396
9	2000	3667	87	30	10	3043
10	2001	3773	75	30	11	3089
11	2002	3728	82	35	5	2958
12	2003	3670	68	33	6	2831
13	2004	3612	66	39	6	2717
14	2004-2005	3404	70	44	7	2447
15	2005-2006	4185	111	37	12	3131
16	2006-2007	4118	93	45	7	3057
17	2007-2008	3900	89	63	13	2821
18	2009-2010	3792	67	58	11	2649
19	2010-2011	6133	154	113	41	4754
20	2011-2012	6081	106	97	18	4681

*Note:* \* includes also prospective parents; sample limited to persons aged 15-55, observed at least once with the first, second, or third child aged 24 or younger and with the child not older than 30 years;

*Source:* RLMS-HSE, waves 5-20

### 3 Data and methodology

#### 3.1 Data

This analysis uses the data of the Russia Longitudinal Monitoring Survey of Higher School of Economics (RLMS-HSE), which is a yearly household-based panel survey designed to measure the effects of Russian reforms on households and individuals. It has been used previously for analyzing some aspects of fertility in Russia (Kohler and Kohler, 2002; Perelli-Harris, 2006), but not to examine the dynamics of life satisfaction before and after childbirth.

RLMS-HSE uses a multi-stage probability sample divided into 38 strata based on geographical factors, level of urbanization, and ethnicity. The strata include Moscow city, Moscow Oblast, and Sankt Petersburg, as well as other 35 randomly chosen regions, from which some remote areas were excluded to lower the costs. This analysis uses the data from the 16 waves realized within the second stage of the program, covering the period 1994-2012 (waves 5-20). Characteristics of the sample, including the years when each wave was completed, sample size, number of parents in the sample and number of births in the sample are shown in Table 1.

#### 3.2 Variables

##### 3.2.1 Dependent variable: life satisfaction

Life satisfaction is measured with the question: *To what extent are you satisfied with your life in general at the present time?*, with the answers ranging from 5 – *fully satisfied* to 1 – *not at all satisfied*. The overall sample mean life satisfaction is 2.77, but the average was changing considerably across time: a decline occurred between 1994 ( $\mu = 2.28$ ) and 1998 ( $\mu = 2.08$ ), followed by a rather steady increase until 2012 ( $\mu = 3.4$ ).



### 3.2.2 Time-varying independent variables

Stages of parenthood are coded as a set of dichotomous variables, marked in Equation 1 as  $BB_{3it}$ - $BB_{1it}$  and  $Age_{0it}$ - $Age_{25+it}$ . They take the value of 1 during the respective period (e.g.  $Age_{0it} = 1$  in the year of the child's birth, and  $Age_{0it} = 0$  otherwise). The variable  $Age_{25+it}$  take the value of 1 in the period when a child was between 25 and 30 years old, and serves as a control. The reference category is the period 4 or more years before the birth. The stages of parenthood are coded as 0 also for persons who do not have a child of specific parity and age.

We derived the information on parenthood status and ages of children from the household grid, which codes the information on household members and the relationships between them. Therefore we did not record the information on children who have never been living in the same household with a parent during the panel. This might have underrepresented parenthood especially of men.

Control variables include: age (linear and quadratic component, per 10 years, values centered on the overall mean of 38 years); equivalent yearly household income per capita (per equivalent household size, CPI corrected, expressed in 100,000s of Rubles of the year 2000); and employment status (employed; not employed but not registered as unemployed; registered as unemployed).

Childbirths often coincide with changes of marital status, therefore, next to standard measures of marital status (single; cohabiting without marriage; married; divorced or widowed) we also include a dichotomous variable 'honeymoon', which codes the first year of marriage, which is typically the period of increased life satisfaction (Clark et al., 2008).<sup>7</sup> By including this variable we secure that the life satisfaction consequences of births and parenthood are separated from the life satisfaction effect of marrying.

We also include dummies marking the change in time (waves 5-6; waves 7-8; waves 9-10; waves 11-12; waves 13-15 as a reference; waves 16-18; waves 19-20) to control for the substantial changes of life satisfaction in Russia over time. Moreover, we allow for changing correlation of life satisfaction with income over time (which might occur in turbulent times), by including interactions of household income with the wave dummies.

### 3.2.3 Moderating factors (time invariant)

In order to investigate the effects of moderating factors (age of parents at birth, education, household income) we estimate models including the interactions between the dichotomous moderating factors and the dummies marking the age of the child. The moderating factors are defined as time invariant.

We include the following moderating factors:

1. age at first birth: persons who experienced their first birth before the median age at first birth, vs. those who experienced it later; median age calculated separately for men (26 years) and women (24 years);
2. education: persons with tertiary education (declared at least once during the survey) vs. those who always declared education lower than tertiary;

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<sup>7</sup>Note that the share of divorced women is larger than of divorced men: for women it ranges between 9% and 12% depending on parity, and for men it ranges between 2% and 4.5%. This suggests that either one of genders systematically misrepresented their marital status, or that remarriage was for men more likely than for women, or that divorced men are particularly at risk of dropping from the survey.

3. household income per capita: respondents whose household income was over the (wave-specific) median income in at least half of the waves, vs. respondents whose income was under the (wave-specific) median income at least half of the waves;

Table 2 shows the descriptive statistics of both the time varying and time invariant variables, for men and women separately.

Table 2: Characteristics of variables used in the analysis

variable	Women:						Men:					
	mean	s.d.	min	max	N	N(id)	mean	s.d.	min	max	N	N(id)
<i>Time-varying variables:</i>												
life satisfaction	2.75	1.16	1	5	63063	15805	2.86	1.17	1	5	51309	13755
age of child 1	17.12	10.82	-17	46	42489	9063	15.76	10.27	-17	46	28407	6361
age of child 2	14.19	9.57	-17	43	20782	3633	13.13	9.32	-16	45	15320	2822
age of child 3	12.67	8.55	-14	30	4823	668	11.94	8.40	-17	30	3572	530
single	0.21	0.40	0	1	63129	15755	0.26	0.44	0	1	51358	13697
cohabiting	0.09	0.29	0	1	63129	15755	0.09	0.29	0	1	51358	13697
married	0.52	0.50	0	1	63129	15755	0.59	0.49	0	1	51358	13697
honeymoon	0.01	0.11	0	1	63448	15930	0.01	0.12	0	1	51651	13883
divorced or widowed	0.18	0.38	0	1	63129	15755	0.05	0.23	0	1	51358	13697
not employed	0.37	0.48	0	1	62311	15613	0.33	0.47	0	1	50602	13608
registered unemployed	0.02	0.13	0	1	63448	15930	0.01	0.11	0	1	51651	13883
age	39.20	14.17	15	64	63448	15930	37.67	13.93	15	64	51651	13883
hh income (PPP, 100000)	4.90	20.91	0	1135	60352	15020	5.25	23.23	0	1135	49041	13106
interview year	2003.79	5.53	1994	2012	63448	15930	2003.67	5.57	1994	2012	51651	13883
<i>Time-invariant variables:</i>												
first birth < median age	0.31	0.46	0	1		15930	0.24	0.43	0	1		13883
tertiary education	0.26	0.44	0	1		15930	0.21	0.41	0	1		13883
high income	0.54	0.50	0	1		15930	0.55	0.50	0	1		13883
waves 5-12	0.51	0.50	0	1		15930	0.52	0.50	0	1		13883

*Note:* sample limited to persons aged 15-55, observed at least once with the first, second, or third child aged 24 or younger and with the child not older than 30 years; N refers to number of observations, N(id) to number of individuals

*Source:* RLMS-HSE, waves 5-20

### 3.3 Method

This analysis uses fixed effects models for panel data. Fixed effect models use the information on changes in the independent variables (in this case: aging of children) to predict changes in the dependent variable (in our case: parental life satisfaction). The focus on change rather than on the absolute levels of life satisfaction restricts the variance available for estimation, but it accurately documents how the transition to parenthood and changing ages of children affect parental life satisfaction.

Fixed effects models control for the time-invariant unobserved heterogeneity of individuals, such as genetic differences, personality traits, or the baseline level of happiness (Allison, 2009). This is particularly important in the light of the set-point theory. Moreover, the possibility to control for individual fixed effects partly solves the selection issues, which is relevant for the relationship between parenthood and subjective well-being as happier persons have higher probability of having a child (Parr, 2010).

The models used in this analysis estimate the changes of life satisfaction as a function of changing ages of children, coded with a set of dichotomous variables. We include also the period preceding the birth (3, 2, and 1 year before the birth), with the reference category of 4 and more years before the birth. This setting allows to estimate the anticipation effect.

We follow parents up to the moment when their children are 24 years old, and estimate separate models for the first, second, and third child. Formally, the model (for the first child) is described by Equation 1.

$$\begin{aligned}
 LS_{it} = & \beta_{BB3}BB3_{it} + \beta_{BB2}BB2_{it} + \beta_{BB1}BB1_{it} + \beta_{Age0}Age0_{it} + \\
 & + \beta_{Age1}Age1_{it} + \beta_{Age2}Age2_{it} + \dots + \beta_{Age23}Age23_{it} + \beta_{Age24}Age24_{it} + \beta_{Age25+}Age25_{it} + \\
 & + \beta_{Birth2}Birth2_{it} + \beta_{Child2}Child2_{it} + \dots + \beta_{Birth5}Birth5_{it} + \beta_{Child5}Child5_{it} + \\
 & + B_K X_{it} + u_i + \epsilon_{it}
 \end{aligned}
 \tag{1}$$

In Equation 1, coefficients from  $\beta_{BB3}$  to  $\beta_{BB1}$  describe the dynamics of life satisfaction 3, 2, and 1 year before the first birth (BB stands for “before the birth”). The coefficients from  $\beta_{Age0}$  to  $\beta_{Age25+}$  describe how life satisfaction changes with the age of the child. The reference category is the period 4 or more years before the birth. The coefficients  $\beta_{Birth2}$ - $\beta_{Birth5}$  and  $\beta_{Child2}$ - $\beta_{Child5}$  control for the birth and presence of other children (in case of the model for the first child: the second, the third, the fourth, and the fifth child). Element  $u_i$  is the individual fixed effect, which may be interpreted as the person-specific baseline level of happiness.  $B_K$  is a vector of coefficients of time-variant control variables  $X_{it}$ .

#### 3.3.1 Gender differences and moderating factors

The main disadvantage of fixed effect models is their inability to estimate the effects of time-invariant variables. This hampers our possibility to estimate the effects of gender and of the moderating factors, which we define as stable over time. (Some of the moderating factors are stable – e.g. age at first birth, some can be assumed to be stable, e.g. educational level, which changes little during the adult life, and some change over time – e.g. household income – but may be used to define time-invariant measures.)

We tackle the problem of time-invariant factors in two ways. First, for what concerns gender, we estimate separate models (i.e., separate trajectories of life satisfaction) for men and women.

Second, to account for the effect of moderating factors, we construct them as time-invariant dichotomous variables and interact them with the set of dichotomous variables marking the ages of children. This strategy has the advantage of providing a test of the statistical significance of the effects of moderating factors. For example, we can check for which ages of the child the life satisfaction trajectory of higher educated parents is significantly different from the trajectory of lower educated parents.

### 3.3.2 Age of child, age of parent, and historical time

The changes to life satisfaction of parents are affected by three simultaneously occurring processes: the changing ages of children, aging of the parent, and historical time. Figure 1 illustrates this by showing the average life satisfaction of parents of two cohorts of children: those born in years 1994-96, and those born in years 2001-03 (separately for men and women, and separately for the first and second child). The average life satisfaction was lower in years 1994-96 than in period 2001-03 [ $\mu = 2.3$  for wave 5 (1994-95),  $\mu = 2.2$  for wave 7 (1996);  $\mu = 2.6$  for wave 10 (2001),  $\mu = 2.8$  for wave 12 (2003)], which might reflect the economic crisis occurring in that period (Easterlin, 2009).

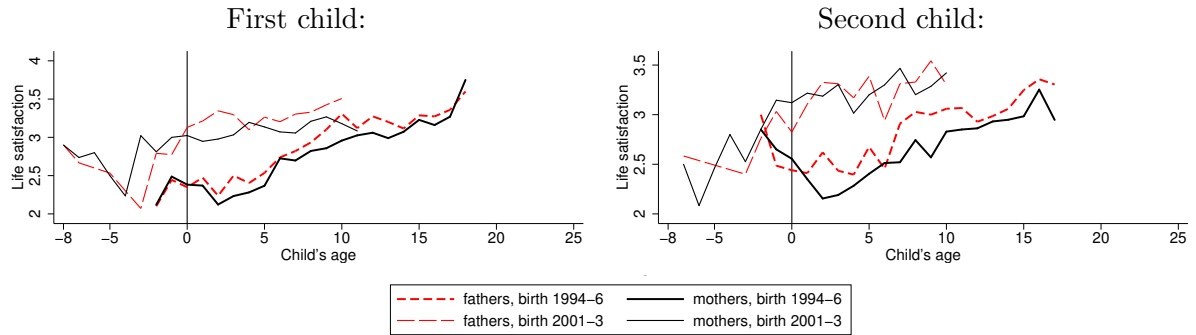


Figure 1: Average life satisfaction of (prospective) parents before and after the childbirth. Selected cohorts of births.

Source: RLMS-HSE data.

Note: Graphs only for  $n \geq 10$ .

The life satisfaction of parents who had their child in years 1994-96 initially declined, reached lowest values 2-3 years after the birth i.e. around year 1998, and afterwards increased. Parents whose children were born in years 2001-03 not only had consistently higher life satisfaction but also experienced a more continuous increase.

To empirically distinguish between the three processes we include in the estimation sample a control group, i.e. not only the persons who experience the transitions of interest, but also the persons who could, but who did not experience the specific transitions (as recommended by: Brüderl and Ludwig, 2014). Thus, the sample consists of two groups. The first one includes persons who experience transition into parenthood or aging of a child. This group comprises parents whose children of specified parity are aged 24 or younger, as well as persons who will in the future experience the birth of a child of specified parity. The second group is the control group and it consists of persons who could, but who did not experience a given transition. In case of estimates for the first child, the control group consists of childless persons, i.e. those who did not have a child during the survey. In the analysis for the second child the control group consists of childless persons and those with only one child. In the analysis for the third child the control group consists of the childless, those with one child, and those with two children.

We also limit the sample to persons in the age when parenthood is a likely option (15-55 years), and include only the parents of children aged 30 or younger.

To control for the effect of historical time the models also include, among the controls, the dummies for waves. To avoid estimation problems resulting from the collinearity of waves with parental and children’s age, we group together waves during which the average life satisfaction was relatively stable (Brüderl and Ludwig, 2014).

Note that the control groups are included in order to properly estimate and control for the effects of aging of parents and for a historical change. Therefore, even though the analysis uses exclusively the variation within persons, the results may be interpreted in terms of the potential difference between parents and childless persons (for the analysis for the first child), and between parents with two (three) children as compared to those having maximum one (two) children.

### 3.3.3 Long-term perspective

Consistently with the life-course approach we employ a long-term perspective to investigate the continuity and change of parental well-being over time. We treat childbirth as just one of many stages of parenthood, and the transition to parenthood as just one of many transitions that parents undergo. We follow parents up to the moment when the child is 24 years old, and estimate the effects of child’s aging up to this point. Even though the period observed by the data is maximum 18 years (1994-2012), we estimate such long-term effect of parenthood by combining the information of life satisfaction trajectories of parents observed at various stages of parenthood.

Even though we do not expect large changes of parental life satisfaction from one year to another, we include all ages of the child separately rather than grouping them in larger categories, because we have no prior knowledge on when the “broader stages of parenthood” should begin and end.

### 3.3.4 Robustness checks

We use two strategies to test the robustness of the results. First, as Russia in the observed period experienced revolutionary social change, we investigate if the trajectories of parental life satisfaction changed over time or remained stable. Second, because our dependent variable is measured on a five-point scale, we re-estimate our models using logistic regression.

## 4 Results

Table 3 shows the results of fixed effects estimation (for women and men separately, for the first, second, and third child). With numerous coefficients, the effects of stages of parenthood on life satisfaction are difficult to follow in a table, therefore we present them also in Figure 2.

Table 3: Fixed effects regression of life satisfaction on stages of parenthood and control variables

	Women 1st child	Women 2nd child	Women 3rd child	Men 1st child	Men 2nd child	Men 3rd child
<i>Stages of parenthood:</i>						
4 years before birth			<i>reference category</i>			
3 years before birth	0.17 (0.042)*	0.07 (0.418)	0.24 (0.193)	0.06 (0.630)	0.11 (0.211)	-0.11 (0.613)
2 years before birth	-0.02	0.09	0.03	0.03	0.05	0.24

	(0.828)	(0.351)	(0.854)	(0.767)	(0.599)	(0.110)
1 year before birth	-0.01	0.22	0.29	0.08	0.07	0.22
	(0.877)	(0.012)*	(0.087)+	(0.391)	(0.467)	(0.302)
birth	0.01	0.28	0.13	0.10	0.20	-0.02
	(0.882)	(0.001)*	(0.397)	(0.284)	(0.020)*	(0.881)
1 years old	-0.11	0.22	0.17	0.12	0.15	0.15
	(0.170)	(0.012)*	(0.251)	(0.240)	(0.107)	(0.401)
2 years old	-0.15	0.12	0.32	0.09	0.26	-0.01
	(0.069)+	(0.162)	(0.047)*	(0.373)	(0.005)*	(0.944)
3 years old	-0.04	0.20	0.04	0.22	0.29	0.14
	(0.602)	(0.033)*	(0.771)	(0.041)*	(0.002)*	(0.427)
4 years old	-0.12	0.07	0.04	0.14	0.20	0.07
	(0.177)	(0.437)	(0.779)	(0.189)	(0.047)*	(0.728)
5 years old	-0.07	0.05	0.07	0.25	0.23	0.20
	(0.452)	(0.608)	(0.644)	(0.020)*	(0.025)*	(0.263)
6 years old	-0.05	0.09	0.03	0.24	0.15	0.05
	(0.610)	(0.347)	(0.835)	(0.034)*	(0.134)	(0.799)
7 years old	-0.07	0.12	0.17	0.26	0.35	0.10
	(0.488)	(0.237)	(0.272)	(0.025)*	(0.001)*	(0.558)
8 years old	-0.01	0.09	0.30	0.29	0.33	0.45
	(0.914)	(0.352)	(0.055)+	(0.015)*	(0.002)*	(0.018)*
9 years old	0.05	0.12	0.26	0.34	0.38	0.25
	(0.609)	(0.252)	(0.102)	(0.004)*	(0.000)***	(0.204)
10 years old	0.01	0.20	0.30	0.34	0.37	0.33
	(0.889)	(0.053)+	(0.054)+	(0.005)*	(0.001)***	(0.078)+
11 years old	0.04	0.14	0.38	0.36	0.33	0.39
	(0.721)	(0.189)	(0.023)*	(0.004)*	(0.003)*	(0.055)+
12 years old	0.08	0.17	0.42	0.36	0.39	0.36
	(0.456)	(0.113)	(0.010)*	(0.004)*	(0.001)***	(0.071)+
13 years old	0.07	0.18	0.31	0.38	0.37	0.37
	(0.514)	(0.091)+	(0.057)+	(0.003)*	(0.001)*	(0.060)+
14 years old	0.08	0.15	0.42	0.42	0.33	0.36
	(0.475)	(0.168)	(0.011)*	(0.001)*	(0.005)*	(0.073)+
15 years old	0.14	0.19	0.38	0.47	0.40	0.29
	(0.249)	(0.080)+	(0.018)*	(0.000)***	(0.001)***	(0.159)
16 years old	0.09	0.24	0.37	0.44	0.48	0.44
	(0.480)	(0.030)*	(0.025)*	(0.001)*	(0.000)***	(0.036)*
17 years old	0.14	0.18	0.44	0.54	0.39	0.32
	(0.259)	(0.109)	(0.008)*	(0.000)***	(0.001)*	(0.124)
18 years old	0.11	0.24	0.42	0.47	0.48	0.58
	(0.411)	(0.036)*	(0.012)*	(0.001)***	(0.000)***	(0.006)*
19 years old	0.14	0.17	0.46	0.49	0.42	0.45
	(0.269)	(0.148)	(0.007)*	(0.000)***	(0.001)***	(0.045)*
20 years old	0.16	0.24	0.43	0.49	0.45	0.36
	(0.226)	(0.040)*	(0.012)*	(0.001)***	(0.000)***	(0.095)+
21 years old	0.14	0.30	0.49	0.51	0.39	0.51
	(0.308)	(0.012)*	(0.005)*	(0.000)***	(0.003)*	(0.018)*
22 years old	0.24	0.33	0.51	0.54	0.48	0.32
	(0.077)+	(0.007)*	(0.004)*	(0.000)***	(0.000)***	(0.154)
23 years old	0.24	0.27	0.48	0.57	0.44	0.18
	(0.090)+	(0.027)*	(0.007)*	(0.000)***	(0.001)*	(0.436)
24 years old	0.30	0.41	0.39	0.56	0.46	0.11
	(0.034)*	(0.001)***	(0.034)*	(0.000)***	(0.001)***	(0.639)
<i>Presence and births of other children:</i>						
birth of the 1st child		-0.02	-0.02		0.05	0.05
		(0.690)	(0.700)		(0.443)	(0.426)
1st child present		-0.16	-0.15		0.09	0.09
		(0.001)*	(0.001)*		(0.145)	(0.142)
birth of the 2nd child	0.16		0.17	0.11		0.15
	(0.010)*		(0.005)*	(0.094)+		(0.029)*
2nd child present	-0.01		0.03	0.08		0.16
	(0.903)		(0.584)	(0.207)		(0.007)*
birth of the 3rd child	-0.01	-0.00		-0.14	-0.14	
	(0.926)	(0.989)		(0.213)	(0.240)	
3rd child present	0.01	0.05		-0.02	-0.01	
	(0.919)	(0.558)		(0.864)	(0.936)	
birth of the 4th child	0.00	0.03	-0.05	0.05	0.07	0.02
	(0.992)	(0.917)	(0.855)	(0.832)	(0.744)	(0.932)
4th child present	-0.15	-0.14	-0.24	-0.24	-0.21	-0.23
	(0.369)	(0.401)	(0.173)	(0.183)	(0.236)	(0.202)
birth of the 5th child	0.71	0.72	0.76	0.44	0.44	0.45
	(0.042)*	(0.036)*	(0.025)*	(0.178)	(0.168)	(0.170)

5th child present	0.55 (0.013)*	0.55 (0.010)*	0.61 (0.009)*	0.53 (0.002)*	0.54 (0.002)*	0.49 (0.006)*
<i>Marital status:</i>						
married	<i>reference category</i>					
never married	-0.12 (0.003)*	-0.10 (0.010)*	-0.10 (0.009)*	-0.17 (0.000)***	-0.15 (0.001)*	-0.15 (0.001)*
cohabiting	-0.03 (0.301)	-0.03 (0.365)	-0.03 (0.353)	-0.09 (0.029)*	-0.08 (0.051) <sup>+</sup>	-0.07 (0.058) <sup>+</sup>
honeymoon	0.06 (0.118)	0.06 (0.119)	0.06 (0.102)	0.01 (0.905)	0.00 (0.982)	0.01 (0.903)
divorced or widowed	-0.20 (0.000)***	-0.19 (0.000)***	-0.19 (0.000)***	-0.27 (0.000)***	-0.26 (0.000)***	-0.26 (0.000)***
<i>Employment status:</i>						
employed	<i>reference category</i>					
not employed	-0.15 (0.000)***	-0.15 (0.000)***	-0.16 (0.000)***	-0.30 (0.000)***	-0.30 (0.000)***	-0.30 (0.000)***
registered unemployed	-0.20 (0.000)***	-0.20 (0.000)***	-0.20 (0.000)***	-0.19 (0.001)***	-0.20 (0.000)***	-0.21 (0.000)***
<i>Waves:</i>						
waves 5-6	-0.44 (0.000)***	-0.44 (0.000)***	-0.44 (0.000)***	-0.54 (0.000)***	-0.55 (0.000)***	-0.56 (0.000)***
waves 7-8	-0.66 (0.000)***	-0.65 (0.000)***	-0.66 (0.000)***	-0.72 (0.000)***	-0.72 (0.000)***	-0.72 (0.000)***
waves 9-10	-0.38 (0.000)***	-0.38 (0.000)***	-0.38 (0.000)***	-0.42 (0.000)***	-0.42 (0.000)***	-0.42 (0.000)***
waves 11-12	-0.06 (0.010)*	-0.06 (0.007)*	-0.07 (0.003)*	-0.06 (0.019)*	-0.07 (0.015)*	-0.06 (0.017)*
waves 13-15	<i>reference category</i>					
waves 16-18	0.07 (0.016)*	0.07 (0.008)*	0.10 (0.000)***	0.02 (0.440)	0.01 (0.668)	0.02 (0.592)
waves 19-20	0.14 (0.000)***	0.13 (0.000)***	0.14 (0.000)***	0.12 (0.003)*	0.12 (0.004)*	0.12 (0.002)*
age (10 years)	-0.03 (0.708)	0.05 (0.406)	0.07 (0.214)	-0.09 (0.222)	-0.05 (0.424)	-0.03 (0.649)
age <sup>2</sup> (10 years)	0.06 (0.000)***	0.06 (0.000)***	0.06 (0.000)***	0.09 (0.000)***	0.08 (0.000)***	0.09 (0.000)***
<i>Household income:</i>						
hh income in w 5-6	0.00 (0.000)***	0.00 (0.000)***	0.00 (0.000)***	0.00 (0.002)*	0.00 (0.001)*	0.00 (0.002)*
hh income in w 7-8	0.00 (0.000)***	0.00 (0.000)***	0.00 (0.000)***	0.00 (0.000)***	0.00 (0.000)***	0.00 (0.000)***
hh income in w 9-10	3.25 (0.000)***	3.25 (0.000)***	3.34 (0.000)***	2.90 (0.000)***	2.99 (0.000)***	3.05 (0.000)***
hh income in w 11-12	0.03 (0.623)	0.03 (0.581)	0.04 (0.553)	0.15 (0.003)*	0.17 (0.001)*	0.17 (0.001)***
hh income in w 13-15	0.42 (0.178)	0.48 (0.077) <sup>+</sup>	0.46 (0.072) <sup>+</sup>	0.31 (0.291)	0.09 (0.758)	0.10 (0.755)
hh income in w 16-18	0.48 (0.233)	0.54 (0.185)	0.00 (0.984)	0.93 (0.001)*	0.93 (0.001)***	0.92 (0.001)***
hh income in w 19-20	0.22 (0.206)	0.31 (0.129)	0.26 (0.163)	-0.07 (0.517)	-0.04 (0.747)	-0.05 (0.693)
Adjusted R <sup>2</sup>	0.068	0.074	0.075	0.069	0.069	0.071
N(id)	14,005	15,146	15,331	12,718	13,255	13,361
Observations	52,348	57,604	58,638	44,510	46,979	47,479

Note: <sup>+</sup>  $p < 0.10$ , \*  $p < 0.05$ , \*\*\*  $p < .001$ ;  $p$ -values in parentheses  
Source: RLMS-HSE data, waves 5-20

The coefficients of control variables shown in Table 3 are overall consistent with the literature. The relationship between age and life satisfaction is U-shaped, the never married and divorced or widowed persons, as well as cohabiting men, are less satisfied with their lives than the married. Persons who are not employed and those registered as unemployed are less satisfied

than the employed. Household income correlates with life satisfaction positively, even though the relationship changes over time.

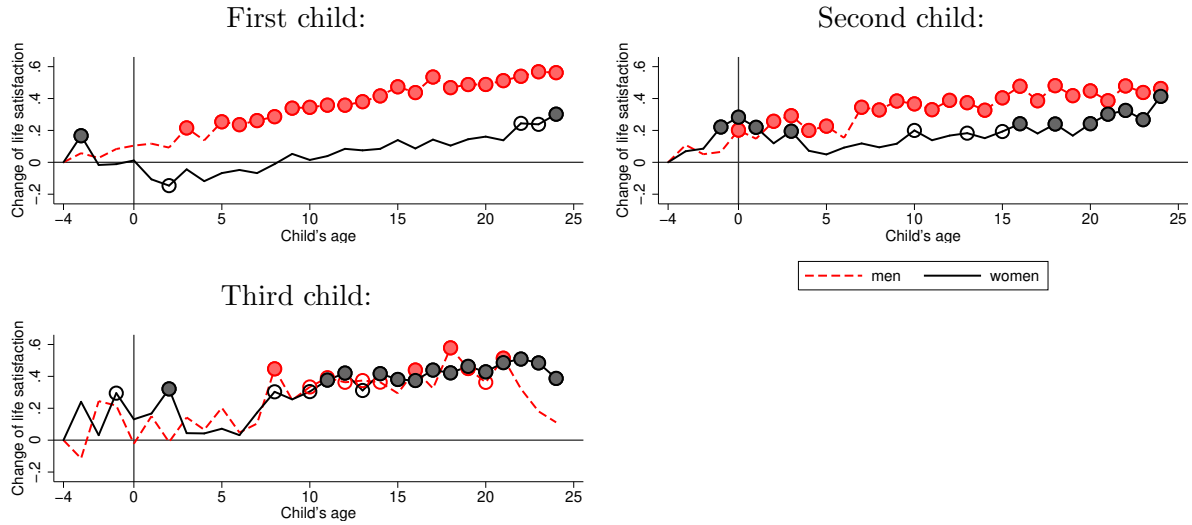


Figure 2: Effect of stages of parenthood on life satisfaction of parents.

Source: RLMS-HSE data, waves 5-20.

Note: The figure shows  $\beta$  coefficients (as in Table 3). Separate estimations for the first, second, and third child, and for men and women. The full circles mark  $\beta$ s significant at 95% level. The empty circles mark  $\beta$ s significant at 90% level. The reference period is 4 or more years before the birth.

#### 4.1 Transition to parenthood and anticipation effect

Contrary to previous empirical results and to the expectation that the first birth is a more noticeable life-course transition than following births, we do not observe increased life satisfaction in the period surrounding the first birth. For both men and women, life satisfaction up to two years after the first birth does not differ from life satisfaction four or more years before the birth. Accordingly, we also observe no anticipation effect before the first birth.

However, the second births correlate with increased life satisfaction. The effect is 0.28 for women and 0.20 for men (on a scale from 1 to 5), which is an effect comparable in size to the difference between being married and being divorced or widowed (about  $-0.20$  among women,  $-0.27$  among men). Life satisfaction of mothers is also elevated in the year when the second child is one year old ( $\beta = 0.22$ ); we also observe the anticipation effect of the same size in the year preceding the birth. This pattern is similar to the one observed in Western countries for the first births. The stronger positive effect of the second birth on life satisfaction of women is consistent with the expectation that the fertility behavior better reflects women's than men's preferences. This might be explained by women's greater control over fertility behavior than the control of men.

#### 4.2 Adaptation to parenthood and the long-term effect of parenthood on life satisfaction

The set-point theory predicts that after the period of increased life satisfaction associated with birth, life satisfaction gradually declines. This decline may be also related to the time constraints and the financial demands of parenthood. Our results show that after the second birth in Russia,



when the second child is between four and nine years old, life satisfaction of women declines to a level not statistically different from the period four or more years before the second birth.

However, contrary to the expectation of set-point theory, we observe a long term positive effect of parenthood on parental life satisfaction. This effect appears at various stages of parenthood history for men and women. Among women, it becomes statistically significant at 95% level when the first child is 22 years old, when the second child is 10 years old, and when the third child is 8 years old. Among men the effect becomes statistically significant earlier: when the first child is 3 years old, right after the birth of the second child, and when the third child is 8 years old.

This long-term positive effect of parenthood on life satisfaction is consistent with the findings by Baetschmann et al. (2012) and Pollmann-Schult (2014), but it contradicts the predictions of the set-point theory. The fact that the positive long-term effect of parenthood for women becomes statistically significant later than for men supports the demand-reward model of parenthood. Specifically, our results are consistent with the prediction that the demands of parenthood decrease the subjective well-being of parents, and that mothers take more responsibility for parenthood than men do. Moreover, our results suggest that time constraints play a more important role in the Russian context than financial costs, because time constraints plausibly affect women more than men, whereas both parents are likely affected by financial costs of parenthood.

### 4.3 The moderating effects of age at birth, education and income

Previous research and the demand-reward model of parenthood predict that parenthood is particularly demanding for persons who enter parenthood at young age, who are lower educated, and have lower incomes. The life satisfaction trajectories of such persons may be more negative as early parenthood may constraint their educational and career choices (Umberson et al., 2010).

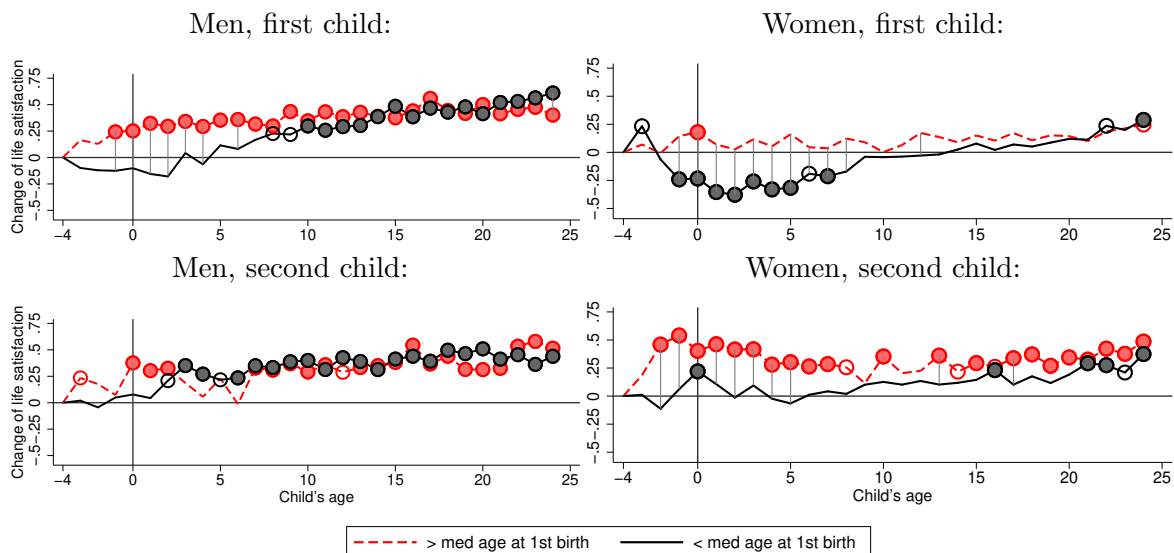


Figure 3: Effect of stages of parenthood on life satisfaction of parents – the moderating effect of age at first birth. The median age at first birth for women is 24 years, for men it is 26 years.

Source: RLMS-HSE data, waves 5-20.

Note: The figure shows  $\beta$  coefficients estimated in a fixed effects model with interaction terms. Separate estimations for the first and second child, and for men and women. The full circles mark  $\beta$ s significant at 95% level. The empty circles mark  $\beta$ s significant at 90% level. The vertical lines connecting the two trajectories of life satisfaction mark the statistically significant (at 95% level) differences between the two groups of parents. The reference period is 4 or more years before the birth.

Figure 3 shows the moderating effect of the age at first birth, by comparing the life satisfaction of parents who had their first child below the median age with trajectories of life satisfaction of those who became parents after the median age (24 years for women and 26 years for men). We limit the analysis to parents with first and second child, because of the low number of higher parity births. Figure 3 demonstrates that both men and women who have the children later, experience higher life satisfaction in the period surrounding the first and second birth than parents who had the first child at younger age.

For women younger than 24 at the first birth, the transition to parenthood is associated with lowered life satisfaction. From the year before the birth, up to the year when the first child reaches the age of seven, younger mothers are statistically significantly less satisfied with their lives than they were four years before the birth. The size of the effect ranges between  $-0.3$  and  $-0.4$  and it is larger than the effect of being divorced or widowed. In contrast to that, the older mothers experience a significantly higher life satisfaction ( $\beta = 0.18$ ) in the year when the first child is born than 4 years or more before the birth. The difference between the younger and older mothers is statistically significant at 95% confidence level.

The difference between younger and older mothers is also significant in the period surrounding the birth of the second child: from the period two years before the birth up to the moment when the second child is five years old.

For fathers the moderating effect of age at first birth is significant only in the period surrounding the first birth. From two years before the birth, up to the moment when the first child is six years old, fathers older at first birth experience an increase of life satisfaction (compared to 4 years before the birth), whereas life satisfaction of younger fathers is not affected. The moderating effect of age at first birth is not significant for fathers having their second child.

Overall, the moderating effect of age at first birth is large and significant but only at younger ages of children. The long-term trajectories of parental life satisfaction are not affected by the age of entering parenthood.

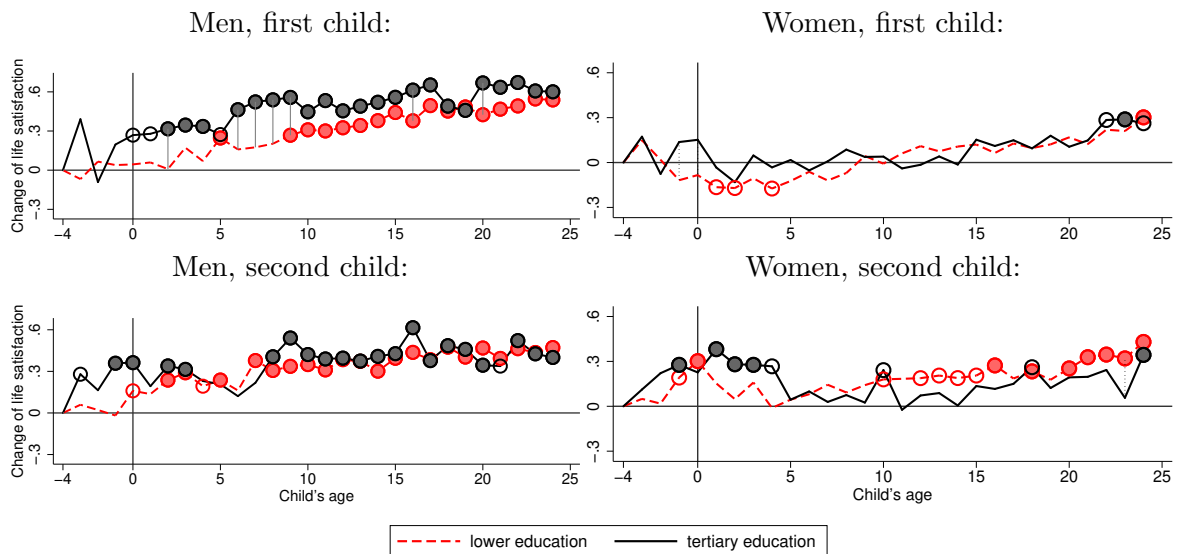


Figure 4: Effect of stages of parenthood on life satisfaction of parents – the moderating effect of education.

Source: RLMS-HSE data, waves 5-20.

Note: see Figure 3.

Figure 4 shows the moderating effect of higher education. This moderating effect is only

significant for fathers whose first child is 2 years old, and then between 6 and 9 years old. In these periods higher educated fathers experience stronger increase of life satisfaction than lower educated fathers (increase with respect to the period of 4 or more years before entering parenthood).

The moderating effect of education is not significant for women nor for fathers with the second children. Moreover, we observe no systematic difference in the long-term effect of parenthood for the higher and lower educated parents.

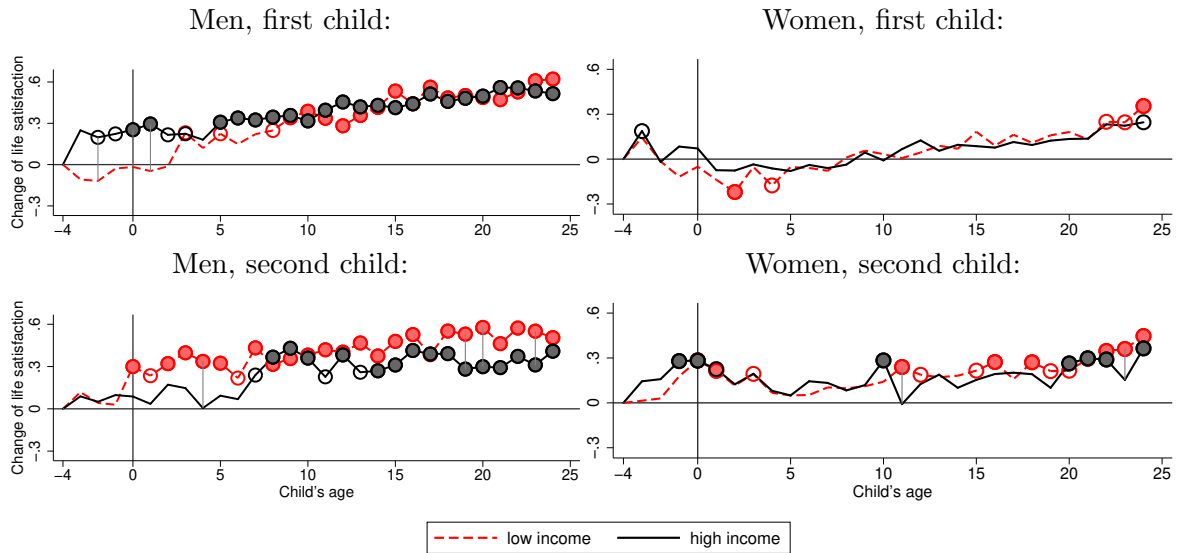


Figure 5: Effect of stages of parenthood on life satisfaction of parents – the moderating effect of household income.

Source: RLMS-HSE data, waves 5-20.

Note: see Figure 3.

Figure 5 shows similar results for the moderating effect of household income. The differences between low-income and high-income mothers are not statistically significant. Those for fathers are rarely significant (2 years before the birth of first child and when the first child is aged 1 the wealthier fathers experience stronger increase of life satisfaction, whereas when the second child is 4, and then 19-20 years old, lower income fathers experience stronger increase of life satisfaction). However, the results do not show a consistent pattern indicating that wealthier parents experience stronger increase of life satisfaction associated with parenthood.

Summing up, the results referring to moderating factors are strongest and most consistent for the age at first birth: persons who entered parenthood at later ages enjoy parenthood, in particular its care-intense stage, more than persons who entered parenthood at younger age. The moderating effect of education occurs mainly for fathers having their first child: higher educated fathers experience stronger increase of life satisfaction at young schooling age of the child than the lower educated fathers. The moderating effect of income is not consistent.

## 4.4 Robustness checks

### 4.4.1 Change over time

Russia in the analyzed period experienced a revolutionary social change, which strongly affected life satisfaction. We test robustness of the results by verifying if the trajectories of parental life satisfaction were different during the years 1994-2003 than during years 2004-2012. Such a

division splits the sample into two reasonably numerous subgroups and it captures the change of the average life satisfaction: in years 1994-2003 average life satisfaction varied between 2.1 and 2.9, whereas in year 2004-2012 it ranged between 2.9 and 3.5.

Results shown in Figure 6 demonstrate that the changes between the two periods were small. Parenthood became a bit more gratifying for men at the older ages of children, and a bit more demanding for mothers of second children, but in each period the results are consistent with those presented above.

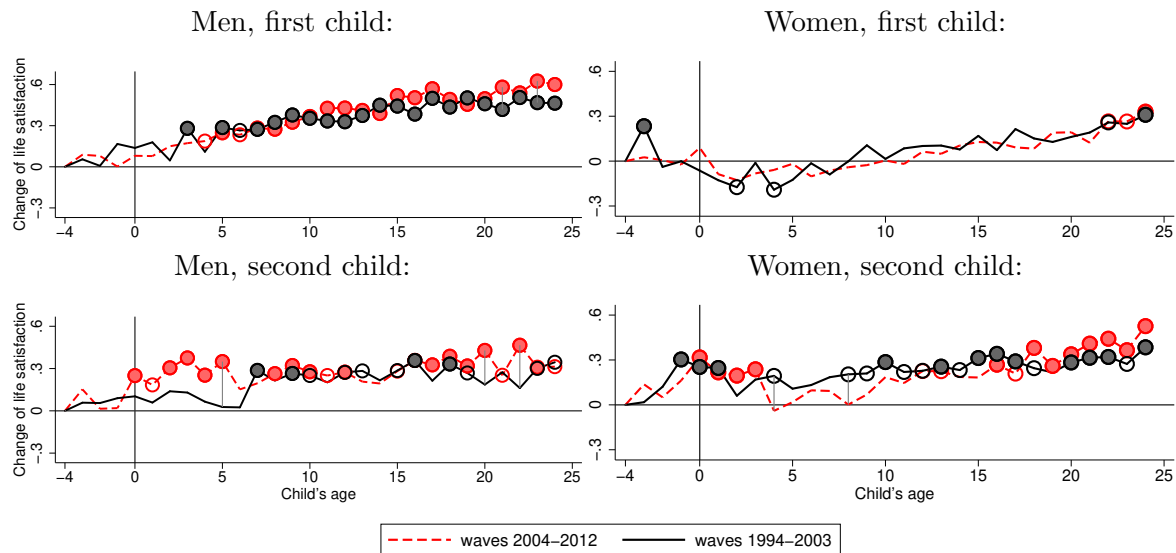


Figure 6: Effect of stages of parenthood on life satisfaction of parents – the moderating effect of overtime change.

Source: RLMS-HSE data, waves 5-20.

Note: see Figure 3.

#### 4.4.2 Logistic model

The main dependent variable is measured on a 5-point scale, and the use of OLS regression is questionable with ordinal data (Winship and Mare, 1984). To verify the robustness of the results, we re-estimated the models with logistic fixed effect models, using the four cutoff points. The results are consistent with presented above.

## 5 Discussion

This analysis extends the evidence on life satisfaction consequences of parenthood by examining trajectories of life satisfaction of parents in Russia. Fertility pattern in Russia did not fully converge to the one typical for the second demographic transition (Lesthaeghe, 2010; Zakharov, 2008). Thus, the evidence we provide is valuable for verifying the generality of previously observed regularities and the validity of their theoretical explanations.

The main result from the study is the absence of the substantial, positive, and temporary effect of the first birth on life satisfaction of parents. Such an effect has been identified in several previous studies (Baetschmann et al., 2012; Clark et al., 2008; Clark and Georgellis, 2013; Frijters et al., 2011; Myrskylä and Margolis, 2014) and is consistent with the set-point theory. This approach postulates that the (predominantly) voluntary nature of the transition

to parenthood results in an increase of life-satisfaction, which is however temporary due to the psychological mechanism of adaptation.

Moreover, our study found that the second rather than first births in Russia had a substantial, positive, and temporary effect on life satisfaction of mothers. This effect is also preceded by anticipation effect: life satisfaction of mothers is higher already in the year preceding the birth. This result contrasts with the assumption that the transition to parenthood, i.e. the birth of the first child, is a more noticeable event than the following births, and that it has a stronger effect on life satisfaction. In other words, our results question one of the assumption that the first birth “naturally” matters more than the following births (Aassve et al., 2012).

Not only the set-point theory, but also the demand-reward model of parenthood fails to explain the observed pattern. According to the model, low life satisfaction of parents reflects the demands of parenthood, such as stress, work-family conflict, time pressures, financial demands, etc. The more positive effect of second births than first births in Russia would imply – according to demand-reward model – that these demands are higher among parents with one child than among those with more children, which is rather counter intuitive.

The inability of our study to find in Russia the pattern described previously in the literature questions the general nature of this pattern, but also invites pursuing alternative theoretical explanations. First, the pattern we observed is consistent with the approach stressing the selection to parenthood (Kravdal, 2014). The low childlessness in Russia suggests that personal preferences for parenthood may play a less important role as a trigger of the transition to parenthood than in Western countries. In other words, if the choice to remain childless is culturally unacceptable in Russia, it is likely that among the first-time parents the share of persons who do not have a clear preference for parenthood may be rather high. Such a mismatch between preferences and behavior may result in either flat or negative trajectories of life satisfaction. On the other hand, the stronger selection to second births in Russia may increase the match between behavior and parenting preferences, leading to the positive life satisfaction outcomes of second birth.

A closely related possibility is that the planning aspect of parenthood plays a major role in generating the positive life satisfaction consequences of births. The importance of planning has been suggested by the presence of the anticipation effect, and by different trajectories of life satisfaction in case of planned and unplanned births (Baetschmann et al., 2012). Thus, in Western countries, where the first and second births are more likely to be planned than further births (results for the US: Hayford and Guzzo, 2010), we observe a temporarily increased life satisfaction in the period surrounding the first birth. In Russia, where planning plays a less important role in determining the timing of the first birth (Rotkirch and Kesseli, 2010, 2012; Zakharov, 2008), we fail to observe such an increase. However, we see it in case of second births, which are more likely to be planned (Rotkirch and Kesseli, 2012).

Furthermore, differently from the pattern prevailing in the literature so far, our results showed a positive long-term effect that parenthood has on life satisfaction. Notably, these results are consistent with studies which demonstrated a sustained positive effect of parenthood on life satisfaction (Baetschmann et al., 2012; Pollmann-Schult, 2014). In particular, this result is consistent with the demand-reward model of parenthood, which predicts a temporary decline in life satisfaction. On the contrary, our evidence contrasts the set-point theory, which predicts that the return to the initial level of happiness should be permanent.

In practical terms, our study showed that various groups of parents are more or less affected by the challenges and demands of parenthood in contemporary Russia. In particular, the early stage of parenthood constitutes a challenge for persons who entered parenthood at young age.

Disadvantaged are also lower educated parents, especially among men. However, this effect is weaker than the effect of age at first birth. The difficult experience of parenthood in these groups may discourage these parents from having subsequent children. Thus, our study identifies the group of parents for whom parenthood is particularly challenging, and who would likely benefit most from supportive social policies.

More in general, present study emphasizes the importance of replicating studies in new social contexts. If the main ambition of scientific community is to deliver general conclusions, then extending the empirical base of the analyses is fundamental for achieving this goal. Investigating the case of parenthood and life satisfaction in Russia is just the first step in this direction.

In theoretical terms, the main take-home message of this study is the mismatch between its results and the predictions of the set-point theory. It seems that having children may indeed make people happier in the long run. Our study suggests that adjusting fertility decisions to personal preferences and planning of parenthood may be the recipe for happy parenthood. This hypothesis remains a speculation and needs to be verified by future research. Measures of preferences and of planning of parenthood should be included in studies investigating the consequences of parenthood for subjective well-being. Such approach is still neglected (Lawrence et al., 2008, is a notable exception). A wider application to the research on parental life satisfaction may lead to more precise description of empirical patterns and to improved theoretical models.

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