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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 if previously described empirical patterns and theoretical models are general by confronting them with estimates from Russia. We apply fixed effect regression for panel data to the Russia Longitudinal Monitoring Survey data covering the period 1994–2015. We estimate the long-term dynamics of life satisfaction during parenthood and we investigate the moderating effect of age at first birth, income, and education. The results show that in Russia parental life satisfaction increases during a first birth, but the increase is stronger at a second birth. The effect of parenthood on life satisfaction is positive in the long run. Moreover, younger age at first birth temporarily (but not in the long run) suppresses the long-term positive effect of parenthood on life satisfaction. These results provide little support to the *set-point* theory of happiness, but are consistent with selection to parenthood and with the *demands and rewards* approach.

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 & 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, Staub, & Studer, 2012; Clark, Diener, Georgellis, & Lucas, 2008; Myrskylä & Margolis, 2014; Pollmann-Schult, 2014), United Kingdom (Clark & Georgellis, 2013; Myrskylä & Margolis, 2014), Switzerland (Anusic, Yap, & Lucas, 2014; Rizzi & Mikucka, 2015), and Australia (Frijters, Johnston, & Shields, 2011). The picture drawn by these studies is 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.

Documenting the Russian pattern broadens and solidifies the understanding of the relationship between parenthood and happiness because Russian Federation differs from the (previously analyzed) Western countries in various aspects: it has a lower average standard of living, but undergoes a more dynamic economic development; it stands out with overall traditional gender roles, although the period of state socialism facilitated women's place in the labor market (Motiejunaite & Kravchenko, 2008). Russia is also described as a case of a partial second demographic transition (Gerber & Berman, 2010; Zakharov, 2008), which suggests that the determinants and consequences of fertility in Russia are different than in Western countries.

The reliance on a limited empirical evidence is a weakness of the literature on parenthood and life satisfaction, because researchers cannot know how general are the observed regularities and the theories explaining them. Do they refer to a universal part of human experience, or do they apply solely to the wealthy and stable countries of the Western world? By expanding the evidence to the Russian case, this analysis discusses how general are the current theoretical approaches, including as the *set-point* theory of happiness (Clark et al., 2008; Clark & Georgellis, 2013), the *demands and rewards* approach (Nomaguchi & Milkie, 2003), and the approach emphasizing *selection* to parenthood (Kravdal, 2014).

2. Parenthood and subjective well-being

Previous studies addressed the relationship between parenthood and subjective well-being using a range of data and methods,

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leading to sometimes contradictory conclusions. For example, several cross sectional studies demonstrated that parents had lower subjective well-being than childless people (Hansen, 2012; Margolis & Myrskylä, 2011; Stanca, 2012; Vanassche, Swicegood, & Matthijs, 2013), while others showed a positive (Aassve, Goisis, & Sironi, 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 can be partly done by controlling for individual fixed effects, i.e. the time invariant personal characteristics which affect both subjective well-being and fertility decisions (Ferrer-i Carbonell & Frijters, 2004). Some studies using longitudinal data showed that including individual fixed effects in the model changed the results (e.g. Angeles, 2010; Baranowska & Matysiak, 2011; Stutzer & Frey, 2006), however also these studies failed to draw a consistent picture (Baetschmann et al., 2012; Baranowska & Matysiak, 2011; Kohler, Behrman, & Skytthe, 2005; Pollmann-Schult, 2014; Zimmermann & Easterlin, 2006).

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, people who expect 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, because the costs and rewards of parenthood change as children grow older (Nomaguchi, 2012). For example, a birth of a first child among women is associated with longer hours of housework, stronger time constraints, and higher marital conflict (Evenson & Simon, 2005; Nomaguchi & Milkie, 2003), but the care-intense stage of parenthood is also the period of a particularly satisfying emotional relationship with a child (Nomaguchi, 2012). Consistently with this approach, Pollmann-Schult (2014) showed that controlling for the financial cost of parenthood and the associated time constraints turns positive 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 notion of adaptation to life course transitions (Aassve et al., 2012; Brickman & Campbell, 1971; Clark et al., 2008; Diener & Diener, 1996; Headey & Wearing, 1989). This approach postulates that an individual baseline level of happiness exists, and 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.[1] However, after the event people adapt to the new conditions by adjusting their expectations and evaluations of their lives. This process, called 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 & Georgellis, 2013; Myrskylä & Margolis, 2014).

2.2. Life satisfaction dynamics during parenthood

The *demands and rewards* approach and the *set-point* theory emphasize the need for investigating the *changes* of subjective well-being which occur during parenthood, rather than the absolute *levels* of life satisfaction. This has been done by studies focusing on the dynamics of parental life satisfaction (for a review, see: Hansen, 2012).

2.2.1. The transition to parenthood and the anticipation effect

The seminal now analysis by Clark et al. (2008) showed that a birth of a first child is the period of temporarily increased life satisfaction, which begins already before a birth (anticipation effect). These results were confirmed by other studies using a similar methodology (Baetschmann et al., 2012; Frijters et al., 2011; Myrskylä & Margolis, 2014), showing either a moderate or large size of effect.[2] An increase associated with a birth is consistent with the *selection* approach which postulates that parents are over-represented among people who want to have children.

An anticipation effect was consistently observed 1 year before a birth (Baetschmann et al., 2012; Clark et al., 2008; Myrskylä & Margolis, 2014), but some studies found an anticipation effect 2–3 years before a birth (Clark & Georgellis, 2013; Myrskylä & Margolis, 2014). However, the analysis by Frijters et al. (2011) using quarterly data for Australia found an anticipation effect only 6–9 months before a birth. An anticipation effect is interpreted as the effect of unobserved variables relevant to a birth, which the respondent experiences and reacts to them already before a birth (Frijters et al., 2011). In other words, a positive anticipation effect suggests that a 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. The long-term effect of parenthood on life satisfaction

After a birth of a first child, life satisfaction of parents typically decreases. Studies by Clark et al. (2008) and Myrskylä and Margolis (2014) reported a decline in a first year following a birth; a study by Frijters et al. (2011) – 15 months after a birth.

The *demands and rewards* approach links this decline, especially among women, with the burden of childcare. This implies that the decline is temporarily and the effect of parenthood on life satisfaction is positive in the long run. On the contrary, the *set-point* theory postulates that the decline is a sign of adaptation, thus the long term effect of parenthood on life satisfaction should be null.

The long-term effect of parenthood on happiness has been explored by only a handful of studies, producing mixed results. The studies by Pollmann-Schult (2014) and Baetschmann et al. (2012) reported a long-term positive effect of parenthood. Similarly, some studies reported a negative effect of childlessness (on life satisfaction of women: Hansen, Slagsvold, & Moum, 2009; and on depression among divorced or widowed men: Zhang & Liu, 2007). Yet, the study by Myrskylä and Margolis (2014) found no

[1] Note that this last prediction is derived from the *selection* approach and not from the *set-point* theory.

[2] The estimates ranged from 0.18 (Clark et al., 2008, women in Germany) 0.216 (Clark & Georgellis, 2013, among women in UK) 0.27–0.32 (Myrskylä & Margolis, 2014, men and women in Germany) 0.38–0.47 (Myrskylä & 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 scale from 0 to 10).

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consistent effect of parenthood on life satisfaction up to the period of 10–18 years after a birth. Moreover, childlessness, especially the voluntary one, did not harm life satisfaction of older people (Connidis & McMullin, 1993; Umberson, Pudrovska, & Reczek, 2010) – a result which is consistent with the *selection* approach.

2.2.3. The moderating effect of parity

Part of the literature focused exclusively on a first birth; only some analyses accounted also for births of higher order. Some of them reported that having more children increased parental happiness (Aassve et al., 2012; Angeles, 2010; Pollmann-Schult, 2014), but others showed that a first child had the most positive effect on parental life satisfaction.[3]

A stronger positive effect of a first birth and a weaker effect of subsequent births is consistent with the *set-point* theory, which implicitly assumes that a birth of a first child is a more noticeable transition than births of subsequent children (Aassve et al., 2012). If the process of adaptation gradually reduces the life satisfaction derived from a transition to parenthood, then the positive effect of parenthood should be observed mainly at younger ages of a first child.

Stronger positive effect of a first birth than subsequent births is also consistent with the *demands and rewards* approach, as the burdens of parenthood (both financial costs and time constraints) increase with the number of children (Aassve et al., 2012), and they are not necessarily counterbalanced by the proportionally greater emotional rewards of multiple parenthood. Pollmann-Schult (2014) found a positive effect of higher-order births on life satisfaction only after controlling for the financial costs and time constraints of parenthood.

On the contrary, the *selection* approach postulates that the consistency between behavior and preferences plays the major role, therefore – as long as parents decide upon their fertility – each birth should be a positive event. It is also plausible that subsequent births increase life satisfaction more than a first birth, because people who want and have big families have particularly strong "taste for children".

2.2.4. The moderating effect of parent's gender

The *set-point* theory does not predict a difference between mothers' and fathers' experience of parenthood. On the contrary, the *selection* approach implies that the gender having more control over fertility, i.e. predominantly women, should be more satisfied with parenthood. It is also plausible that (be it for evolutionary or for cultural reasons) women generally have a stronger "taste for children" than men do, which is another reason why they should experience parenthood more positively than men. Finally, the *demands and rewards* approach implies that a parent more involved in child-rearing experience parenthood either more positively (emotional closeness with a child) or more negatively (housework burden, time constraints) (Nomaguchi, 2012). Typically, the more involved parent is a women; thus both positive and negative effects of parenthood on life satisfaction may be stronger among women.

Research showed that the effect of parenthood on life satisfaction is more positive among women than among men (Baranowska & Matysiak, 2011; Clark et al., 2008; Clark & Georgellis, 2013; Kohler et al., 2005). However, some studies estimated an effect similar in size among men and women (e.g. Angeles, 2010; Pollmann-Schult, 2014), or a more positive effect among men (for a second, a third, and subsequent children in: Aassve et al., 2012).

2.2.5. The 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 first birth, educational level, and incomes partly reflect the same mechanisms. Also for these moderating effects, the theoretical approaches produce different predictions.

Similarly as in case of gender differences, the *set-point* theory does not postulate differences among age, income, and educational groups. On the contrary, the *demands and rewards* approach implies that parenthood is more difficult for parents who are younger, less educated, and have lower incomes. Parents older at first birth are better prepared for parenthood, have higher incomes and more secure position at work (Gregory, 2007; Myrskylä & Margolis, 2014). Research confirmed that parenthood is more beneficial for parents older at first birth (Myrskylä & Margolis, 2014), for higher educated parents (Angeles, 2010; Myrskylä & Margolis, 2014), and for those with higher incomes (Angeles, 2010; Nomaguchi & Milkie, 2003). However, the *demand and rewards* approach also postulates that higher educated women experience the family-work conflict more negatively, therefore among highly educated women the care intense stages of parenthood are associated with a stronger decline in life satisfaction than among less educated women (Rizzi & Mikucka, 2015).

On the contrary, the *selection* approach implies that people younger at first birth derive more satisfaction from parenthood, because they are not willing to postpone parenthood and they value parenthood higher than other goals, such as education or career.

2.3. Fertility and parenthood in Russia

The well-being consequences of parenthood 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 & Berman, 2010).

Both women and men in Russia enter parenthood at younger ages than in the West (Kohler & Kohler, 2002; Kohlmann & Zuev, 2001; Zakharov & Ivanova, 1996).[4] The decline in 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 & Kesseli, 2012), and lack of perspectives for economic stability (waiting for economic stability is a factor delaying parenthood in Western Europe, Billari, Liefbroer, & Philipov, 2006; Rotkirch & Kesseli, 2012). In the light of the *demands and rewards* approach this suggests that parenthood in Russia is more difficult than in the West. Early first births are also associated with the lack of explicit couple's negotiations about whether and when to enter parenthood (Rotkirch & Kesseli, 2010).

Early parenthood coexists with low levels of childlessness (Philipov & Jasilioniene, 2008).[5] This is interpreted as a sign of importance of motherhood among the life goals of Russian women, which continues to be more important than career or self-realization (Zakharov, 2008) and suggests that Russians stand out with a strong "taste for children". Low childlessness also suggests low selection to parenthood, which is consistent with the results showing that entering parenthood in Russia is considered a natural

[3] 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; Aassve et al. (2012) found that women's happiness correlates with having at least one child, but it was not affected by subsequent children; Myrskylä and Margolis (2014) showed a more positive effect of a first birth than of a second and a third birth.

[4] 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).

[5] 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).

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consequence of forming a romantic relationship (Rotkirch & Kesseli, 2012).

Finally, Russian fertility is characterized by a low number of second and third births (Kharkova & Andreev, 2000; Perelli-Harris, 2006).[6] 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). Because economic barriers, health concerns, and the difficulties in combining parenthood with employment limit fertility at higher parities, having two or more children in Russia is sometimes perceived as a sign of good material standing and of family success (Rotkirch & Kesseli, 2012). This pattern suggests a stronger selection to parenthood at higher parities.

The Russian context stands out also with specific pro-parenthood policies. In 2007, Russian government introduced "maternity capital" policy, which entitled women who gave birth to at least two children to a one-time generous (approximately $11,000) assistance, which could be spent on housing, children's education, or mother's retirement fund (Slonimczyk & Yurko, 2014). Research estimated that the maternity capital policy increased the long-run fertility by about 0.15 children per woman (Slonimczyk & Yurko, 2014). Other policies available to mothers in Russia include maternity leave (fully paid for 140 days, 70 days before and 70 days after a birth), as well as the right to a parental leave of up to 3 years, which is unpaid but gives mothers the right to return to their jobs after the leave.

2.4. Current study

Consistently with theoretical approaches and previous empirical results, I formulate the following, sometimes competing, research hypotheses.

Hypothesis 1. Consistently with the *selection* approach, a first birth is accompanied by an increase in subjective well-being, and it is preceded by anticipation effect.

Hypothesis 2A. Consistently with the *set-point* theory, after a first birth the parental life satisfaction decreases and in the long run parenthood does not affect life satisfaction.

Hypothesis 2B. Consistently with the *demands and rewards* approach, after a first birth the parental life satisfaction decreases temporarily (due to time constraints and other burdens of child-rearing), but in the long run parenthood positively affects life satisfaction.

Hypothesis 3A. Consistently with the *set-point* theory and the *demands and rewards* approach, subsequent births are associated with a smaller increase in life satisfaction than a first birth.

Hypothesis 3B. Consistently with the *selection* approach, subsequent births are associated with greater increase in life satisfaction than a first birth, because they signify stronger preference for parenthood.

Hypothesis 4A. Consistently with the *selection* approach, parenthood increases women's life satisfaction more than men's, because women have greater control over fertility than men, thus fertility behavior matches women's preferences more closely than men's preferences.

Hypothesis 4B. Consistently with the *demands and rewards* approach, the effect of parenthood on life satisfaction in the early care-intense stage is more negative among women than among men, because the responsibility for child-rearing rests mainly on women.

Hypothesis 5A. Consistently with the *demands and rewards* approach, parenthood is more difficult for younger people, therefore younger parents experience more negative trajectories of life satisfaction during parenthood than older parents.

Hypothesis 5B. Consistently with the *selection* approach, younger age at first birth signifies stronger preference for parenthood, therefore younger parents experience more positive trajectories of life satisfaction during parenthood than older parents.

Hypothesis 6A. Consistently with the *demands and rewards* approach, parenthood is more difficult for poorer people, therefore parents with a lower income experience more negative trajectories of life satisfaction during parenthood than parents with a higher income.

Hypothesis 6B. Consistently with the *selection* approach, higher income signifies lower preference for parenthood, thus people with a higher income experience less positive trajectories of life satisfaction during parenthood than people with a lower income.

Hypothesis 7A. Consistently with the *demands and rewards* approach, higher educated women experience particularly strong work-family conflict, therefore the care-intense stages of parenthood lower their life satisfaction more than of lower educated women.

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, 2015), 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 & Kohler, 2002; Perelli-Harris, 2006), but not to examine the dynamics of life satisfaction before and after a 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 19 waves realized within the second stage of the program, covering the period 1994–2015 (waves 5–23). I limit the sample to men and women aged 15–59 years, to exclude the youngest and oldest respondent for whom parenthood is less likely. Characteristics of the sample, including the years when each wave was completed, sample size, number of parents in the sample and number of births are shown in Table 1.

3.2. Variables

3.2.1. The 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

[6] The parity progression ratio to a second child of the cohort born in 1959–1963 in Russia is 68.6% [(Zakharov, 2008, Table A3); for comparison, other European 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 a 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).

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Table 1
Characteristics of the sample used in the analysis.

Wave	Years	Analysis for the 1st child			Analysis for the 2nd child			Analysis for the 3rd child		
		All	Parents[a]	1st births	All	Parents[a]	2nd births	All	Parents[a]	3rd births
5	1994–1995	6,393	4,382	108	6,760	4,749	74	6,813	4,802	16
6	1995	5,995	4,148	118	6,385	4,538	50	6,439	4,592	16
7	1996	5,846	4,099	112	6,283	4,536	64	6,334	4,587	14
8	1998–1999	5,941	4,163	123	6,392	4,614	60	6,464	4,686	20
9	2000	6,054	4,209	145	6,603	4,758	47	6,706	4,861	13
10	2001	6,723	4,594	161	7,344	5,215	52	7,485	5,356	15
11	2002	6,943	4,641	164	7,650	5,348	66	7,815	5,513	13
12	2003	7,073	4,614	160	7,847	5,388	57	8,056	5,597	20
13	2004	7,087	4,529	159	7,911	5,353	82	8,153	5,595	17
14	2005–2006	6,857	4,325	144	7,702	5,170	90	7,961	5,429	12
15	2006–2007	8,298	5,044	206	9,287	6,033	81	9,633	6,379	15
16	2007–2008	8,139	5,016	206	9,097	5,974	83	9,486	6,363	14
17	2008–2009	7,738	4,752	168	8,642	5,656	109	9,082	6,096	25
18	2009	7,687	4,661	151	8,550	5,524	106	8,988	5,962	26
19	2010–2011	11,924	6,808	237	13,115	7,999	194	13,668	8,552	52
20	2011–2012	12,128	6,917	229	13,345	8,134	197	13,919	8,708	48
21	2012–2013	12,176	6,867	226	13,435	8,126	171	14,007	8,698	53
22	2013–2014	11,564	6,434	246	12,760	7,630	180	13,376	8,246	37
23	2014–2015	9,640	5,262	176	10,623	6,245	135	11,186	6,808	40

Source: RLMS-HSE, waves 5–23.
[a] *Note:* includes also prospective parents; sample limited to people aged 15–59, childless or having a first, a second, or a third child aged 24 or younger.

answers ranging from 5 – *fully satisfied* to 1 – *not at all satisfied*. The average life satisfaction in the sample is 2.77, but it 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 2015 ($\mu = 3.4$).

The work by Fujita and Diener (2005) showed that people tend to have a "soft baseline" of life satisfaction, i.e. in about 3/4 of cases life satisfaction fluctuates little. This suggest that inheritance plays a role in setting the levels of subjective well-being. However, life satisfaction has been shown to vary more over time than moods and emotions (Lykken & Tellegen, 1996), which suggests that the measure of life satisfaction reflects also a cognitive evaluation of one's life.

3.2.2. Time-varying independent variables

Stages of parenthood are coded as a set of dichotomous variables, marked in Equation (1) as BB_{2it}–BB_{1it} and Age_{0it}–Age_{24it}. They take the value of 1 during the respective period (e.g. $Age_{0it} = 1$ in the year of a first birth, and $Age_{0it} = 0$ otherwise). I include the period preceding the birth (coefficients BB_{2it}–BB_{1it} to capture the changes which take place 2 years and 1 year before the birth), with the reference category of 3 or more years before a birth to capture the anticipation effect. All stages of parenthood are coded as 0 also for the control group (see Section 3.3.2).

I 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 I 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 among men.

Control variables include factors which change with parenthood, and which tend to correlate with life satisfaction. This includes: age (linear and quadratic component, per 10 years, values centered on the overall mean of 34 years); equivalent yearly household income per capita (per equivalent household size, deflated, expressed in 100,000s of Rubles of the year 1992); employment status (employed; inactive; registered as unemployed); and health (good; average; poor health).

A childbirth often coincides with a change in marital status, therefore, next to standard measures of marital status (single; married; divorced; widowed) I also include a dichotomous variable 'just married', which codes a first year of a marriage, which is typically a period of increased life satisfaction, and the variable 'just divorced' (i.e. a first year after a divorce) which stands out with a particularly low life satisfaction (Clark et al., 2008). By including these variables I secure that the estimated life satisfaction correlates of parenthood control for the changes in marital status.

I also include dummies marking the change over 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; waves 21–23) to control for the substantial changes in life satisfaction in Russia over time. Moreover, I allow for the changing correlation of life satisfaction with income over time (which might occur in economically 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) I estimate separate trajectories of life satisfaction for parents characterized by different levels of moderating factors. The moderating factors are defined as time-invariant and they include:

1. *age at first birth*: people who experienced their first birth before the median age at first birth, vs. those who experienced it later; median age calculated separately for men (25 years) and women (23 years);
2. *education*:
   (a) *overall*: people with at least 11 grades of education (recorded at least once during the survey) vs. those who always declared a lower grade;
   (b) *at birth*: people with at least 11 grades of education at the moment of first (second) birth vs. those who with lower grade at birth; the control group coded according to the education at the age of 25;
3. *household income per capita*:
   (a) *overall*: respondents whose household income was above 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;
   (b) *at birth*: respondents whose household income was above the (wave-specific) median at the moment of first

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Table 2
Characteristics of variables used in the analysis for a first child.

Variable	Women						Men					
	Mean	s.d.	min	max	*N*	*N*(id)	Mean	s.d.	min	max	*N*	*N*(id)
Time-varying variables												
Life satisfaction	2.98	1.15	1	5	81,018	17,317	3.05	1.16	1	5	72,235	16,225
Age of child 1	12.35	7.17	0	24	50,049	8448	11.70	7.23	0	24	36,436	6290
Age of child 2	10.14	6.31	0	23	22,152	3257	10.00	6.24	0	23	17,173	2614
Age of child 3	8.90	5.70	0	22	4863	642	8.83	5.64	0	22	3876	505
Single	0.27	0.44	0	1	81,097	17,254	0.33	0.47	0	1	72,328	16,139
Just married	0.05	0.21	0	1	81,479	17,438	0.05	0.21	0	1	72,727	16,367
Married	0.51	0.50	0	1	81,097	17,254	0.54	0.50	0	1	72,328	16,139
Just divorced	0.02	0.14	0	1	81,479	17,438	0.01	0.11	0	1	72,727	16,367
Divorced	0.10	0.30	0	1	81,097	17,254	0.06	0.24	0	1	72,328	16,139
Widowed	0.04	0.20	0	1	81,097	17,254	0.01	0.08	0	1	72,328	16,139
Employed	0.67	0.47	0	1	79,678	16,866	0.70	0.46	0	1	71,063	15,817
Inactive	0.33	0.47	0	1	79,678	16,866	0.30	0.46	0	1	71,063	15,817
Registered unemployed	0.02	0.14	0	1	79,678	16,866	0.01	0.11	0	1	71,063	15,817
Age	33.79	11.55	15	59	81,479	17,438	33.74	11.61	15	59	72,727	16,367
Poor health	0.07	0.25	0	1	81,135	17,378	0.05	0.22	0	1	72,342	16,292
Average health	0.55	0.50	0	1	81,135	17,378	0.45	0.50	0	1	72,342	16,292
Good health	0.38	0.49	0	1	81,135	17,378	0.50	0.50	0	1	72,342	16,292
hh income (PPP, 100K)	0.05	0.10	0	8	76,373	15,923	0.05	0.10	0	8	69,959	15,435
Time-invariant variables												
First birth < median age	0.32	0.47	0	1		17,438	0.24	0.43	0	1		16,367
High income	0.51	0.50	0	1		17,438	0.54	0.50	0	1		16,367
High income at 1st birth	0.12	0.33	0	1		9228	0.12	0.33	0	1		10,378
Higher education	0.39	0.49	0	1		17,394	0.34	0.47	0	1		16,317
Higher education at 1st birth	0.14	0.35	0	1		9228	0.10	0.30	0	1		10,378

Note: Sample limited to people aged 15–59, having a first child aged 24 or younger and the control group (childless people); *N* refers to number of observations (person-years), *N*(id) to number of individuals
Source: RLMS-HSE, waves 5–23.

(second) birth, vs. respondents whose income was under the (wave-specific) median income at birth; the control group was coded according to the income at the age of 25.

Table 2 shows the descriptive statistics for the sample used in the analysis for a first child. Descriptives for the samples used in the analyses for a second and a third child are presented in the Online Appendix A (Tables A.3 and A.4).

3.3. Method

The analysis uses fixed effect models for panel data. Fixed effect models use the information on changes in the independent variables (aging of children) to predict changes in the dependent variable (life satisfaction). The focus on change rather than on the absolute levels of life satisfaction restricts the variance available for estimation and decreases the R^2, but it accurately documents how the transition to parenthood and changing ages of children correlate with changes in life satisfaction.

Fixed effect models control for the time-invariant unobserved heterogeneity of individuals, such as genetic differences, personality traits, or the baseline level of happiness (Allison, 2009), which is particularly important for properly estimating the determinants of life satisfaction (Ferrer-i Carbonell & Frijters, 2004). Happier people have higher probability of having a child (Parr, 2010), therefore accounting for time invariant confounders (i.e. the differences between parents and the reference group) with individual fixed intercepts reduces the risk of obtaining biased estimates.

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

$$\begin{aligned} LS_{it} = {} & \beta_{BB2} BB2_{it} + \beta_{BB1} BB1_{it} + \beta_{Age0} Age0_{it} + \beta_{Age1} Age1_{it} \\ & + \beta_{Age2} Age2_{it} + \cdots + \beta_{Age24} Age24_{it} + \beta_{Birth2} Birth2_{it} \\ & + \beta_{Child2} Child2_{it} + \cdots + \beta_{Birth5} Birth5_{it} + \beta_{Child5} Child5_{it} \\ & + B_K X_{it} + u_i + \epsilon_{it} \end{aligned} \quad (1)$$

In Eq. (1), coefficients β_{BB2} and β_{BB1} describe the changes in life satisfaction that occur 2 years and 1 year before a first birth (BB stands for "before a birth"). The coefficients from β_{Age0} to β_{Age24} describe how life satisfaction changes with the age of the child. The reference period is the period of 3 or more years before a birth. The coefficients β_{Birth2}–β_{Birth5} and β_{Child2}–β_{Child5} control for a birth and presence of other children (in case of the model for a first child I include a second, a third, a fourth, and a fifth child). Element u_i is the individual fixed intercept, which should 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 the moderating factors

The main disadvantage of fixed effect models is their inability to estimate the effects of time-invariant variables. I tackle this problem in two ways. First, I estimate separate models (i.e. separate trajectories of life satisfaction) for men and women. Second, to account for the effect of moderating factors, I construct them as time-invariant dichotomous variables and interact them with the set of variables marking the ages of children, as shown in Eq. (2):

$$\begin{aligned} LS_{it} = {} & \beta_{BB2} BB2_{it} + \beta_{BB2i} BB2_{it} MF_i + \cdots + \beta_{BB1} BB1_{it} \\ & + \beta_{BB1i} BB1_{it} MF_i + \beta_{Age0} Age0_{it} + \beta_{Age0i} Age0_{it} MF_i + \cdots \\ & + \beta_{Age24} Age24_{it} + \beta_{Age24i} Age24_{it} MF_i + \beta_{Birth2} Birth2_{it} \\ & + \beta_{Child2} Child2_{it} + \cdots + \beta_{Birth5} Birth5_{it} + \beta_{Child5} Child5_{it} \\ & + B_K X_{it} + u_i + \epsilon_{it} \end{aligned} \quad (2)$$

In Eq. (2), the term MF_i refers to the time-invariant moderating factor, and the coefficients β_{BB2i}, β_{BB1i}, and β_{Age0i}–β_{Age24i} signify the differences in the trajectories of life satisfaction between parents characterized by different levels of the moderating factor MF_i. For example, these coefficients inform if 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 in life satisfaction of parents are affected by three simultaneously occurring processes: the changing ages of children, aging of the parent, and historical time. To empirically distinguish between the three processes I include in the estimation sample a control group, i.e. not only the people who experienced the transitions of interest, but also the people who could, but who did not experience the specific transitions (as in: Anusic et al., 2014; Brüderl & Ludwig, 2014). Thus, the sample consists of two groups. The first one includes people who experienced a 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 people who will in the future experience a birth of a child of this parity. The second group is the control group. In case of estimates for a first child, it consists of people who remained childless during the survey. In the analysis for a second child the control group consists of childless people and those with only one child. In the analysis for a third child the control group consists of the childless, and those with one or two children. Parents who have fully experienced the parenthood transitions (i.e. they only have children older than 24 years) are not included in the analysis.

I include the control groups in order to properly control for the effects of parents' aging. As I restrict the sample to the group who experienced a transition and the control group, and I choose as the reference the period of 3 or more years before a birth, I assume that parents observed 3 or more years before a birth and people who will not experience a birth are sufficiently similar to treat them as a single category (as shown by: Baetschmann et al., 2012). Thus, both the control group and the period of 3 or more years before a birth serve as the reference category: the coefficients should be interpreted as a difference between the trajectories experienced by parents and by the respective control group.

The third process whose effect I need to disentangle is the historical time. Fig. 1 illustrates the importance of controlling for historical change: it shows the average life satisfaction of parents of two cohorts of children: those born in years 1994–1996, and those born in years 2001–2003.

The life satisfaction of parents who had their child in years 1994–1996 initially declined, reached lowest values 2–3 years after a birth, i.e. around year 1998, and increased afterwards. Parents whose children were born in years 2001–2003 not only had a consistently higher life satisfaction, but also experienced a more continuous increase after a birth. To control for the effect of historical time the models include among the controls the dummies for waves. To avoid the problems of co-linearity, I group together waves during which the average life satisfaction was relatively stable (Brüderl & Ludwig, 2014).

Note that this estimation strategy differs from the one used by Myrskylä and Margolis (2014), who did not include a control group in their analysis. This choice is motivated by the necessity to distinguish between aging of the child, aging of the parent, and historical time, which is particularly relevant in a study taking a long term perspective and in a social context where the average life satisfaction was changing substantially.

3.3.3. Long-term perspective

Consistently with the life-course approach I take a long-term perspective to investigate the continuity and change in parental well-being over time. I treat a childbirth as just one of many stages of parenthood, and the transition to parenthood as just one of many transitions that parents undergo. I 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 covered by the data is maximum 21 years (1994–2015), I estimate such long-term effect of parenthood by combining the information on life satisfaction trajectories of parents observed at various stages of parenthood.

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

3.3.4. Robustness checks

I use two strategies to test the robustness of the results. First, as Russia in the observed period experienced a revolutionary social change and an introduction of a potentially powerful policy of "maternity capital", I investigate if the trajectories of parental life satisfaction changed over time or remained stable. Second, because the dependent variable is measured on a five-point scale, I re-estimate the models using logistic regression.

4. Results

The trajectories of mothers' and fathers' life satisfaction are presented in Fig. 2 (for the full table of results see Table B.5 in the Online Appendix B). The coefficients of control variables (Table B.5, Online Appendix B) are overall consistent with the literature. The relationship between age and life satisfaction is U-shaped; never married, divorced, and widowed people are less satisfied with their

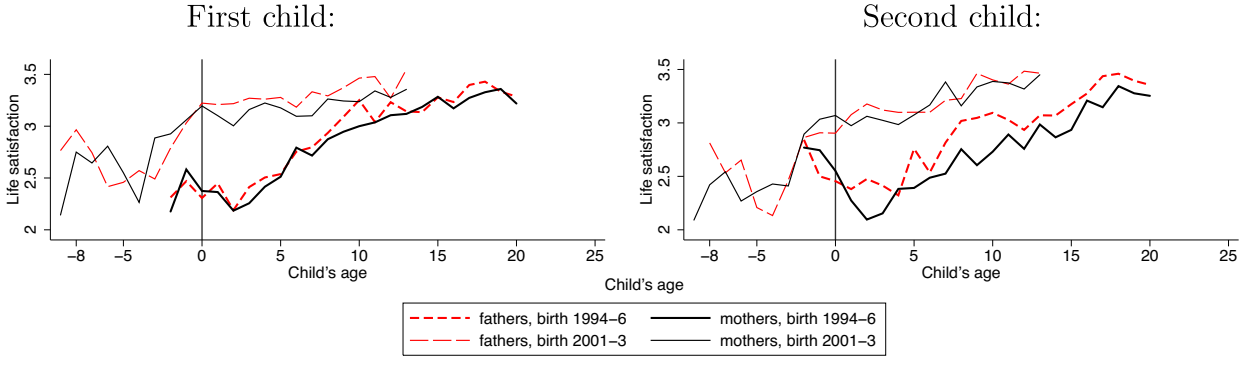

Fig. 1. Average life satisfaction of (prospective) parents before and after a childbirth. Selected cohorts of births. *Source:* RLMS-HSE data. *Note:* Graphs only for n >=10.

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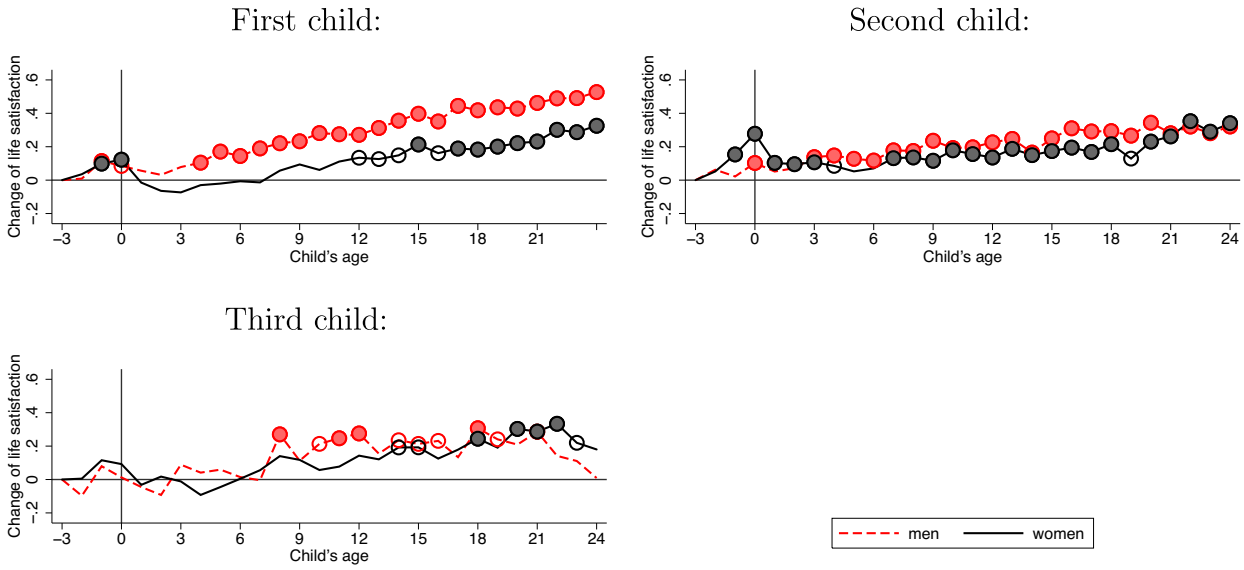

Fig. 2. Effect of stages of parenthood on life satisfaction of parents. *Source:* RLMS-HSE data, waves 5–23. *Note:* The figure shows β coefficients (as in Table B.5). Separate estimations for a first, a second, and a third child, and for men and women. The full circles mark βs significant at 95% level. The empty circles mark βs significant at 90% level. The reference period is 3 or more years before a birth.

lives than married people, the economically inactive are less satisfied than the employed, and those with poor health are less satisfied than those with average health. On the other hand, household income, good health, and a recent marriage correlate with life satisfaction positively.

4.1. Transition to parenthood and anticipation effect

A first birth is associated with an increase in life satisfaction: the effect is 0.12 for women ($p < 0.05$) and 0.09 for men ($p < 0.1$), which corresponds to about 3% of the total range of life satisfaction scale for women and 2.3% for men. This effect is smaller than the values estimated by Myrskylä and Margolis (2014) for Germany (about 4% for women and 3.3% for men) and for the UK (6% for women, and 3.6% for men). For men and women I observe an anticipation effect one year before a first birth ($\beta_{BB1} = 0.10$ ($p < 0.05$) for women and $\beta_{BB1} = 0.11$ ($p < 0.05$) for men). These results support Hypothesis 1 and the *selection* approach.

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

After a first birth life satisfaction declines and it does not differ from the level observed 3 or more years before a birth (for women: when a first child is 1–11 years old; for men: when the child is 1–3 years old). However, in the later period life satisfaction increases substantially and the effect of parenthood on life satisfaction is positive in the long run (consistently with: Baetschmann et al., 2012; Pollmann-Schult, 2014). Note that a second and a third birth also increase parental life satisfaction in the long run.

This result is at odds with Hypothesis 2A, which was motivated by the *set-point* theory and stated that parenthood has no long-term effect on life satisfaction. However, it supports Hypothesis 2B and is consistent with the *demands and rewards* approach, which postulates that some stages of parenthood, especially the care-intense ones, create pressures that are detrimental to life satisfaction. Moreover, the fact that the decline in life satisfaction after a first birth is more pronounced among women than among men suggests that the decline is related to child-rearing responsibilities which, in Russia, predominantly rest on women's shoulders.

4.3. Subsequent births

A birth of a second child correlates with an increase in life satisfaction: the effect size is 0.28 (7%) for women and 0.10 (2.5%) for men. This effect is comparable in size to the effect of divorce (−0.24 for women, −0.19 for men). For women, the effect of a second birth is stronger than the effect of a first birth [the difference estimated from the analysis for a first child is not significant ($\beta = 0.08$, $p = 0.14$), but it is significant in analyses for a second child ($\beta = 0.23$, $p < 0.001$) and for a third child ($\beta = 0.16$, $p = 0.001$)]. The increase in life satisfaction associated with a second birth is also stronger than the effects reported by Myrskylä and Margolis (2014) for Germany, which corresponded to about 1% of the scale of life satisfaction.

This result is at odds with Hypothesis 3A and with the *set-point* theory, which postulated that subsequent births are less noticeable transitions than a first birth. It is also at odds with the *demands and rewards* approach which postulated that having two or more children is more demanding than having a single child. However, the result supports Hypothesis 3B which was motivated by the *selection* approach, according to which subsequent births signify stronger "taste for children", thus they correlate with a stronger increase in life satisfaction than a first birth.

4.4. The differences between mothers and fathers

Additional analysis (not shown, available upon request) showed that a birth of a first child correlates with the same change in life satisfaction among men and women ($\beta = 0.07$, $p = 0.198$). For a first child, the changes experienced by mothers after a birth are more negative than those experienced by men. The difference is statistically significant when a first child is 5 ($\beta = -0.11$, $p = 0.059$) and 7 years old ($\beta = -0.11$, $p = 0.094$); but they are more positive one year before a birth of a second child ($\beta = 0.12$, $p = 0.05$) and in the year when a second child is born ($\beta = 0.16$, $p = 0.005$). The trajectories of life satisfaction of mothers and fathers having their third child are not statistically significantly different.

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This result for a second child (but not for a first child) is consistent with the Hypothesis 4A which postulated that women experience a higher increase in life satisfaction upon a birth because they have more control over their fertility than men do. On the contrary, the result for a first child (but not for a second child) supports the Hypothesis 4B which stated that care intense stages of parenthood are more detrimental to women's life satisfaction because child-rearing is primarily a woman's responsibility.

4.5. The moderating effect of age at first birth

Fig. 3 shows the moderating effect of the age at first birth, by comparing the changes in life satisfaction experienced by parents who had their first child below the median age (23 years for women and 25 years for men) with trajectories of life satisfaction of people who became parents after the median age. (For the table of results see the Online Appendix C, Table C.6.) I limit the analysis to parents having a first and a second child, because the low number of third births recorded by the panel hampers the estimation for a third child.

Fig. 3 shows that parents who have a first child at an older age experience more positive trajectories of life satisfaction than parents who had a first child at a younger age. People younger at first birth after a birth reported life satisfaction that was significantly lower than their life satisfaction 3 years or more before a first birth. Furthermore, they did not experience any increase in life satisfaction in the period of a first birth. In contrast to that, men and women older at first birth reported and increase in life satisfaction in the year preceding a birth, which was sustained in the long run (with the exception of the period when the child was 2–4 years old among women). The difference between younger and older parents was statistically significant up to the child's age of 10 (see vertical lines in Fig. 3).

Among women, the age of having a first child had implications also for the life satisfaction correlates of a second birth. Women who entered parenthood at older ages experienced a stronger increase in life satisfaction associated with a second birth, and they experienced a longer anticipation effect – up to two years before a second birth.

These results support Hypothesis 5A and are consistent with the *demands and rewards* approach, according to which parenthood is more difficult for younger people thus they experience less positive changes in life satisfaction. This result is at odds with Hypothesis 5B, which, consistently with the *selection* approach, postulated that early parenthood signifies a stronger "taste for children".

Note however that I do not observe negative long term consequences of early entrance into parenthood. Among parents with at least one child and among women with at least two children, the long term effect of parenthood on life satisfaction does not change depending on the age of entering parenthood. Moreover, fathers younger at first birth experience a more positive long term trajectory of life satisfaction after a birth of a second child than fathers older at first birth.

4.6. The moderating effect of income

Fig. 4 shows similar results for the moderating effect of household income. The upper panel presents the moderating effect of the average income (over the whole observation period) and the lower panel shows the moderating effect of the income at birth. For the table of results see the Online Appendix C, Tables C.7 and C.8.

The moderating effect of income is significant for women having their first child. Women having a higher average income (the upper panel of Fig. 4) experienced less positive changes in life satisfaction in a year of a first birth than women having a lower income. Especially when a first child was 1–3 years old, women belonging to the high income group experienced low life satisfaction: significantly lower than before a birth. This result supports Hypothesis 6B, which – consistently with the *selection* approach – stated that a higher income signifies a weaker preference for parenthood.

The lower panel of Fig. 4 shows a different picture. Women who at first birth had an income above the median experienced a stronger increase in life satisfaction in a period surrounding a first birth than the women who were economically worse off. The difference was statistically significant when the child was 1, 3, and

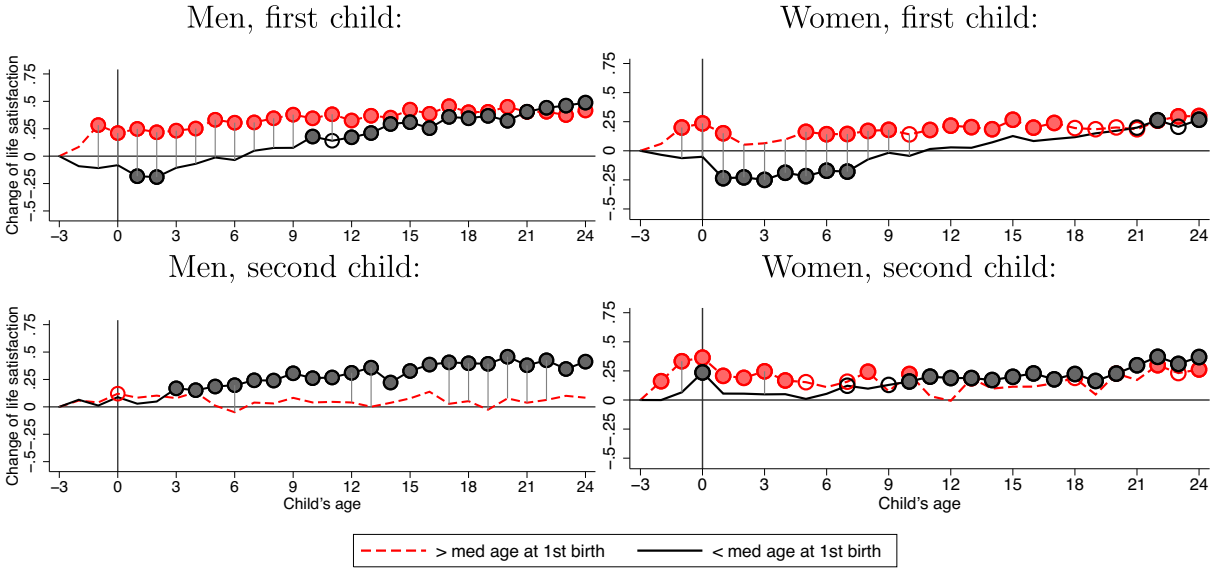

Fig. 3. Effect of stages of parenthood on life satisfaction of parents – the moderating effect of age at first birth. The median age at first birth for women is 23 years, for men it is 25 years. *Source:* RLMS-HSE data, waves 5–23. *Note:* The figure shows β coefficients estimated in a fixed effect model with interaction terms. Separate estimations for a first and a second child, and for men and women. The full circles mark βs significant at 95% level. The empty circles mark βs 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 3 or more years before a birth.

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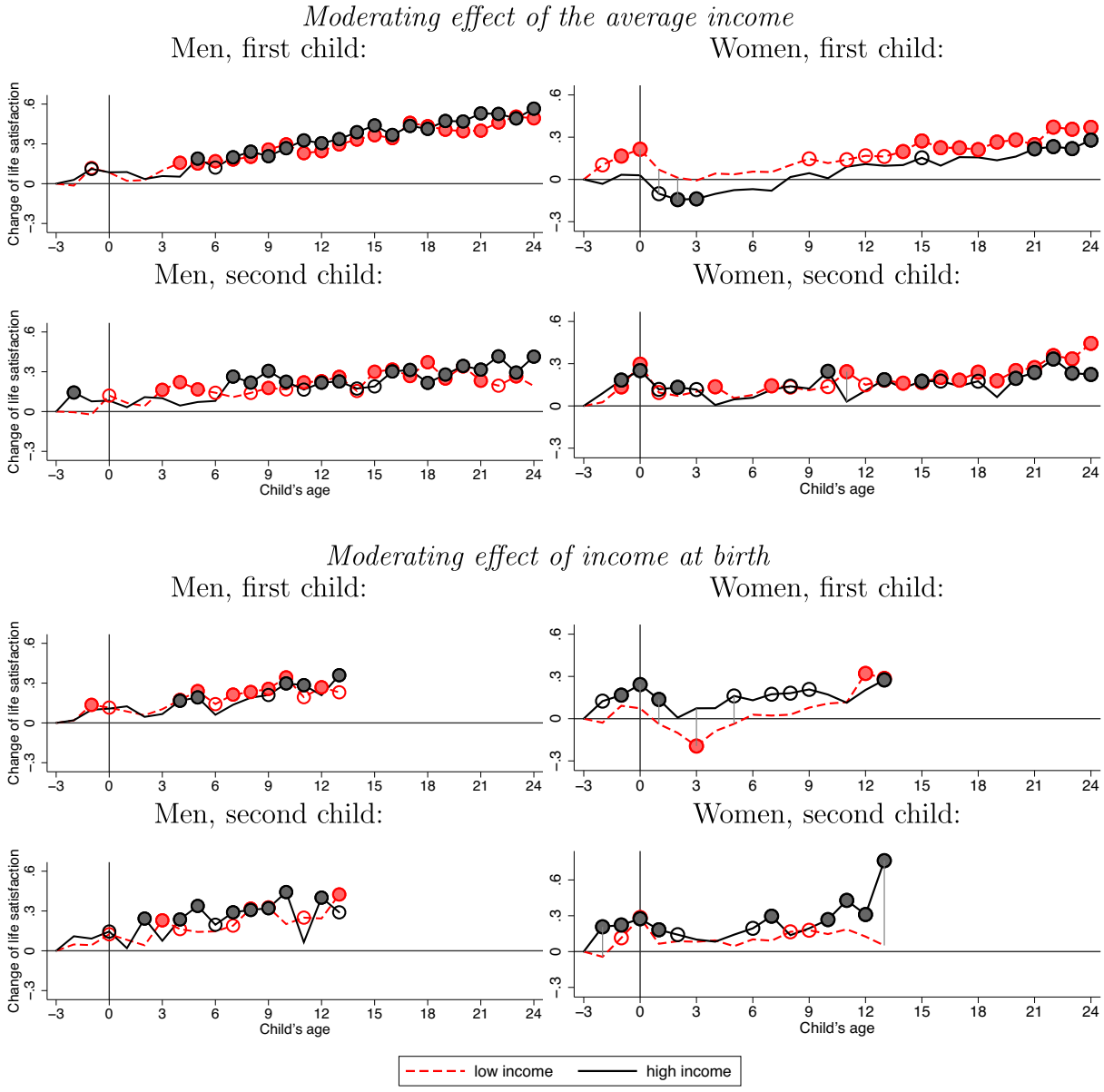

Fig. 4. Effect of stages of parenthood on life satisfaction of parents – the moderating effect of household income. *Source:* RLMS-HSE data, waves 5–23. *Note:* see Fig. 3.

5 years old. For mothers having a second child the difference was significant two years before a birth and when a child was 13 years old. These results support Hypothesis 6A, which – consistently with the *demands and rewards* approach – postulates that parenthood is more straining and less satisfactory for less wealthy parents.

4.7. The moderating effect of education

Fig. 5 shows the moderating effect of educational level (for the table of results see the Online Appendix C, Tables C.9 and C.10). Hypothesis 7A postulated that, consistently with the *demands and rewards* approach, higher educated women experience a particularly strong work-family conflict, therefore the care-intense stages of parenthood lower their life satisfaction more than among lower educated women. However, I find no such effect: the differences between the two groups of parents are statistically significant neither among women nor among men.

4.8. Robustness checks

4.8.1. Change over time

Russia in the analyzed period experienced a revolutionary social change, which strongly affected life satisfaction. I test the robustness of the results by verifying if the trajectories of parental life satisfaction were different during the years 1994–2006 than during the years 2007–2012. The division into the two periods reflects the change in the average life satisfaction (during the years 1994–2006 the average life satisfaction varied between 2.1 and 3.0, whereas during the years 2004–2012 it ranged between 3.05 and 3.4), and it allows distinguishing the periods before and after introduction of the "maternity capital" policy.

Results shown in Fig. 6 demonstrate that the changes between the two periods were negligible for men. The overtime change was more pronounced for women: in the later period parenthood did not increase life satisfaction in the long run, whereas it did so in the earlier period. This suggests that the estimated trajectories of

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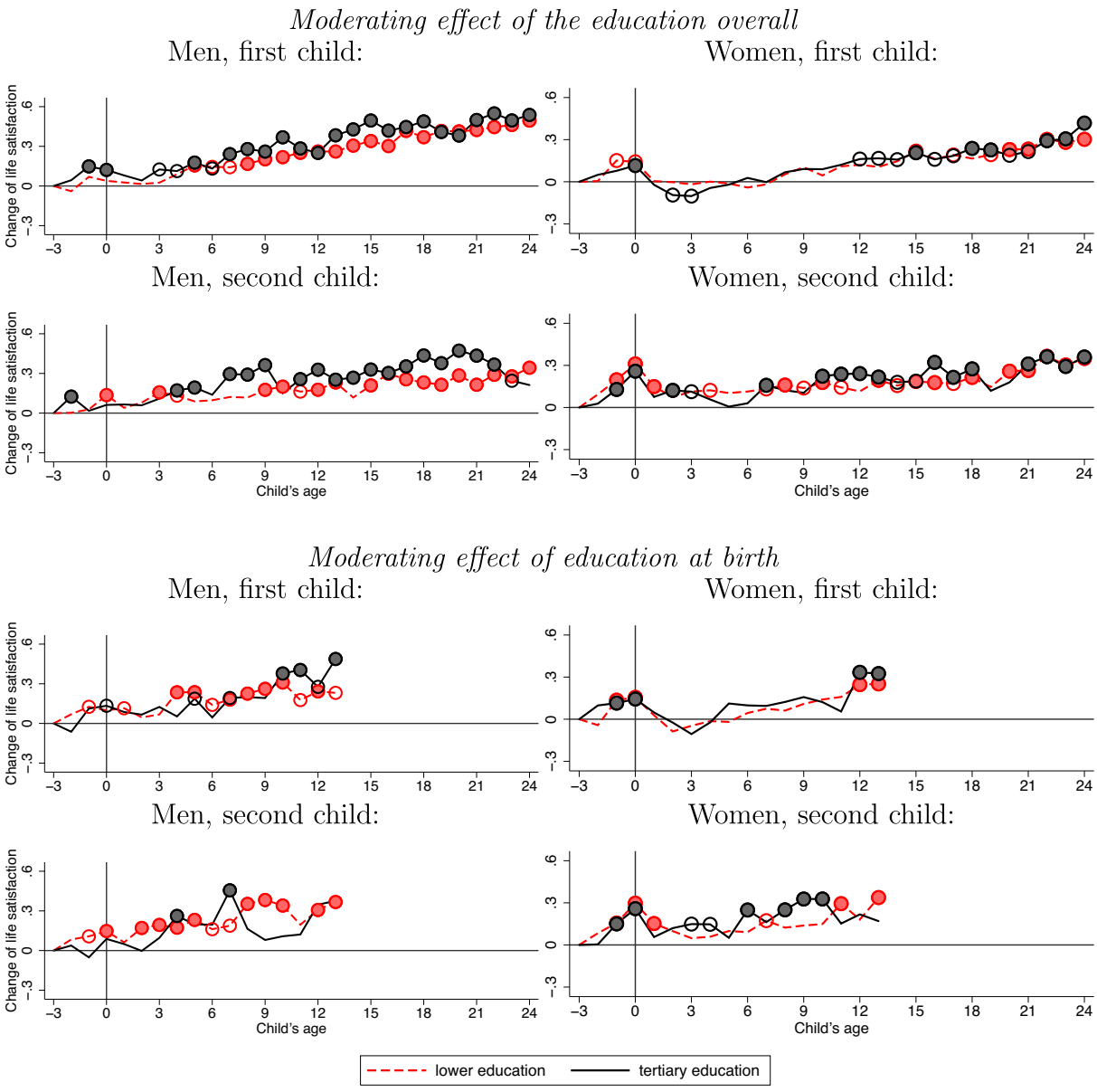

Fig. 5. Effect of stages of parenthood on life satisfaction of parents – the moderating effect of education. *Source:* RLMS-HSE data, waves 5–23. *Note:* see Fig. 3.

parental life satisfaction were relatively stable over time. They also show that the strong increase of life satisfaction at birth of a second child does not reflect the "maternity capital" policy, as this pattern was observed already before the introduction of this policy.

4.8.2. Logistic model

The dependent variable is measured on a 5-point scale, and the use of an OLS regression is questionable with ordinal data (Winship & Mare, 1984). However, estimation of fixed effect models for ordered data is still problematic, and the work by Ferrer-i Carbonell and Frijters (2004) showed that in analyses of life satisfaction, accounting for fixed effects is more important than properly accounting for the measurement scale. The strategy of treating life satisfaction scores as cardinal has been frequently used in life satisfaction literature (e.g. Baetschmann et al., 2012; Clark et al., 2008; Clark & Georgellis, 2013; Frijters et al., 2011; Myrskylä & Margolis, 2014), sometimes for relatively short ordinal scales (e.g. for the 4-point scale of happiness in the British data Myrskylä & Margolis, 2014). Coefficients of OLS regression are easier to interpret than coefficients of logistic models, and they allow comparison of the sizes of effects with results of previous studies. Moreover, the use of logistic models for ordinal data requires deciding which cutoff point to use, a decision which always implies a loss of information. The loss of information is even higher in logistic model with fixed effects, because they drop from the sample those respondents who did not experience any change.

To verify the robustness of the main results, I re-estimated the main model with logistic fixed effect models, using three cutoff points: (1) fully satisfied vs. not at all, rather not, partly, or mostly satisfied (Table D.11 in the Online Appendix D); (2) mostly or fully satisfied vs. not at all, rather not, or partly (Table D.12 in the Online Appendix D); and (3) partly, mostly, or fully satisfied vs. not at all, or rather not satisfied (Table D.13 in the Online Appendix D). The estimation of the last cutoff point (not at all satisfied vs. rather not, partly, mostly, or fully) was not possible due to too few respondents who experienced a change.

The results are overall consistent with those presented in the main part of the paper: parental life satisfaction increases upon the

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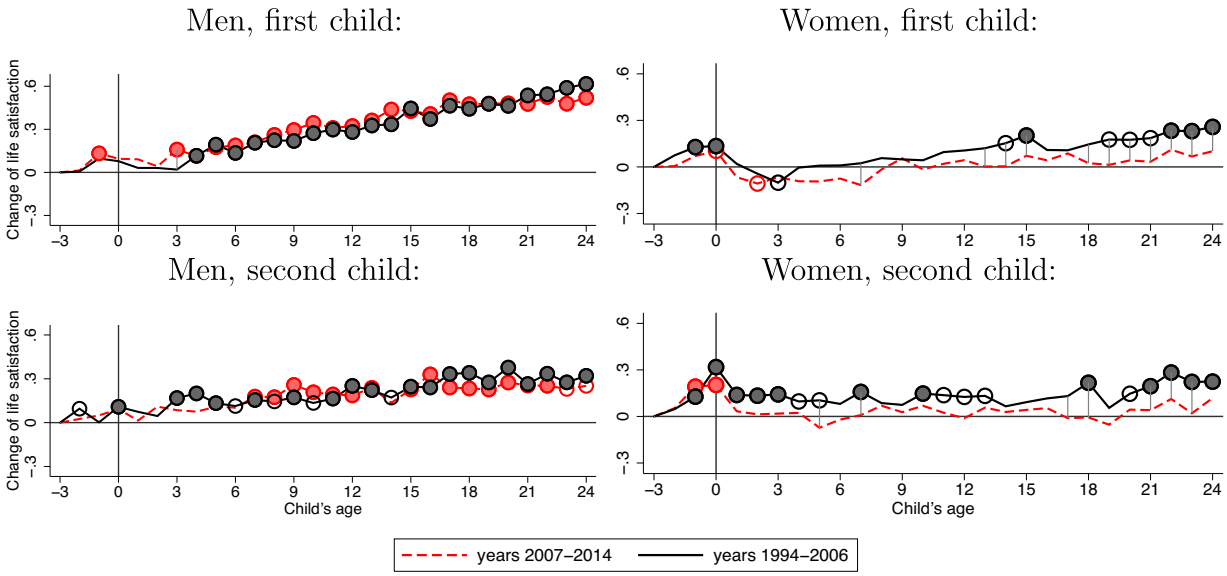

Fig. 6. Effect of stages of parenthood on life satisfaction of parents – the moderating effect of overtime change. *Source:* RLMS-HSE data, waves 5–23. *Note:* see Fig. 3.

first and second birth (Table D.11), the increase related to a second birth is stronger than the one at a first birth (Tables D.11–D.13), and – after a temporary decline to a pre-birth level (Table D.11 and Table D.12 among women) – the long-term effect of parenthood on life satisfaction is positive (Tables D.11–D.13 among men having a first and a second child).

5. Discussion

This analysis extends the empirical evidence on life satisfaction consequences of parenthood by examining trajectories of life satisfaction experienced by 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 I provide is valuable for verifying whether the previously observed regularities and their theoretical explanations should be treated as general, or rather as specific to the social context of Western societies.

The estimated life satisfaction trajectories of Russian parents in many ways resemble the pattern known from previous studies. Parental life satisfaction increases at first birth (as in: Baetschmann et al., 2012; Clark et al., 2008; Clark & Georgellis, 2013; Frijters et al., 2011; Myrskylä & Margolis, 2014) and decreases in the subsequent period, more strongly among women than among men (as in Rizzi & Mikucka, 2015). The young age at first birth moderates the relationship: parents younger at first birth experience more negative changes upon a first birth than parents older at birth (as in Myrskylä & Margolis, 2014). Moreover, mothers with a higher income at birth experience a more positive trajectory than mothers with a lower income (as in: Angeles, 2010; Nomaguchi & Milkie, 2003).

However, some of the regularities established by this analysis depart from previous results. First, life satisfaction of mothers increases at a second birth more than at a first birth. Such pattern has not been shown by previous studies. Second, the long-term effect of parenthood on life satisfaction is positive (as shown previously by: Pollmann-Schult, 2014, and Baetschmann et al., 2012; but contrary to the results of Myrskylä & Margolis, 2014).

The three investigated theoretical approaches fit the observed pattern to varying degrees. The *set-point* theory of parenthood found least support in the data. The long-term positive effect of life satisfaction and the strong positive effect of a second birth are at odds with the predictions of this theory.

The predictions of the *demands and rewards* approach are more consistent with the results. This includes the temporary decline of life satisfaction during care-intense period of child-rearing, especially for women, which the *demands and rewards* approach relates to the time constraints and other burdens of child-rearing. In the long run, the effect of parenthood on life satisfaction is positive, which also supports the *demands and rewards* approach. Consistent with this approach are also the moderating effects of age and income at birth: younger parents and less wealthy mothers experience less positive changes in life satisfaction upon a first birth, plausibly because it is more difficult to deal with demands of parenthood for people who are less prepared and have less resources.

Finally, also the *selection* approach found some support in the results. This refers mainly to the unexpected strong and positive effect of a second birth on life satisfaction of mothers. The low childlessness in Russia suggests that personal preferences for parenthood play a less important role as a trigger of a transition to parenthood than in Western countries. In other words, if the choice to remain childless is culturally unacceptable in Russia, then among a first-time parents the share of people who do not have a strong "taste for children" is rather high. On the other hand, the stronger selection to a second birth in Russia increases the match between behavior and parenting preferences, leading to the strongly positive life satisfaction outcomes of a second birth. Consistent with the *selection* approach is also the moderating effect of the overall income: women who have lower incomes experience more positive trajectories of life satisfaction upon a first birth, suggesting that these women have a stronger "taste for children" than women who ended up with higher incomes.

Although the positive effect of a second birth could be linked to the generous "maternal capital" policy, the results suggest otherwise, because the effect occurred also in the period before introducing this policy.

The strong positive effect of a second birth suggests another alternative explanation: planning of parenthood may increase the positive life satisfaction consequences of births. The importance of planning has been previously suggested by Baetschmann et al. (2012). In Western countries a first birth is more likely to be planned than subsequent births (results for the US: Hayford & Guzzo, 2010), which plausibly contributes to the strong positive

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effect of a first birth. However, in Russia it is a second child, rather than a first child, that is more likely to be planned (Rotkirch & Kesseli, 2010, 2012; Zakharov, 2008), which can explain the strong positive effect of a second birth.

In practical terms, the study showed that various groups of parents are to varying degrees affected by the challenges and demands of parenthood in contemporary Russia. In particular, the early stage of parenthood constitutes a challenge for women, especially those who are less wealthy at birth, and for people who entered parenthood at young age. The difficult experience of parenthood among younger parents may discourage them from having subsequent children. For this group of parents parenthood is particularly challenging, and they would likely benefit most from supportive social policies.

More in general, present analysis emphasizes the importance of replicating studies in new social contexts. Broadening the empirical base of analyses is fundamental for delivering general conclusions. 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. Is seems that, at least in some social contexts, having children makes people happier in the long run. The recipe for happy parenthood seems to include the access to resources, and parenthood decisions that match preferences. Our results also suggest that planning of parenthood may be a moderating factor, which is an interesting area for future research.

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Appendix A–D. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.alcr.2016.03.004.

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