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The impact of having children on domain-specific life satisfaction: A quasi-experimental longitudinal investigation using the Socio-Economic Panel (SOEP) data

SOEPpapers on Multidisciplinary Panel Data Research, No. 1068

Provided in Cooperation with:
German Institute for Economic Research (DIW Berlin)

Suggested Citation: Krämer, Michael D.; Rodgers, Joseph L. (2020) : The impact of having children on domain-specific life satisfaction: A quasi-experimental longitudinal investigation using the Socio-Economic Panel (SOEP) data, SOEPpapers on Multidisciplinary Panel Data Research, No. 1068, Deutsches Institut für Wirtschaftsforschung (DIW), Berlin

This Version is available at:
https://hdl.handle.net/10419/214240

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Michael D. Krämer and Joseph L. Rodgers

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ISSN: 1864-6689 (online)

German Socio-Economic Panel (SOEP)
DIW Berlin
Mohrenstrasse 58
10117 Berlin, Germany

Contact: soeppapers@diw.de

The Impact of Having Children on Domain-Specific Life Satisfaction: A Quasi-Experimental Longitudinal Investigation Using the Socio-Economic Panel (SOEP) Data

Michael D. Krämer[1,2], Joseph L. Rodgers[3]

[1] Department of Psychology, Freie Universität Berlin, Berlin, Germany

[2] German Institute for Economic Research (DIW Berlin), Berlin, Germany

[3] Department of Psychology and Human Development, Vanderbilt University, Nashville, TN

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Correspondence concerning this article should be addressed to Michael D. Krämer, Socio-Economic Panel Study, German Institute for Economic Research, Mohrenstr. 58, 10117 Berlin, Germany. Email: mkraemer@diw.de. Phone +49-30-89789371.

Please cite this preprint as:

Krämer, M. D., & Rodgers, J. L. (in press). The impact of having children on domain-specific life satisfaction: A quasi-experimental longitudinal investigation using the Socio-Economic Panel (SOEP) data. *Journal of Personality and Social Psychology.* Advance online publication. https://doi.org/10.1037/pspp0000279

Open Science Framework (OSF) page: https://osf.io/b3jy7/

OSF Preregistration: https://osf.io/j5r3p

Study website (includes publication database): https://www.diw.de/en/soep

Study questionnaires: https://www.diw.de/en/diw_02.c.222729.en/questionnaires.html

Publications in conference proceedings or poster presentations:

Krämer, M. D., & Rodgers, J. L. (May 2018). *Changes in domain-specific life satisfaction in first-time parents and matched controls: Findings from a prospective study using the SOEP data.* Poster presented at the 30th Annual Convention of the Association for Psychological Science (APS), San Francisco, CA.

Date of submission: June 11, 2019

Date of resubmission: November 12, 2019

Author Contributions

M.D. Krämer and J.L. Rodgers both conceptualized and planned the study. M.D. Krämer filed the pre-registration, did the matching, ran all analyses, and drafted the paper. J.L. Rodgers edited the paper. Both authors contributed collaboratively to the interpretations and approved the final version of the manuscript for submission.

Abstract

Longitudinal studies have documented improvements in parents' life satisfaction due to childbearing, followed by postpartum adaptation back to baseline. However, the details underlying this process remain largely unexplored. Based on past literature, set-point theory, and results from an exploratory sample, we investigated empirically how first childbirth affected satisfaction with specific domains of life. In a preregistered study, we compared parents with matched childless respondents in their trajectories of life satisfaction, and also satisfaction with family life, health, sleep, work, housework, leisure, dwelling, household income, and personal income. First-time parents and childless respondents were matched in a procedure combining exact and propensity score matching. Using the population-representative German SOEP data (N = 3,370), longitudinal multilevel models revealed heterogeneous effects of childbirth on different domains of satisfaction: Both mothers' and fathers' satisfaction with family life increased temporarily in a similar fashion to life satisfaction before going back to baseline within five years after childbirth. However, only mothers experienced drastic losses to satisfaction with sleep and satisfaction with personal income. For the remaining domains, parents' satisfaction largely resembled that of the matched childless respondents. These divergent domain trajectories underscore the need for multivariate analyses in life satisfaction research.

Keywords: Life Satisfaction, Satisfaction Domains, Childbirth, Parents, Propensity Score Matching

Introduction

First childbirth marks an important transitional period. Primiparous parents experience elevated psychosocial stress, health challenges, increased mood disorders (Saxbe, Rossin-Slater, & Goldenberg, 2018), and disturbed sleep (Richter, Krämer, Tang, Montgomery-Downs, & Lemola, 2019). Still, parents report an increased sense of purpose, need fulfillment, and positive emotions (Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2013; Nelson, Kushlev, & Lyubomirsky, 2014). In light of divergent childbirth effects, motivations for becoming a parent have been discussed across disciplines (e.g., Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Kohler, Behrman, & Skytthe, 2005).

Childbirth has been studied as part of the growing literature on how life satisfaction responds to life events (e.g., Clark, Diener, Georgellis, & Lucas, 2008; Luhmann, Hofmann, Eid, & Lucas, 2012). Within the broader concept of subjective well-being, life satisfaction describes a global cognitive evaluation of well-being (Diener, Suh, Lucas, & Smith, 1999)—distinct and discriminable from positive and negative affect (Lucas, Diener, & Suh, 1996). Childbirth's effect on parents' life satisfaction is somewhat controversial: Although some researchers found decreases following childbirth (Luhmann et al., 2012; McLanahan & Adams, 1987; Stanca, 2012), prospective designs based on nationally representative panel data indicate a short-lived increase that starts in anticipation of childbirth and reverts to a personal baseline one to two years postpartum (e.g, Dyrdal & Lucas, 2013; using the German SOEP data). Research based on nationally representative panel data from the UK (Balbo & Arpino, 2016; Yap, Anusic, & Lucas, 2012), Australia (Anusic, Yap, & Lucas, 2014a), and Switzerland (Anusic, Yap, & Lucas, 2014b) utilized comparison groups to separate the effects of events such as childbirth from normative, age-related trends in well-being. All three representative samples showed that childless respondents experienced a downward normative trend in general life satisfaction. Parents' satisfaction was elevated temporarily around first childbirth before returning to the level of the childless respondents again.

Childbirth's effects on specific domains of life satisfaction, however, remain largely unexplored. Schimmack (2008) reviewed top-down and bottom-up theories of domain-specific influences on life satisfaction. So far, most empirical research has included one domain satisfaction measure at a time (e.g., Georgellis, Lange, & Tabvuma, 2012; van Scheppingen, Denissen, Chung, Tambs, & Bleidorn, 2018), with two exceptions in the study of childbirth: Johnson and Rodgers (2006) examined effects of the first to fifth childbirth retrospectively in a sample of low-income mothers. Although satisfaction in specific domains (e.g., finances, physical health) declined after childbirth, global outlook on life increased substantially. Bernardi, Bollmann, Potarca, and Rossier (2017) used data from the German Socio-Economic Panel (SOEP) to examine changes in primiparous parents' satisfaction with leisure, satisfaction with their job, and life satisfaction. Mothers' satisfaction with leisure declined after birth compared to baseline. Satisfaction with job declined in mothers before birth and recuperated postpartum (with no effects for fathers). These findings for job satisfaction are in contrast to analyses based on a nationally representative panel study from the UK that did find long-lasting negative effects of first childbirth on mothers' and fathers' job satisfaction (Georgellis et al., 2012). Regarding satisfaction with family life, which is related to but not the same concept as relationship or marital satisfaction (Forste & Fox, 2012), previous research is inconclusive: Whereas Zimmermann and Easterlin (2006) reported positive effects of having children, Vanassche, Swicegood, and Matthijs (2013) found the presence of younger children in the household to be uncorrelated with satisfaction with family life, and the presence of older children to be negatively associated with women's satisfaction with family life. However, neither study conceptualized childbirth as an event within a prospective design. Satisfaction with sleep declined from young adulthood until age 60 (Lemola & Richter, 2013). In the SOEP study, the first three childbirths affected parents' satisfaction with sleep negatively with more pronounced effects for mothers and for first-time parents (Richter et al., 2019).

The transition to parenthood triggers a shift of perspective, with parents reporting positive changes in outlook on life (Johnson & Rodgers, 2006), sense of purpose, need fulfillment, and affect (Nelson et al., 2013). However, besides being rewarding, the transition can also be challenging, and put a strain on a couple's relationship (Kluwer, 2010). The positive effects of childbirth have been reported to be more pronounced for fathers than mothers (Balbo & Arpino, 2016; Nelson et al., 2013; Nelson-Coffey, Killingsworth, Layous, Cole, & Lyubomirsky, 2019). However, Polish panel data indicate a gender interaction that favors primiparous mothers' well-being (Baranowska & Matysiak, 2011). Gender differences in parental well-being have been attributed to additional burdens women face in the transition to motherhood. Gender inequalities persist in housework and childcare (Kamp Dush, Yavorsky, & Schoppe-Sullivan, 2018; Nomaguchi & Milkie, 2003; Yavorsky, Kamp Dush, & Schoppe-Sullivan, 2015). An analysis of a subgroup of cohabiting couples in the SOEP showed that the transient positive effect of childbirth on life satisfaction was dependent on fathers' involvement in childcare (Agache, Leyendecker, Schäfermeier, & Schölmerich, 2014). Only supportive fathers were associated with a positive trajectory of life satisfaction in mothers and fathers.

Less is known about contextual factors relevant to specific domains of satisfaction in the transition to parenthood: Vanassche et al. (2013) argued that satisfaction with family life is mainly influenced by functional efficiency of the family system and by compatibilities of gender roles, which change in primiparous parents (Katz-Wise, Priess, & Hyde, 2010). Satisfaction with family life also depends on how childcare and household tasks are perceived to be distributed between partners, and on egalitarian attitudes in society (de Miguel-Luken, 2019; Greenstein, 2009). Whether childbirth differentially affects mothers' and fathers' satisfaction with family life is unknown.

Childbirth increased parental sleep deprivation and fragmentation starting in late pregnancy and peaking in the first postpartum year due to nocturnal caregiving demands

(Gay, Lee, & Lee, 2004; Montgomery-Downs, Stremler, & Insana, 2013; Sivertsen, Hysing, Dørheim, & Eberhard-Gran, 2015). During pregnancy, mothers' sleep quality suffers from fragmentation and restlessness (Hedman, Pohjasvaara, Tolonen, Suhonen-Malm, & Myllylä, 2002). Postpartum, mothers take on more of nocturnal childcare resulting in more fragmented sleep and lowered subjective sleep quality, especially when the child is breastfed (Gay et al., 2004; Richter et al., 2019).

Life events such as childbirth have been studied against the backdrop of set-point theory, which states that life satisfaction changes only temporarily in reaction to positive/negative life events (Diener, Lucas, & Scollon, 2006). Afterwards, people return to baseline levels of well-being (Lykken & Tellegen, 1996), a process referred to as hedonic adaptation. Once dominant in well-being research, set-point theory has been challenged (Headey, 2010): First, interventions can bolster happiness (Lyubomirsky & Layous, 2013). Second, economic and lifestyle factors were found to be related to gains in life satisfaction (Headey, Muffels, & Wagner, 2010). Third, panel studies revealed permanent satisfaction changes after negative events such as disability (Lucas, 2007) or unemployment (Lucas, Clark, Georgellis, & Diener, 2004; Luhmann, Weiss, Hosoya, & Eid, 2014). Revisions of set-point theory suggest that people have multiple, non-neutral set-points in different components of subjective well-being, which are subject to both gradual change over the life course and to sudden change in reaction to changes in life circumstances (Diener et al., 2006). Levels of well-being as well as rates of change and adaptation also have individual differences (Lucas, Clark, Georgellis, & Diener, 2003; Tellegen et al., 1988), including in relation to conscious decisions such as life goals (Headey, 2008; Headey, Muffels, & Wagner, 2013). In light of these theoretical challenges, Headey (2010) argued for set-point theory to be abandoned. The transient average effects of positive events (e.g., marriage, childbirth) on life satisfaction, however, still can be considered consistent with set-point theory (Clark & Georgellis, 2013; Lucas et al., 2003). Regarding specific satisfaction domains, evidence is lacking.

Two research questions motivate the current study, which for the first time examines life satisfaction jointly with satisfaction in nine domains, namely family life, health, sleep, job, housework, household income, personal income, leisure, and dwelling:

1) Compared with matched childless respondents, how does first childbirth affect mothers' and fathers' trajectories of life satisfaction and satisfaction in nine specific domains?
2) Given that parents' satisfaction levels—general or domain-specific—deviate from any naturally occurring trends in the controls, do they return to levels comparable to those of the controls after childbirth?

Data came from the SOEP, a longitudinal multicohort study representative of the adult German population. Using a new interpretation of set-point theory, we account for any gradual or temporary changes in satisfaction that might occur in the German population (Fujita & Diener, 2005). Previous theoretical work has emphasized the need for a comparison sample: "To determine whether adaptation has occurred, it is necessary to compare individuals who have experienced an event or life circumstance with those who have not, ideally following the same individuals over time." (Diener et al., 2006, p. 310). Thus, we modeled all changes in satisfaction hypothesized to be effects of childbirth as deviations from patterns in a matched comparison sample that did not experience childbirth (see also Luhmann, Orth, Specht, Kandler, & Lucas, 2014). Therefore, our design controls for average trends in satisfaction of childless individuals, e.g. changes related to age, relationship status, or socio-economic status. It also enables us to report effects of childbirth unconfounded by instrumentation effects which describe the tendency of reporting lower well-being scores with each repeated measurement (Baird, Lucas, & Donnellan, 2010). We go beyond previous studies utilizing matched control groups (Anusic et al., 2014a, 2014b; Yap et al., 2012) in that we performed the matching at a specific time point preceding the event and not based on individual survey years. This design choice ensures that the variables involved in the matching procedure are not influenced by the event (Greenland, 2003; Rosenbaum, 1985).

Similar approaches have been adopted by Balbo and Arpino (2016) and recently regarding the effects of divorce by van Scheppingen and Leopold (2019).

Based on a combination of previous research findings and an exploratory analysis of a random 25% sub-sample of our data (Sakaluk, 2016), we preregistered 14 specific hypotheses (Open Science Framework preregistration page: https://osf.io/j5r3p):

1a) Parents' life satisfaction is hypothesized to rise before the birth of the first child and fall afterwards, both of those deviating from the pattern observed in the childless controls. We expect mothers' postpartum decline to be steeper than that of the father.

1b) Parents' satisfaction with family life is also hypothesized to increase before the birth of the first child and decrease afterwards, deviating from the pattern observed in the childless controls. We expect a gender interaction in that fathers consistently show higher satisfaction levels postpartum than the male controls while this is not the case for mothers.

1c) Parents' satisfaction with health is hypothesized to increase slightly before birth, deviating from the overall pattern of gradual decline seen in the matched childless respondents. Postpartum, mothers' decline is expected to be steeper than that of fathers.[1]

1d) Parents' satisfaction with sleep is hypothesized to decline immediately before birth compared to that of the childless controls, drop drastically right after birth, and then slowly recuperate within our postpartum observation period. A gender interaction is expected with the losses to satisfaction with sleep being more extreme for mothers as compared to fathers[2].

1e) Parents' satisfaction with their job is not hypothesized to deviate from that of the childless controls. A gender interaction is not expected.

1f) Parents' satisfaction with housework is not hypothesized to deviate from that of the childless controls. A gender interaction is not expected.

1g) Parents' satisfaction with household income is hypothesized to increase pre-birth and drop right afterwards. In the postpartum observation period, no differences between parents and controls are expected. A gender interaction is not expected.

1h) Parents' satisfaction with personal income is hypothesized to drop right after birth and then slowly rise again in the postpartum observation period. There is a clear gender interaction: Although fathers' satisfaction with personal income is expected to rise over the whole observation period in conjunction with both male and female controls, mothers' satisfaction with personal income is expected to already decline before birth, to drop right afterwards, and then rise again postpartum.

1i) Parents' satisfaction with leisure is hypothesized to drop right after birth but otherwise not to deviate from the patterns of the childless controls. A gender interaction is expected to be found in that mothers' satisfaction with leisure rises before birth, drops right after birth, and is similar to that of the female controls in the postpartum observation period. Fathers are not expected to deviate from the male controls at all.

1j) Parents' satisfaction with dwelling is not hypothesized to deviate from that of the childless controls. A gender interaction is not expected.

In evaluating whether parents' satisfaction returns to levels comparable to those of the controls within five years postpartum, the following hypotheses were specified:

2a) Fathers' satisfaction with family life is expected to be at a higher level than that of the male controls five years after birth.

2b) Fathers' satisfaction with health is expected to be at a higher level than that of the male controls five years after birth.

2c) Fathers' satisfaction with dwelling is expected to be at a higher level than that of the male controls five years after birth.

2d) For all maternal domains, and all other paternal domains, we hypothesize that parents' satisfaction returns to levels comparable to those of the controls within five years postpartum.

To examine these hypotheses, we employ a prospective longitudinal design with up to three years of data before and five years after the birth of the first child. Using data from a large-scale nationally representative panel study, we ensure high levels of external validity. We improve upon previous research in terms of internal validity by estimating all effects of first childbirth as deviations from a matched comparison sample of nonparents that was defined using a two-step matching approach. Respondents were first matched exactly on age and gender, and secondly according to propensity score matching techniques on important socio-demographic and economic variables. We rely on a preregistered analysis plan and separate exploratory and confirmatory analyses (Weston, Ritchie, Rohrer, & Przybylski, 2019), using 50% of the total dataset in our main confirmatory study to evaluate the status of our preregistered hypotheses[3].

Methods

Sample and Procedure

This study used archival data from the German Socio-Economic Panel (SOEP; Version 33.1[4]), which is housed within the German Institute for Economic Research (DIW Berlin). The SOEP is an ongoing longitudinal household study initiated in 1984 with several refreshment samples added since. In its entirety, the SOEP is representative of adults living in private households in Germany. All members of selected households aged 16 years or older were asked to participate in annual interviews. The majority of respondents was interviewed in computer-assisted personal interviews but there were other modes of assessment, including mail-back questionnaires. All data were collected by a professional fieldwork organization (Kantar Public, Munich). Comprehensive information about the SOEP can be found in Goebel

et al. (2019). Ethical permission was granted by the Scientific Advisory Board of DIW Berlin in Germany, and by IRB review at Vanderbilt University (IRB #180737).

Before describing our methods, it is noted that prior to preregistration (July 23, 2018) the authors possessed knowledge of analyses of life satisfaction and domain-specific satisfaction based on the SOEP data from the following studies: Clark et al. (2008) used event dummies in a fixed-effects regression to show significant positive lead effects in life satisfaction as compared to baseline for both parents in the year before (any) childbirth was reported. This was followed by a positive effect only for mothers in the year when the birth of a child was reported, and decreased life satisfaction in fathers and mothers when the child was two to three years of age. Dyrdal and Lucas (2013) studied first childbirth in couples using multilevel modeling and found a temporary increase in both mothers' and fathers' life satisfaction followed by adaptation to baseline within two years. When controlling for changes in partnership status, this positive effect was only significant for first-time mothers and both parents ended up at a lower level of live satisfaction as compared to baseline. Results from Bernardi et al. (2017) and Richter et al. (2019; under review at the time of preregistration) regarding domain-specific satisfaction are considered in detail in the introduction and discussion sections. Although this prior knowledge slightly limited the value of preregistration in several of our hypotheses, we believe that preregistration still proved valuable, both in terms of requiring formalized hypotheses and the methodological rigor regarding research practices it provided (see Weston et al., 2019). Most of the domain-specific patterns were not known at the time of preregistration, and these are the primary novel contribution of our work.

Drawing on all waves from 1984 to 2016, five restrictions defined respondents in the total sample of parents (see Figure 1 for Participant Flowchart): First, respondents who reported the birth of their first child while already part of the SOEP were identified.[5] Second, parents missing valid information on all of the ten outcome measures were excluded. Third,

parents without valid information from the second wave before birth were excluded, to ensure that the covariates used for matching were not already affected by pregnancy. Fourth, parents with any missing covariate data used for propensity score estimation (performed in the second wave before birth was reported) were excluded. Fifth, person-year observations were excluded once parents reached the last survey year before the birth of the second child, to avoid overlapping effects on satisfaction from first and second childbirths. If the births of the first and the second child were reported in subsequent survey years, this led to the exclusion of the respondent and all their observations because the event first childbirth was no longer directly observable. This resulted in a total sample of 3,371 parents (55.32% female; age at first childbirth M = 30.38, SD = 5.54).

Respondents fulfilling the following three criteria were involved in the matching procedure as potential matches for the parents: First, potential matches were identified as childless in the most recent wave. Second, potential matches provided valid information on all matching covariates in the survey year they were matched. Third, potential matches and person-year observations with no valid information in any of the ten outcomes were excluded. 22,106 childless respondents providing 143,945 person-year observations were identified as eligible for the matching procedure. Sensitivity analyses to investigate the degree to which excluded parents and childless respondents differed from included ones found little difference between these groups (see Table S1 of the Online Supplemental Materials). Given that these differences were small, non-representativeness attributable to exclusion of respondents was not considered a serious concern in the present research.

In order to match each parent with a childless respondent, a two-stage matching procedure was implemented, combining exact matching and propensity score matching (PSM). For the parents, this was performed in the second survey year before birth to ensure that pregnancy could not influence the covariates used for PSM. In the first stage, each parent

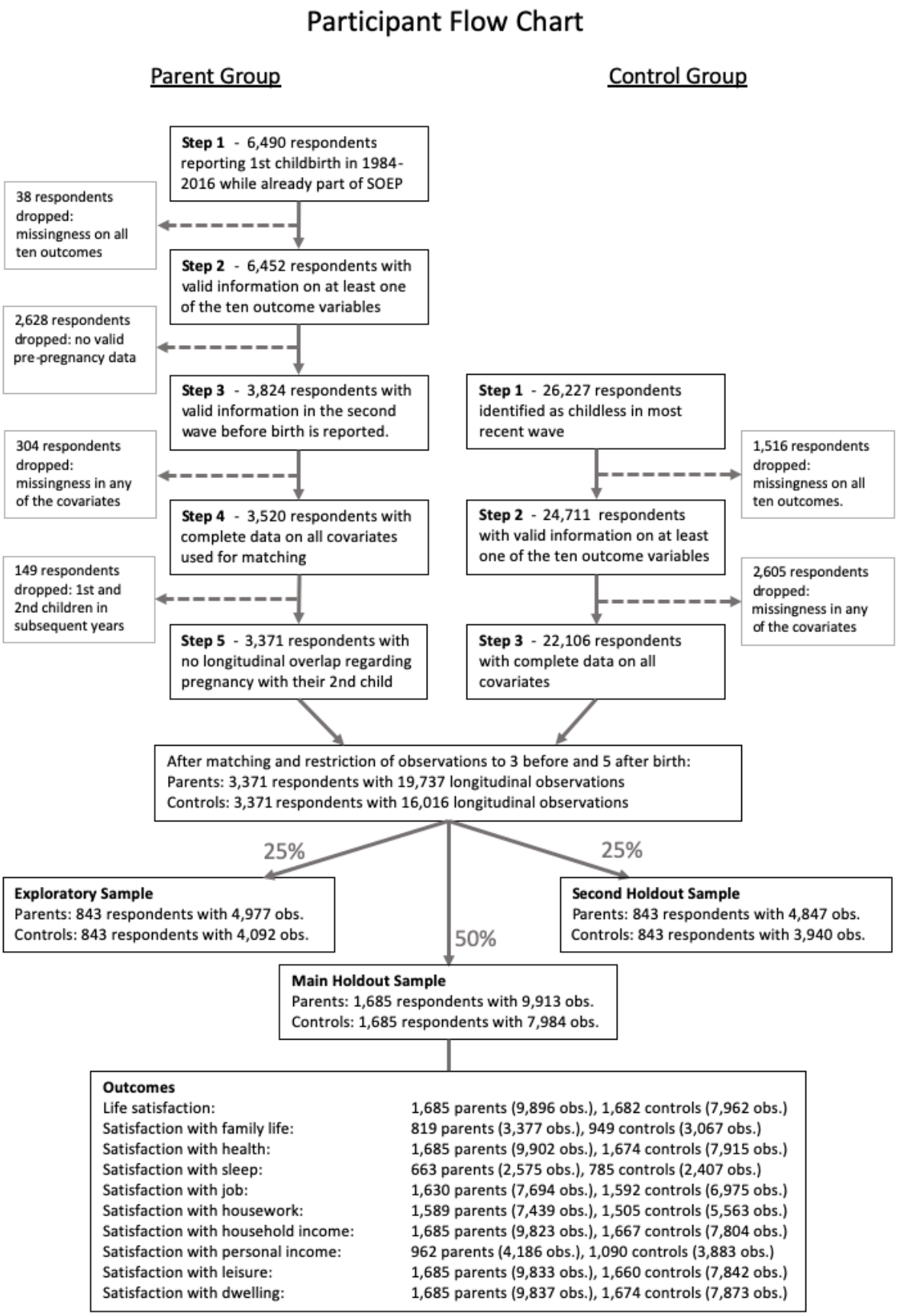


Figure 1. Participant flowchart explaining the composition of the different analysis samples. SOEP = Socio-Economic Panel study. Obs. = observations.

was matched preliminarily to all control observations with the same gender and age. These covariates were deemed essential to the experience of childbirth. For the second stage, propensity scores were estimated for the 3,371 parent observations and for the 143,945 control observations in a logistic regression of the treatment assignment variable (1=Parent / 0=Not a parent) on 32 covariates using a logit link function (Austin, 2011). These covariates included individual-level and household-level variables pertaining to educational attainment, socio-economic status, location within Germany, immigration history, and relationship status (see Table S2 of the Online Supplemental Materials for a full list of the covariates used for the propensity score estimation). From each parent's pool of control observations from stage one, we chose as their match the control observation whose propensity score was closest to the parent's propensity score. This approach can be described as nearest-remaining-neighbor matching. The chosen control respondent was then removed from the pool of available controls. This process proceeded in random order for all parents resulting in 1:1 matching without replacement, and all the parent-respondents were successfully matched. A caliper was not specified because we aimed to match all available parents (and because covariate balance was evaluated as satisfactory in the next step).

The matching procedure was evaluated in terms of covariate balance for the total sample of 3,371 parents and 3,371 controls in the year where the matching occurred. Two approaches were used to evaluate covariate balance (Stuart, 2010): In a graphical evaluation, the distributions of the covariates and of the propensity score itself were compared visually between the two groups (see Figure S1 of the Online Supplemental Materials). Very few covariates showed noticeable differences in their distributions after the matching, and the distribution of the propensity score itself did not indicate missing overlap. In a statistical evaluation, the standardized difference in means for the covariates and for the propensity score itself was assessed before and after conducting the matching (see Table S3). This measure is recommended to be below .25 (Stuart, 2010), which was the case for all covariates

except survey year. Overall, covariate balance achieved by the two-stage matching approach was satisfactory.

Longitudinally, we included in the parents' total sample three person-year observations before first childbirth and five afterwards. The childless control respondents also provided up to eight person-year observations each. Thus, the matching was performed in the second included year (assuming complete longitudinal data) for both parents and controls, and parents experienced childbirth at some point between the third and fourth included year. Parents were matched in the second survey year before birth was reported. This study analyzed unbalanced panel data where not every respondent provided all eight person-year observations. The total sample contained 3,371 parents with 19,737 person-year observations and 3,371 controls with 16,016 person-year observations (see Figure 1).[6]

The total sample was randomly split into three parts. 25% were used for exploratory analyses to support preregistration. A 50% Main Holdout Sample was used for confirmatory analyses to test the preregistered hypotheses. A 25% Second Holdout Sample set aside for our research team, or potentially other teams, to test future hypotheses that emerged from this or future studies using uncontaminated data.[3] This feature is an innovation that was supported by the relatively large sample size we had available for analysis. For a detailed overview on sample sizes of the specific domains in the Main Holdout Sample, see Table 1.

Measures

The ten outcome variables were each measured with a single item using an 11-point Likert scale. The question for satisfaction in specific domains always appeared at the start of the questionnaire (usually the first question) and asked: "How satisfied are you today with the following areas of your life? Please answer on a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied." This stem was followed by a list of all satisfaction domains. The question for general life satisfaction always appeared at the end of the questionnaire (usually the last question) and asked: "In conclusion, we would like

Table 1

Sample Sizes Over Time in the Main Holdout Sample

	Time point (childbirth between *time 2* and *time 3*)								
Domain	0	1	2	3	4	5	6	7	Total
Life satisfaction									
Observations for parents	1,415	1,684	1,629	1,684	1,290	871	690	633	9,896
% female parents	0.54	0.55	0.54	0.55	0.54	0.54	0.55	0.54	0.54
Observations for controls	1,271	1,678	1,220	998	850	747	637	561	7,962
% female controls	0.54	0.55	0.52	0.51	0.49	0.49	0.46	0.43	0.51
Satisfaction with family life									
Observations for parents	323	453	534	636	505	346	288	292	3,377
% female parents	0.57	0.55	0.54	0.55	0.54	0.55	0.55	0.54	0.55
Observations for controls	413	640	485	386	331	299	262	251	3,067
% female controls	0.52	0.49	0.46	0.49	0.47	0.48	0.47	0.47	0.48
Satisfaction with health									
Observations for parents	1,416	1,684	1,630	1,685	1,293	871	689	634	9,902
% female parents	0.54	0.55	0.54	0.55	0.54	0.54	0.55	0.54	0.54
Observations for controls	1,250	1,651	1,218	1000	853	746	636	561	7,915
% female controls	0.55	0.55	0.51	0.51	0.49	0.48	0.45	0.43	0.51
Satisfaction with sleep									
Observations for parents	243	356	414	489	379	250	223	221	2,575
% female parents	0.59	0.56	0.55	0.55	0.54	0.54	0.55	0.55	0.55
Observations for controls	322	525	402	308	254	224	195	177	2,407
% female controls	0.52	0.5	0.47	0.49	0.47	0.49	0.45	0.43	0.48
Satisfaction with job									
Observations for parents	1,232	1,472	1,380	958	887	673	561	531	7,694
% female parents	0.53	0.53	0.5	0.27	0.38	0.43	0.48	0.49	0.46
Observations for controls	1,038	1,460	1,078	881	768	682	567	501	6,975
% female controls	0.53	0.54	0.51	0.5	0.48	0.48	0.44	0.43	0.5
Satisfaction with housework									
Observations for parents	976	1,167	1,208	1,338	1,035	689	539	487	7,439
% female parents	0.59	0.6	0.6	0.64	0.62	0.61	0.61	0.61	0.61
Observations for controls	845	1,177	861	700	603	526	457	394	5,563
% female controls	0.59	0.58	0.53	0.54	0.54	0.53	0.49	0.46	0.54
Satisfaction w. household inc.									
Observations for parents	1,390	1,657	1,623	1,676	1,288	871	686	632	9,823
% female parents	0.54	0.55	0.54	0.55	0.54	0.54	0.55	0.54	0.54
Observations for controls	1,224	1,629	1,196	986	842	738	633	556	7,804

% female controls	0.54	0.55	0.51	0.51	0.49	0.48	0.45	0.43	0.51
Satisfaction w. personal inc.									
Observations for parents	435	597	676	755	587	427	358	351	4,186
% female parents	0.55	0.55	0.54	0.54	0.52	0.52	0.51	0.5	0.53
Observations for controls	528	809	602	481	422	391	343	307	3,883
% female controls	0.5	0.49	0.47	0.49	0.48	0.5	0.48	0.46	0.49
Satisfaction with leisure									
Observations for parents	1,399	1,645	1,626	1,679	1,291	872	687	634	9,833
% female parents	0.54	0.55	0.54	0.55	0.54	0.54	0.55	0.54	0.54
Observations for controls	1,230	1,607	1,213	995	853	746	637	561	7,842
% female controls	0.55	0.55	0.51	0.51	0.49	0.48	0.46	0.43	0.51
Satisfaction with dwelling									
Observations for parents	1,396	1,664	1,621	1,674	1,290	870	688	634	9,837
% female parents	0.54	0.55	0.54	0.55	0.54	0.54	0.55	0.54	0.54
Observations for controls	1,241	1,639	1,203	996	852	746	636	560	7,873
% female controls	0.54	0.55	0.51	0.51	0.49	0.48	0.46	0.43	0.51

Note. See Participant flowchart (Figure 1) for an overview on how the analyses samples shown here were defined. w. = with; inc. = income. Seven of the ten outcome measures have been implemented in the SOEP from the start (in 1984), three measures have been added in later years: satisfaction with personal income in 2004, satisfaction with family life in 2006, and satisfaction with sleep in 2008. This resulted in smaller sample sizes for these three measures. Furthermore, the measures for satisfaction with job and satisfaction with housework were only asked if they applied, i.e. if the respondent was currently employed or a homemaker, respectively. The measure for satisfaction with housework was not administered in 1991 and 1992.

to ask you about your satisfaction with your life in general. Please answer on a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied. How satisfied are you with your life, all things considered?”.[7] The quality of such single-item measures has been reported elsewhere (Cheung & Lucas, 2014; Lucas & Donnellan, 2012).

Analytical Strategy

The longitudinal panel design we employed is referred to by Shadish, Cook, and Campbell (2002, p. 182) as an interrupted time-series with a “nonequivalent no-treatment control group”. However, the treatment in our study, first childbirth, is not deliberately manipulated. The design can also be characterized as a short comparative interrupted time-series, because we analyzed three time points before childbirth and five time points afterwards in the parents and eight time points in the matched childless controls. Because we modeled all

effects of first childbirth as deviations from patterns in the matched comparison sample, our design also guards against confounding by way of instrumentation effects, which can occur with repeated measures in panel studies (Baird et al., 2010).

We used longitudinal multilevel modeling with three piecewise regression coefficients to model changes in satisfaction over time in relation to childbirth (Hoffman, 2015): a before-slope representing linear change in the three years before first childbirth was reported, an after-slope representing linear change in the five years after birth, and a jump coefficient shifting the intercept before and after childbirth, thus representing any immediate changes that go beyond changes already modeled by the after-slope. Piecewise growth-curve models using coefficients specified in a similar fashion have been employed previously to study relationship satisfaction during the transition to parenthood (Doss, Rhoades, Stanley, & Markman, 2009), self-esteem and retirement (Bleidorn & Schwaba, 2018), and life satisfaction and divorce (van Scheppingen & Leopold, 2019). The three coefficients were interacted with a binary treatment variable (parent vs. control) in the basic model and with the treatment variable and a binary gender variable in the full model (resulting in three-way interactions). Thus, two multilevel models were estimated for each of the ten outcomes. Person-year observations were nested within respondents. In each of the full models, we tested gender interactions by comparing regression coefficients of mothers and fathers, and also tested if fathers differed from male controls and mothers from female controls. All regression models were adjusted for the propensity score (Austin, 2014) which was included as a level-2 covariate (but not interacting with any of the slopes). All models were estimated with a random intercept but no random slopes. See Figure S2 for the model equation and an illustration of the coding process of the piecewise coefficients.

Dataset compilation and matching were performed using Stata (Version 15.1; StataCorp, 2017). Analyses were performed in the R environment (Version 3.6.1; R Core Team, 2019). Additional details concerning software and modeling approaches are included

in the online supplemental materials. The same analytical strategy was applied to the analysis of both random subsamples, i.e. the 25% Exploratory Sample and the 50% Main Holdout sample. However, we did not use measures of inference, e.g. *p*-values, in any exploratory analyses (Weston et al., 2019). Analyses of the two subsamples are each reported in a separate subsection in the Results section.

Results

Results based on the Exploratory Sample

First, we report results based on exploratory analyses of a 25% random subsample of the total sample, which we used to inform our preregistered hypotheses. Trajectories of life satisfaction and satisfaction with the nine specific domains can be seen in Fig. S3 (basic models) and in Fig. S4 (full models). The fixed-effects parameters for each model can be found in Tables S4-S13. We report unstandardized effect sizes (Pek & Flora, 2018) based on $\hat{\gamma}$-parameters (see Figure S2), interpretable on the 11-point scale described earlier. Results of confirmatory analyses of the Main Holdout Sample follow in a separate subsection.

Life Satisfaction (see Table S4, Figure S3, & Figure S4)

As compared to the slight decline in life satisfaction experienced by matched childless respondents throughout our observation period ($\hat{\gamma}_{10}$ = -0.09, 95% CI [-0.16, -0.02]; $\hat{\gamma}_{20}$ = -0.07, 95% CI [-0.11, -0.03]), our exploratory analysis showed parents' average life satisfaction to increase leading up to the transition to parenthood, $\hat{\gamma}_{11}$ = 0.20, 95% CI [0.10, 0.29]. Afterwards, though, parents' life satisfaction also decreased to a greater extent than that of the childless respondents, $\hat{\gamma}_{21}$ = -0.07, 95% CI [-0.12, -0.02]. The full model that includes the gender interaction shows that mothers' postpartum decline was steeper than fathers' (difference in *slope2* parameter: [$\hat{\gamma}_{22} + \hat{\gamma}_{23}$] = -0.08, 95% CI [-0.15, -0.01]). In comparing fathers with childless men and mothers with childless women, fathers differed from childless men in their pre-birth increase, $\hat{\gamma}_{11}$ = 0.26, 95% CI [0.12, 0.39]. Mothers, however, differed from childless women in both their rate of change before birth (difference in *slope1*

parameter: [$\hat{\gamma}_{11} + \hat{\gamma}_{13}$] = 0.15, 95% CI [0.02, 0.27]) and postpartum (difference in *slope2* parameter: [$\hat{\gamma}_{21} + \hat{\gamma}_{23}$] = -0.10, 95% CI [-0.18, -0.03]). At the end of our observation period, these differences had vanished (*M* = 6.94 for mothers; *M* = 7.05 for fathers; *M* = 6.96 for female controls; *M* = 6.83 for male controls; see Table S14).

Satisfaction with Family Life (see Table S5, Figure S3, & Figure S4)

For parents' satisfaction with family life our exploratory analysis revealed an increase in the three years leading up to birth compared to the matched controls, $\hat{\gamma}_{11}$ = 0.29, 95% CI [0.10, 0.49]. Postpartum, there was slight evidence for a decrease compared to childless respondents, $\hat{\gamma}_{21}$ = -0.06, 95% CI [-0.16, 0.04]. In the full model, both fathers, $\hat{\gamma}_{11}$ = 0.37, 95% CI [0.08, 0.67], and mothers (difference in *slope1* parameter: [$\hat{\gamma}_{11} + \hat{\gamma}_{13}$] = 0.23, 95% CI [-0.02, 0.49]) deviated from childless counterparts with respect to the positive change before birth. At the last time point, fathers had substantially higher satisfaction with family life than matched childless men (*M* = 8.18 vs. *M* = 7.04), whereas mothers' satisfaction was similar to that of the matched childless women (*M* = 8.05 vs. *M* = 7.64; see Table S14).

Satisfaction with Health (see Table S6, Figure S3, & Figure S4)

Our exploratory analysis indicated that parents' satisfaction with health was slightly shielded in the three years before birth, $\hat{\gamma}_{11}$ = 0.14, 95% CI [0.03, 0.25], from the gradual decrease of the matched controls ($\hat{\gamma}_{10}$ = -0.14, 95% CI [-0.22, -0.07]; $\hat{\gamma}_{20}$ = -0.10, 95% CI [-0.15, -0.05]). Mothers experienced a slightly more rapid postpartum decline than fathers (difference in *slope2* parameter: [$\hat{\gamma}_{22} + \hat{\gamma}_{23}$] = -0.09, 95% CI [-0.17, 0]). Furthermore, only mothers differed in their pre-birth slope from female controls (difference in *slope1* parameter: [$\hat{\gamma}_{11} + \hat{\gamma}_{13}$] = 0.17, 95% CI [0.03, 0.31]), whereas fathers did not differ from male controls. No differences in satisfaction with health were found in the four groups at the end of the observation period (*M* = 7.06 for mothers; *M* = 7.36 for fathers; *M* = 6.99 for female controls; *M* = 6.85 for male controls; see Table S14).

Satisfaction with Sleep (see Table S7, Figure S3, & Figure S4)

As compared to the childless respondents, parents experienced a decrease in their satisfaction with sleep in the years before childbirth, $\hat{\gamma}_{11}$ = -0.26, 95% CI [-0.49, -0.03], and a sudden drop afterwards (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.82, 95% CI [-1.18, -0.45]). In the postpartum period, parents saw their satisfaction with sleep recover compared to the childless matches, $\hat{\gamma}_{21}$ = 0.27, 95% CI [0.14, 0.39]. Evaluating the full model, we found tentative evidence for a gender interaction, with a more downward shift for mothers than fathers (difference in *jump* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -0.34, 95% CI [-0.83, 0.15]), as well as mothers recovering more quickly postpartum (difference in *slope2* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{23}]$ = 0.10, 95% CI [-0.07, 0.27]). When compared to the female matches, there were changes in mothers' trajectory pre-birth (difference in *slope1* parameter: $[\hat{\gamma}_{11} + \hat{\gamma}_{13}]$ = -0.25, 95% CI [-0.55, 0.05]), right after birth (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -1.12, 95% CI [-1.61, -0.62]), as well as in the postpartum period (difference in *slope2* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{23}]$ = 0.36, 95% CI [0.19, 0.53]). For fathers, differences in comparison with the male matches were not as pronounced ($\hat{\gamma}_{11}$ = -0.27, 95% CI [-0.62, 0.07]; difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.43, 95% CI [-0.96, 0.11]; $\hat{\gamma}_{21}$ = 0.14, 95% CI [-0.05, 0.33]). At the last included time point, we found that the four groups reached similar levels of satisfaction with sleep (*M* = 7.08 for mothers; *M* = 7.51 for fathers; *M* = 6.87 for female controls; *M* = 7.00 for male controls; see Table S14).

Satisfaction with Job (see Table S8, Figure S3, & Figure S4)

No differences between parents and controls were detected in exploratory analyses. Mothers and fathers did not differ from each other, nor from their matched controls. At the end of our observation period, no group mean differences were found (*M* = 6.90 for mothers; *M* = 6.86 for fathers; *M* = 6.58 for female controls; *M* = 6.85 for male controls; see Table S14).

Satisfaction with Housework (see Table S9, Figure S3, & Figure S4)

Trajectories of the parents and controls were similar in our Exploratory Sample. We did not find meaningful differences between mothers and fathers, nor in the comparison of mothers with female controls and of fathers with male controls. At the end of our observation period, group differences were negligible (*M* = 6.86 for mothers; *M* = 6.67 for fathers; *M* = 6.65 for female controls; *M* = 6.48 for male controls; see Table S14).

Satisfaction with Household Income (see Table S10, Figure S3, & Figure S4)

For satisfaction with household income, the Exploratory Sample showed that—in comparison with the childless controls—parents made gains in the pre-birth period, $\hat{\gamma}_{11}$ = 0.15, 95% CI [0.02, 0.27], but experienced a sudden downward shift after birth (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.36, 95% CI [-0.57, -0.15]). There was no evidence of gender interactions, only a minor difference in the postpartum rate of change between mothers and fathers (difference in *slope2* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{23}]$ = -0.10, 95% CI [-0.20, -0.01]). No differences remained at the end of the observation period (*M* = 6.13 for mothers; *M* = 6.51 for fathers; *M* = 6.53 for female controls; *M* = 6.14 for male controls; see Table S14).

Satisfaction with Personal Income (see Table S11, Figure S3, & Figure S4)

A different exploratory picture emerged for satisfaction with personal income. Overall, we found evidence of a sudden drop in parents' satisfaction with personal income (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.64, 95% CI [-1.01, -0.28]) and tentative evidence for postpartum recovery, $\hat{\gamma}_{21}$ = 0.09, 95% CI [-0.03, 0.21]. In the full model, however, mothers differed from fathers in all three parameters of change: They saw their satisfaction with personal income decline in the three years leading up to birth as compared to fathers (difference in *slope1* parameter: $[\hat{\gamma}_{12} + \hat{\gamma}_{13}]$ = -0.23, 95% CI [-0.55, 0.08]), experienced a more drastic drop right after childbirth (difference in *jump* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -0.92, 95% CI [-1.40, -0.44]), and recovered more quickly postpartum (difference in *slope2* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{23}]$ = 0.09, 95% CI [-0.07, 0.25]). Whereas fathers' trajectory was almost identical to that of the matched childless men, mothers' trajectory

differed from that of the childless women (difference in *jump* parameter: [$\hat{\gamma}_{21} + \hat{\gamma}_{31} + \hat{\gamma}_{23} + \hat{\gamma}_{33}$] = -1.23, 95% CI [-1.73, -0.74]; difference in *slope2* parameter: [$\hat{\gamma}_{21} + \hat{\gamma}_{23}$] = 0.14, 95% CI [-0.02, 0.31]). At the end of our observation period, these differences were not pronounced anymore in comparison with the matched controls and reduced in the direct comparison of fathers and mothers (*M* = 5.47 for mothers; *M* = 6.42 for fathers; *M* = 6.07 for female controls; *M* = 6.07 for male controls; see Table S14).

Satisfaction with Leisure (see Table S12, Figure S3, & Figure S4)

As compared to the matched childless respondents, parents experienced a sudden drop in their satisfaction with leisure (difference in *jump* parameter: [$\hat{\gamma}_{21} + \hat{\gamma}_{31}$] = -0.48, 95% CI [-0.71, -0.25]). Analysis of the full model revealed that this is due to future mothers' increases in satisfaction with leisure before childbirth as compared to fathers (difference in *slope1* parameter: [$\hat{\gamma}_{12} + \hat{\gamma}_{13}$] = 0.25, 95% CI [0.07, 0.43]), followed by a rapid decline in the year directly postpartum (difference in *jump* parameter: [$\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}$] = -0.47, 95% CI [-0.76, -0.17]). In comparing mothers to female controls and fathers to male controls, the aforementioned effects only occurred for mothers (difference in *slope1* parameter: [$\hat{\gamma}_{12} + \hat{\gamma}_{13}$] = 0.16, 95% CI [-0.02, 0.33]); difference in *jump* parameter: [$\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}$] = -0.69, 95% CI [-1.01, -0.38]). Mean group differences at the last included time point were small (*M* = 6.40 for mothers; *M* = 6.22 for fathers; *M* = 6.72 for female controls; *M* = 6.40 for male controls; see Table S14).

Satisfaction with Dwelling (see Table S13, Figure S3, & Figure S4)

Parents did not deviate from matched childless respondents in satisfaction with dwelling. In the full model, we found that mothers experienced a sudden shift in satisfaction with dwelling right after birth compared to childless women (difference in *jump* parameter: [$\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}$] = -0.35, 95% CI [-0.65, -0.05]). Mothers did not differ from female matches at the end of our observation period (*M* = 7.49 for mothers; *M* = 7.50 for female controls; see Table S14), but there was preliminary evidence for a meaningful difference

between fathers and male matches in satisfaction with dwelling (*M* = 7.81 for fathers; *M* = 7.16 for male controls; see Table S14).

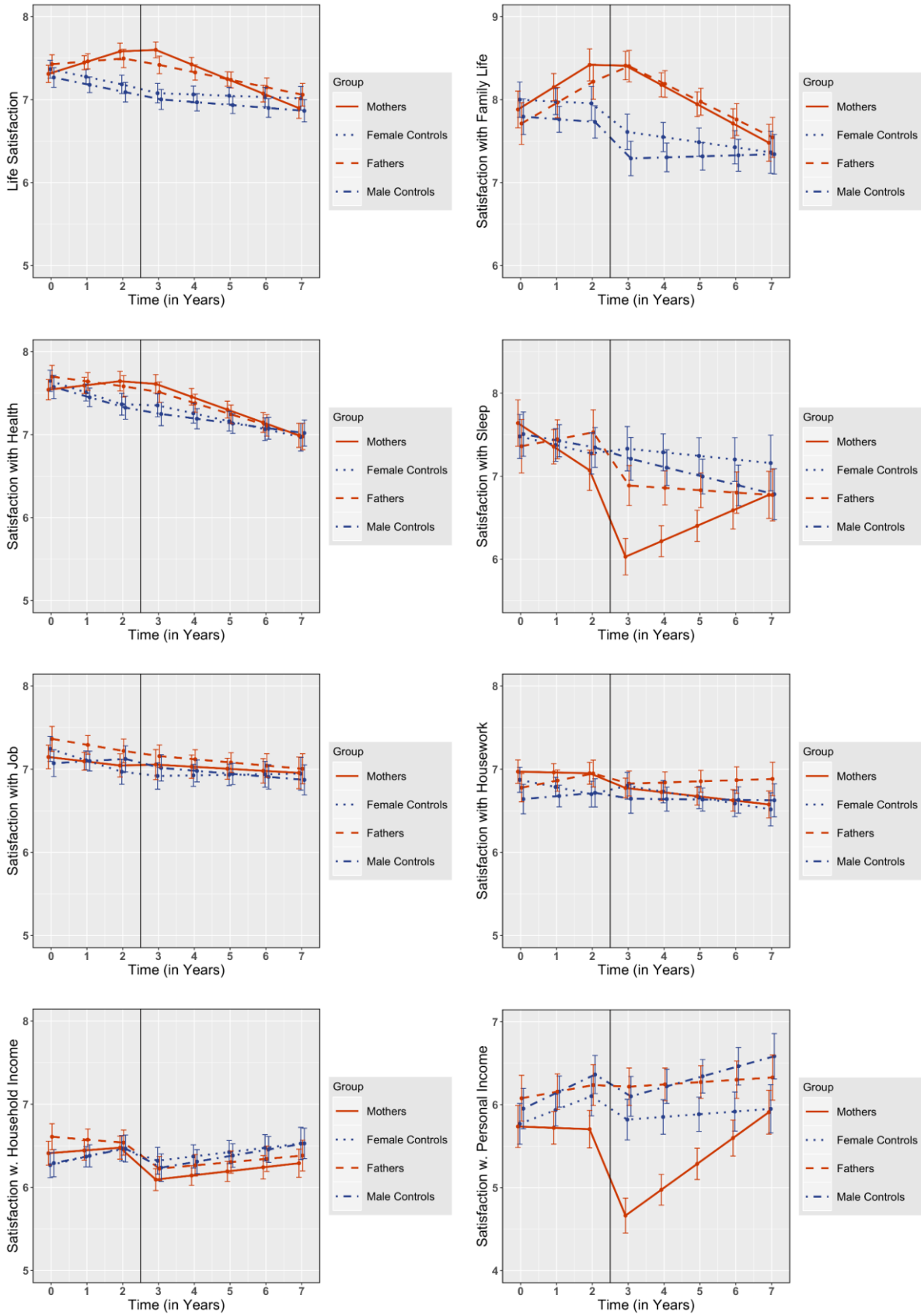
Results based on the Main Holdout Sample

Next, we report trajectories of satisfaction with life and across the nine specific domains in the Main Holdout Sample (a random 50% of the total sample). For each domain, we first report confirmatory results based on the basic model, and second—if gender differences surface—confirmatory results based on the full model. We use unstandardized effect sizes (Pek & Flora, 2018) based on $\hat{\gamma}$-parameters (see Figure S2) that should be interpreted on the 11-point scale described earlier. The fixed-effects coefficients for each model can be found in Table 2 for satisfaction with family life, and in Tables S15–S23 for the remaining outcomes. To address issues of reproducibility and of high false-positive rates when testing multiple hypotheses, we adopt a p = .005 alpha level for all significance tests, following Benjamin et al. (2017).[8] We visualized the confirmatory results using two figures: Figure S5 consists of ten graphs displaying the trajectories of life satisfaction and satisfaction with nine specific domains in the parents and the matched childless respondents based on the basic models. The graphs in Figure 2 are based on the full models and incorporate the gender interaction. They each display the predicted trajectories of four groups, namely mothers, fathers, matched female childless respondents, and matched male childless respondents.

Life Satisfaction

Compared to respondents in the childless control group, parents experienced a rise in life satisfaction before birth, $\hat{\gamma}_{11}$ = 0.18, 95% CI [0.11, 0.25], p < .001, and a decline over the five years postpartum, $\hat{\gamma}_{21}$ = -0.11, 95% CI [-0.15, -0.07], p < .001 (see Table S15). The controls experienced a slight decline in the first three years of the observation period, $\hat{\gamma}_{10}$= -0.09, 95% CI [-0.14, -0.04], p <.001. As hypothesized, we found a gender interaction with mothers' postpartum decline in life satisfaction being steeper than that of fathers (difference in *slope2* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{23}]$ = -0.09, 95% CI [-0.14, -0.03], p = .001), and no lasting

Main Holdout Sample (50% of the Total Sample)



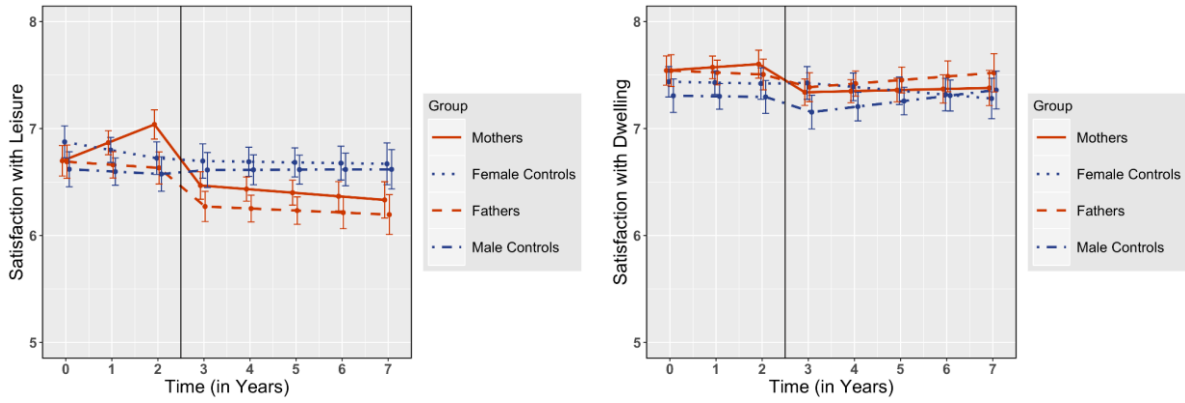


Figure 2. Trajectories of life satisfaction and satisfaction in nine specific domains for parents and matched childless controls in the Main Holdout Sample (50% of the Total Sample). These are based on the full models that include the gender interactions. The error bars are 95% confidence intervals of the predicted values for each subgroup. Being multilevel models, these only account for the fixed-effects portion of the model. The approximate time of birth is indicated by a vertical line.

group differences at the end of our observation period. Mothers differed from female controls in both their pre-birth change trajectory (difference in *slope1* parameter: $[\hat{\gamma}_{11} + \hat{\gamma}_{13}]$ = 0.23, 95% CI [0.14, 0.32], p < .001) and in postpartum change, (difference in *slope2* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{23}]$ = -0.16, 95% CI [-0.21, -0.11], p < .001), whereas fathers' average trajectory did not differ from that of the male controls.

Satisfaction with Family Life

Satisfaction with family life showed a similar pattern to life satisfaction: an increase before birth in parents, $\hat{\gamma}_{11}$ = 0.29, 95% CI [0.15, 0.42], p < .001, and a decrease postpartum, $\hat{\gamma}_{21}$ = -0.20, 95% CI [-0.27, -0.13], p < .001 (see Table 2). Although parents' satisfaction with family life increased between the two years before and after birth was reported, a sudden decline was seen in the corresponding years in the childless controls (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = 0.47, 95% CI [0.26, 0.69], p < .001). In contrast to our hypotheses, the trajectories of satisfaction with family life were not moderated by gender and there were no significant differences between parents and controls at the end of our observation period. Fathers had a significantly different trajectory from male controls (difference in *slope1* parameter: $\hat{\gamma}_{11}$ = 0.28, 95% CI [0.09, 0.48], p = .005; difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = 0.63, 95% CI [0.32, 0.94], p < .001; difference in *slope2* parameter: $\hat{\gamma}_{21}$ = -0.23, 95%

Table 2

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Family Life in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	*t*-value	*p*-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	7.72	7.53	7.9	0.093	4670	82.755	< 0.001
Propensity Score, $\hat{\gamma}_{02}$	4.2	2.05	6.35	1.097	1765	3.829	< 0.001
slope1, $\hat{\gamma}_{10}$	-0.03	-0.12	0.07	0.049	4670	-0.605	0.545
slope2, $\hat{\gamma}_{20}$	-0.02	-0.08	0.03	0.028	4670	-0.784	0.433
jump, $\hat{\gamma}_{30}$	-0.37	-0.57	-0.17	0.101	4670	-3.661	< 0.001
parent, $\hat{\gamma}_{01}$	-0.1	-0.32	0.13	0.115	1765	-0.869	0.385
slope1:parent, $\hat{\gamma}_{11}$	0.29	0.15	0.42	0.069	4670	4.183	< 0.001
slope2:parent, $\hat{\gamma}_{21}$	-0.2	-0.27	-0.13	0.037	4670	-5.416	< 0.001
jump:parent, $\hat{\gamma}_{31}$	0.67	0.42	0.93	0.132	4670	5.102	< 0.001
Full Model							
Intercept, $\hat{\gamma}_{00}$	7.6	7.36	7.84	0.123	4664	61.831	< 0.001
Propensity Score, $\hat{\gamma}_{04}$	4.43	2.28	6.59	1.1	1763	4.032	< 0.001
slope1, $\hat{\gamma}_{10}$	-0.03	-0.17	0.1	0.068	4664	-0.468	0.64
slope2, $\hat{\gamma}_{20}$	0.01	-0.06	0.09	0.038	4664	0.326	0.744
jump, $\hat{\gamma}_{30}$	-0.45	-0.72	-0.18	0.14	4664	-3.233	0.001
parent, $\hat{\gamma}_{01}$	-0.1	-0.43	0.23	0.168	1763	-0.581	0.561
female, $\hat{\gamma}_{02}$	0.22	-0.08	0.52	0.154	1763	1.415	0.157
slope1:parent, $\hat{\gamma}_{11}$	0.28	0.09	0.48	0.101	4664	2.828	0.005
slope2:parent, $\hat{\gamma}_{21}$	-0.23	-0.33	-0.12	0.053	4664	-4.3	< 0.001
jump:parent, $\hat{\gamma}_{31}$	0.85	0.48	1.22	0.189	4664	4.527	< 0.001
slope1:female, $\hat{\gamma}_{12}$	0.01	-0.18	0.2	0.097	4664	0.1	0.92
slope2:female, $\hat{\gamma}_{22}$	-0.07	-0.18	0.04	0.056	4664	-1.32	0.187
jump:female, $\hat{\gamma}_{32}$	0.17	-0.23	0.56	0.202	4664	0.835	0.404
parent:female, $\hat{\gamma}_{03}$	-0.03	-0.48	0.43	0.23	1763	-0.11	0.912
slope1:parent:female, $\hat{\gamma}_{13}$	0.01	-0.27	0.28	0.139	4664	0.049	0.961
slope2:parent:female, $\hat{\gamma}_{23}$	0.06	-0.09	0.2	0.075	4664	0.755	0.45
jump:parent:female, $\hat{\gamma}_{33}$	-0.35	-0.87	0.17	0.265	4664	-1.312	0.19

Note. Number of Respondents = 1,768; Number of Observations = 6,444. See Tables S15–S23 in the Online Supplemental Material for fixed-effects tables of the remaining outcomes.

CI [-0.33, -0.12], $p < .001$). Mothers also differed from female controls in their rate of change before birth (difference in *slope1* parameter: $[\hat{\gamma}_{11} + \hat{\gamma}_{13}] = 0.29$, 95% CI [0.10, 0.48], $p =$

.002) and postpartum (difference in *slope2* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{23}]$ = -0.17, 95% CI [-0.27, -0.07], p = .001).

Satisfaction with Health

Childless respondents declined slightly in satisfaction with health during the observation period, $\hat{\gamma}_{10}$ = -0.13, 95% CI [-0.19, -0.08], p < .001, $\hat{\gamma}_{20}$ = -0.08, 95% CI [-0.11, -0.04], p < .001 (see Table S16). As predicted, parents were somewhat shielded from this decline in the three years leading up to birth, $\hat{\gamma}_{11}$ = 0.13, 95% CI [0.06, 0.21], p = .001. However, they saw their satisfaction with health decline even steeper postpartum, $\hat{\gamma}_{21}$ = -0.07, 95% CI [-0.11, -0.03], p = .002. In contrast to hypothesis 2b) no group differences remained at the end of the observation period. A moderation of the effects through gender were not observed, contrary to our hypothesis. However, although mothers had a significantly steeper increase in the years before birth than female controls (difference in *slope1* parameter: $[\hat{\gamma}_{11} + \hat{\gamma}_{13}]$ = 0.19, 95% CI [0.09, 0.30], p < .001) no differences were found in the comparison of fathers and male controls.

Satisfaction with Sleep

We found a substantial drop in parents' satisfaction with sleep immediately after birth (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.82, 95% CI [-1.09, -0.55], p < .001). Postpartum, parents' satisfaction with sleep recovered, deviating from the slope of the controls, $\hat{\gamma}_{21}$ = 0.17, 95% CI [0.07, 0.26], p = .001 (see Table S17). As hypothesized, there were no differences between parents and controls at the end of the observation period; parents made up their sleep satisfaction losses five years after birth. Gender interactions were identified: Although mothers' satisfaction with sleep was already in decline in the three years before birth was reported, fathers' satisfaction with sleep was found to increase during that period (difference in *slope1* parameter: $[\hat{\gamma}_{12} + \hat{\gamma}_{13}]$ = -0.37, 95% CI [-0.61, -0.13], p = .003). In the five years after birth, mothers' satisfaction with sleep increased again whereas that of fathers stagnated (difference in *slope2* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{23}]$ = 0.22, 95% CI [0.09, 0.34], p <

.001). Slight differences between mothers and fathers could also be observed in the sudden downward shift after birth was reported (difference in *jump* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -0.40, 95% CI [-0.76, -0.04], p = .027). Furthermore, in comparison with female controls, we found mothers' sudden postpartum decrease in their satisfaction with sleep to be significantly large (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -1.10, 95% CI [-1.48, -0.72], p < .001), and observed increases to their satisfaction with sleep in the postpartum period (difference in *slope2* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{23}]$ = 0.23, 95% CI [0.10, 0.36], p < .001). For fathers, no such effects in comparison with the male controls surfaced.

Satisfaction with Household Income

Parents' satisfaction with household income mostly matched that of the controls over the course of our observation period (see Table S18). However, five years after birth, mothers' satisfaction with household income was significantly lower than that of female controls (M = 5.98 vs. M = 6.53), t(540.96) = 2.85, d = 0.23, 95% CI [0.07, 0.40], p = .005. This deviated from our preregistered hypothesis.

Satisfaction with Personal Income

For satisfaction with personal income, we found pronounced gender differences in the trajectories of parents in line with our preregistered hypotheses (see Table S19): Mothers experienced a sudden postpartum drop that was substantially large compared to fathers (difference in *jump* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{32} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -1.02, 95% CI [-1.33, -0.71], p < .001). Mothers' postpartum satisfaction with personal income increased more rapidly than that of fathers (difference in *slope2* parameter: $[\hat{\gamma}_{22} + \hat{\gamma}_{23}]$ = 0.28, 95% CI [0.18, 0.39], p < .001), who experienced no such earlier decline. Compared to female controls, mothers experienced a sudden decrease after childbirth (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -0.76, 95% CI [-1.09, -0.43], p < .001), and recovery during the postpartum period (difference in *slope2* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{23}]$ = 0.28, 95% CI [0.17, 0.39], p < .001). Fathers did not differ from childless men in their satisfaction with personal income.

No significant group differences in satisfaction with personal income remained at the end of the observation period.

Satisfaction with Leisure

Parents' satisfaction with leisure sank directly after birth as compared to the control respondents (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.48, 95% CI [-0.64, -0.32], p < .001; see Table S20). As hypothesized, gender differences between mothers and fathers indicated that only mothers experienced an increase in satisfaction with leisure in the three years before birth was reported (difference in *slope1* parameter: $[\hat{\gamma}_{12} + \hat{\gamma}_{13}]$ = 0.20, 95% CI [0.08, 0.32], p = .001). Mothers' satisfaction with leisure increased in the pre-birth period as compared to female controls (difference in *slope1* parameter: $[\hat{\gamma}_{11} + \hat{\gamma}_{13}]$ = 0.25, 95% CI [0.12, 0.37], p < .001) and decreased suddenly after childbirth (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31} + \hat{\gamma}_{23} + \hat{\gamma}_{33}]$ = -0.54, 95% CI [-0.77, -0.32], p < .001). However, as compared to childless men, fathers only saw their satisfaction drop right after birth (difference in *jump* parameter: $[\hat{\gamma}_{21} + \hat{\gamma}_{31}]$ = -0.40, 95% CI [-0.63, -0.17], p < .001). At the end of the observation period, no significant group differences remained.

Satisfaction with Job, Satisfaction with Housework, and Satisfaction with Dwelling

Lastly, in agreement with our hypotheses, parents were not found to deviate from the childless control respondents in their trajectories of satisfaction with their job, with housework, and with dwelling (see Table S21, Table S22, & Table S23). These domains were not moderated by gender and no group differences at the end of the observation period remained. For fathers' satisfaction with dwelling this was in contrast to our hypotheses.

Discussion

Based on past literature, set-point theory, and empirical results from a 25% Exploratory Sample, we developed empirical responses to two research questions. First, primiparous parents diverge from a matched nonparent sample on both general life satisfaction and several specific satisfaction domains. Empirical results from the 50% Main Holdout Sample

predominantly matched our predictions. Parents' domain satisfaction trajectories demonstrate substantial heterogeneity. The second hypothesis, motivated by set-point theory, posited a return toward (or to) baseline for life satisfaction and most specific domains. This hypothesis also found substantial empirical support. Our evaluation of gender interactions expands past research that showed only minor gender interactions (e.g., Dyrdal & Lucas, 2013). This result is in line with Giesselmann, Schunck, and Hagen (2018) who demonstrated losses in first-time mothers' mental well-being. Furthermore, our results extend research that found effects following childbirth of relationship satisfaction (a domain not included in the SOEP). This domain has been shown to decline over the transition to parenthood (Don & Mickelson, 2014; Doss et al., 2009) deviating from the trajectory of life satisfaction, as do several of the domains studied here.

In our study, mothers and fathers experienced increased satisfaction with family life around first childbirth. This finding is in line with reports by Zimmermann and Easterlin (2006). Similar to life satisfaction, gains compared to the childless controls vanished by the fifth year postpartum. An explanation for the observed similarity of these two trajectories is that family life is a salient component in the bottom-up processes linking specific domains and general life satisfaction in the context of becoming a parent (Schimmack, 2008). First-time parents might give extra weight to their perception of family life functioning and happiness when evaluating their general life satisfaction during pregnancy and in the first few years postpartum, because the family-forming event of first childbirth constitutes such an omnipresent change to daily routines, role demands, and outlook on life at that time (Belsky & Pensky, 1988; Johnson & Rodgers, 2006). In contrast to life satisfaction, preliminary evidence[9] shows that mothers and fathers experienced the transient positive changes to satisfaction with family life to equal extents when compared to their childless matches.

Studying satisfaction within domains provides substantial nuance compared to overall satisfaction. For example, drastic decreases in two specific domains of satisfaction that first-

time mothers suffered will be overlooked when analyzing life satisfaction. First, satisfaction with sleep diminished in parents after the birth of their first child. For mothers, these effects occurred before birth and were more detrimental postpartum compared to fathers. If compared to the matched childless men, preliminary evidence[9] suggests that fathers' satisfaction with sleep was not greatly affected by first childbirth. The detrimental effect of childbirth on mothers' sleep has been described before (Dørheim, Bondevik, Eberhard-Gran, & Bjorvatn, 2009; Sivertsen et al., 2015). In contrast to previous studies on parents' sleep, we did not find effects of first childbirth on parents' satisfaction with sleep lasting more than five years, and only minor decreases in fathers' satisfaction with sleep (cf. Richter et al., 2019).[10] Previous research gives empirical support for a decline in prospective mothers' sleep satisfaction during pregnancy (Facco, Kramer, Ho, Zee, & Grobman, 2010; Richter et al., 2019). This decline has been hypothesized to be due to increased restlessness and nocturnal awakenings, especially in the third trimester of pregnancy (Hedman et al., 2002). Pregnant women are also at a high risk of sleep disorders (Pien & Schwab, 2004).

We found even more pronounced gender differences in satisfaction with personal income, where fathers did not experience losses while mothers saw their satisfaction fall abruptly postpartum and recover only at five years postpartum. In addition to maternity leave and maternity benefits in six weeks before and eight weeks after delivery, German parents are entitled to twelve to fourteen months of parental leave benefits where the parent on leave receives around two-thirds of their average monthly wage from the twelve months before childbirth (Cygan-Rehm, Kuehnle, & Riphahn, 2018). Fathers' involvement in childcare increases if they take parental leave (Bünning, 2015; Haas & Hwang, 2008). Although policy changes in Germany in the 2000s have encouraged more fathers to take parental leave, the proportion of time mothers spend in parental leave is still considerably higher (Huebener, Mueller, Spieß, & Wrohlich, 2016; Tamm, 2019). Mothers' labor market re-entry in Germany is often characterized by part-time working hours (Lott, 2018), which we considered in our

choice of matching covariates. We expect research based on data from the United States to show worse effects of childbirth on mothers' satisfaction with their income and their job because labor protections and workers' benefits in the aftermath of childbirth are considerably less employee-friendly (Aitken et al., 2015). This is in part corroborated by results from the UK, where policies are also considered to be less parent-friendly than in Germany, of decreased postpartum satisfaction with job (see Georgellis et al., 2012; as compared to null-results in the German SOEP). Germany's comparatively stronger welfare system may compensate the financial costs of the transition to parenthood to a higher degree. While evidence is not conclusive at this point, we also expect employee-friendly parental leave policies to positively moderate effects of childbirth on maternal satisfaction with health (Chatterji & Markowitz, 2012). Regarding satisfaction with family life, cross-national comparisons emphasized associations with societal attitudes towards gender egalitarianism rather than different types of welfare state regimes (Kornrich & Eger, 2016). Lastly, we would expect our results for satisfaction with sleep to generalize comparatively well to other countries. First, childbirth's effects on sleep are large and therefore generally easier to replicate, and second, one can argue these effects are to a higher degree biologically rooted (Saxbe et al., 2018) and there is little evidence that they are influenced by socio-economic factors (Richter et al., 2019).

We did not find any effects of first childbirth on the three domains satisfaction with job, housework, and dwelling, and only minor effects for satisfaction with leisure and with household income. One caveat for satisfaction with job and with housework is that the corresponding questions were only to be filled out when they applied. For satisfaction with job, a reduction in the percentage of female observations can be seen in the first three postpartum years indicating decreased female employment (see Table 1). These null-results are counter to studies based on panel data from the UK and the German SOEP: Based on curvilinear latent-growth curves, Bernardi et al. (2017) reported lowered satisfaction with job

in German mothers in the years around childbirth, and an increase before birth followed by a decrease afterwards in satisfaction with leisure that was more pronounced for mothers than for fathers. In contrast, Georgellis et al. (2012) found slightly decreased job satisfaction in British parents within five years after the birth of the first child. The fact that we found no effects for housework and only minor effects for leisure is surprising in light of substantially increased domestic workloads especially in mothers (Baxter, Hewitt, & Haynes, 2008; Gjerdingen & Center, 2005), and decreases in leisure time (Claxton & Perry-Jenkins, 2008).

Regarding life satisfaction, previous research was largely replicated (Clark & Georgellis, 2013; Dyrdal & Lucas, 2013). We could only find evidence for a gender interaction in the steepness of the postpartum downward slope, not in parents' overall trajectories (cf. Bernardi et al., 2017; Clark & Georgellis, 2013). The matched childless respondents suffered a slight linear decline in life satisfaction from which parents were shielded. (Note that this is a finding that can be afforded by matched-comparison designs, but that is not identifiable by most other research designs.) Additional analyses[11] indicated that this linear downward trend in the childless respondents is in part due to instrumentation effects (Baird et al., 2010). In a comparison with their respective childless matches, we found preliminary evidence[9] that the positive effect of childbirth only surfaced in mothers (vs. childless women) and not in fathers (vs. childless men). In the long run, though, neither fathers nor mothers made any gains in life satisfaction as compared to their childless peers. This is in line with previous research based on other nationally representative panel studies (Anusic et al., 2014a, 2014b; Yap et al., 2012). Previous studies have reported gender inequalities favoring fathers in general well-being (Balbo & Arpino, 2016; Nelson et al., 2013; Nelson-Coffey et al., 2019) and in the division of domestic responsibilities and leisure (e.g., Kamp Dush et al., 2018; Yavorsky et al., 2015).

Our study offers a more nuanced and complete view on the multidimensional effects that becoming a parent exerts on life satisfaction, which can potentially advance applied

research areas. First, it allows for more exhaustive answers on how to counter dwindling birth rates in industrialized countries where life satisfaction after first childbirth has been shown to predict further parity progression (Luppi, 2016; Margolis & Myrskylä, 2015). Second, understanding different facets of cognitive well-being could be crucial in designing targeted interventions aiming to shield well-being from falling back to baseline after positive events (Lyubomirsky, 2011; Sheldon & Lyubomirsky, 2012).

Concerning childbirth, our analyses of specific satisfaction domains provide support for set-point theory and the hypothesis of hedonic adaptation (Diener et al., 2006). Comparing effects against a matched nonparent group, we found only one long-term persistent loss in one satisfaction domain: Mothers' satisfaction with household income was still slightly smaller than that of female controls at the end of the observation period. This effect was small in size. Extending previous research on life satisfaction after events generally seen as positive episodes, e.g. marriage and childbirth (Clark & Georgellis, 2013; Lucas et al., 2003), we demonstrate that hedonic adaptation occurred almost completely for specific domains of satisfaction in the transition to parenthood. It has to be emphasized that within our comparison design we interpreted set-point theory somewhat differently than most previous research (cf. Anusic et al., 2014b) that did not account for normative changes in subjective well-being. The comparison approach we employed proved effective towards improving causal inference, because it facilitated distinguishing event-related changes from naturally occurring trends in the controls (Shadish et al., 2002), e.g. age-related long-term changes (Fujita & Diener, 2005). It also controlled for instrumentation effects (Baird et al., 2010). We recommend that future studies evaluating set-point theory within different components of subjective well-being and in different life circumstances also incorporate measures for distinguishing these modes of change over the life course. Until then it is too early to pass strong judgement on the status of set-point theory (Headey, 2010).

Presenting for the first time a comprehensive picture of trajectories of specific satisfaction domains during the transition to parenthood, our study has several advantages over previous research. These include causal inference strengthened by the use of a comparison group defined by two-stage matching, and a large population-representative sample. Still, several limitations need to be discussed. We addressed selection effects into parenthood (Parr, 2010) through matching on a large number of covariates. However, non-random panel dropout cannot be ruled out because the SOEP data do not allow us to test this alternative causal pathway empirically. Burdened parents may have a higher probability of leaving the panel with changes in satisfaction possibly occurring after the last assessment. Second, including pre-childbirth outcome measures as propensity score covariates would have been beneficial because they are presumably related to both selection into parenthood and to the later trajectories themselves (Austin, 2011). However, this was not feasible because we would have excluded too many participants due to missing longitudinal data. Third, whereas only a few respondents, who had another child directly subsequent to their first, had to be excluded completely from analyses, longitudinal observations from some parents were dropped in order to avoid overlapping effects of the first and second birth. This feature of our design could be expanded in future research by addressing the question of whether additional children weaken or enhance trajectories of domain satisfaction (Johnson & Rodgers, 2006). Lastly, in selecting nonparent matches we chose the second year before childbirth was reported as the year of matching because it yielded adequate longitudinal sample sizes and guaranteed that the matching covariates were unaffected by pregnancy. However, matching at earlier time points or at other developmental turning points such as the year of cohabitation or marriage is also possible and would lead to final parent and nonparent samples of slightly different composition.

Follow-up studies should use multivariate analyses taking into account both the structural relationships between satisfaction domains and general life satisfaction

(Schimmack, 2008), and the nestedness of the data. For household panel data, longitudinal observations are nested within respondents and respondents are nested within households, or within parent dyads (Planalp, Du, Braungart-Rieker, & Wang, 2017). Considering this statistical non-independence in the data, multilevel structural equation modeling (MSEM; Preacher, Zyphur, & Zhang, 2010) can be used to test mediation hypotheses, e.g. to what extent the effect of childbirth on life satisfaction is mediated through satisfaction with family life. Other potential mediators of the relationship between parenthood and well-being were introduced by (Nelson et al., 2014): These include meaning in life, positive emotions, and social roles on the one hand, and negative emotions, sleep disturbances, and strained partner relationships on the other hand. Another promising avenue for future research is to investigate the interplay of childbirth and other life events in order to separate their respective effects on domain-specific satisfaction. Dyrdal and Lucas (2013) pointed out that first childbirth is often proximally preceded by relationship formation and their results suggest that partnership exerts a positive effect on life satisfaction independent of childbirth (see also Kohler et al., 2005). Cohabitation has also been shown to be associated with enhanced well-being (Soons, Liefbroer, & Kalmijn, 2009; Zimmermann & Easterlin, 2006).

Our research revealed divergent trajectories of change associated with childbirth in life satisfaction and in nine specific satisfaction domains. These results underscore that the cognitive component of subjective well-being is multidimensional, requiring more complex modeling than a univariate analysis of the single broad domain, life satisfaction. The trajectories of both life satisfaction and satisfaction with family life demonstrated temporary gains experienced fairly equally by both parents. In contrast, drastic losses to satisfaction with sleep and satisfaction with personal income were moderated by gender, illustrating additional burdens women face in the transition to motherhood.

Notes

1. We made a slight correction to our preregistration: Hypothesis 1c) originally overlapped with hypothesis 2b) in that they both described fathers to have higher levels of satisfaction with health at the end of the observation period. This is now only specified in hypothesis 2b).
2. Following an anonymous reviewer's suggestion, we have added "as compared to fathers" which was not part of the preregistered hypothesis.
3. The Second Holdout Sample (25% of the total sample) was originally intended to evaluate any unusual or unanticipated findings from the confirmatory analysis in a follow-up (second) confirmatory analysis. It can be recreated from the analysis scripts for future analyses (https://osf.io/b3jy7/). Either our team, or another team (which would have obvious advantages in relation to replicating the current effects), could use this Second Holdout Sample to substantial advantage.
4. We used the internationally available version containing 95% of the total sample size. 5% of households have been dropped randomly due to data protection laws. After signing a contract on data distribution, the SOEP data are available for scientific use for free. More information, including a database of publications using the SOEP data, can also be found on https://www.diw.de/en/soep.
5. Information on respondents' children was obtained through the "biobirth" dataset which combines yearly questionnaire information with retrospective biographical information to trace and update the birth biography of each participant (Schmitt & SOEP Group, 2019). If childbirth occurred in the same calendar year as the survey but in any month before the month of the interview, this survey year was coded as the one where childbirth was first reported. However, if childbirth occurred in any month after the interview month of the same calendar year, the survey year in the subsequent

calendar year was marked as the one where childbirth was first reported. Information on childlessness was also drawn from this dataset.

6. These sample sizes apply to a total sample where observations were included if they had a valid measurement for at least one of the ten outcomes.
7. Full insight into the SOEP questionnaires can be gained here: https://www.diw.de/en/diw_02.c.222729.en/questionnaires.html.
8. Because we are testing ten different outcomes, this rationale would be approximately the same as the (conservative) Dunn-Bonferroni corrections.
9. We use the expression "preliminary evidence" in the discussion to mark any findings that were not explicitly included in our preregistered hypotheses.
10. In contrast to Richter et al. (2019) who also used the SOEP data, our analyses compared all effects against a matched nonparent group. Additional differences between the two studies concern how longitudinally nested data were treated (multilevel modeling vs. fixed effects regression; see McNeish & Kelley, 2019) and how many childbirths were examined per parent. Whereas the current paper only examined first childbirth and excluded observations once they reached the last year before second childbirth was reported, Richter et al. (2019) analyzed the effects of up to three childbirths per parent.
11. Following Dyrdal and Lucas (2013), we evaluated changes in life satisfaction using an adjusted model where .03 points of life satisfaction were added for each year of participation in the SOEP study. Life satisfaction scores in the German population have been found to decline yearly by this amount independent of age or cohort effects (Baird et al., 2010). This adjustment led to the reported downward trend in the controls being slightly reduced in size, $\hat{\gamma}_{10}$ = -0.06, 95% CI [-0.11, -0.02], p = .01, and not significant anymore according to our alpha level of p = .005. Interpretation of the effects of childbirth did not change in this adjusted model.

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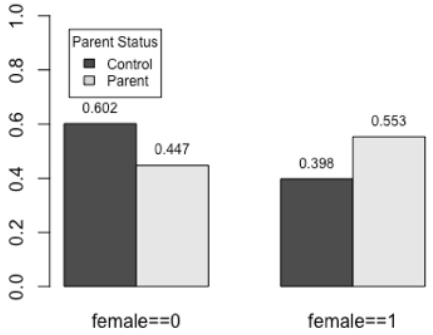
Online Supplemental Materials

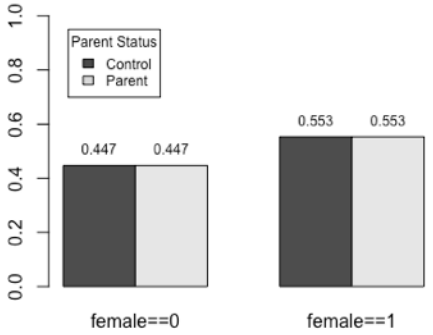
All multilevel regression models were estimated with maximum likelihood using the R library 'nlme' which utilizes Wald *t*-tests to test the fixed effects coefficients (Version 3.1.140; Pinheiro, Bates, DebRoy, Sarkar, & R Core Team, 2019). Linear contrasts were defined using the 'linearHypothesis' command from the R library 'car' (Version 3.0.3; Fox & Weisberg, 2011) to test differences of the growth parameters—before-slope, jump, and after-slope—between two analysis groups. Defining linear contrasts between parameters of the parent group and the control group was necessary in the full models which included gender interactions because the growth parameters to be compared were represented by multiple fixed-effects coefficients. In this case, a χ^2 statistic is used comparing the original model with a model where a combination of parameters is constrained to be zero. Also, to test the actual size of the difference between *time 2* and *time 3* (see Figure S2), the fixed-effects parameters for *slope2* and *jump* have to be combined in such a linear contrast, since the *jump* parameters represent "the shift in intercept above and beyond that created by *slope2*" (Hoffman, 2015, p. 267). Confidence intervals for these linear contrasts were computed using the 'glht' command from the R library 'multcomp' (Version 1.4.10; Hothorn, Bretz, & Westfall, 2008). To evaluate hypotheses 2a), 2b), 2c), and 2d), *t*-tests were performed at the last included time point to estimate to which degree group differences persisted between the analysis groups. Welch two-sample *t*-tests were used. For significant group differences, Cohen's d was computed using the 'cohen.d' function from the R library 'effsize' (Version 0.7.6; Torchiano, 2019). These tests compared parents vs. controls overall, as well as mothers vs. female controls and fathers vs. male controls.

A

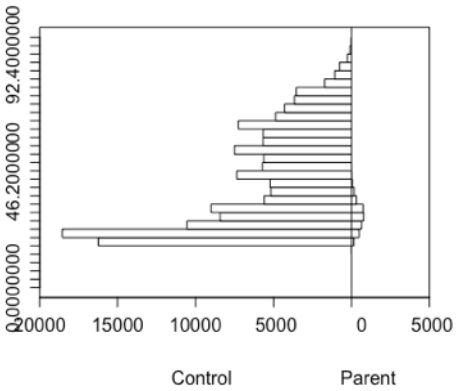
Gender – Before matching



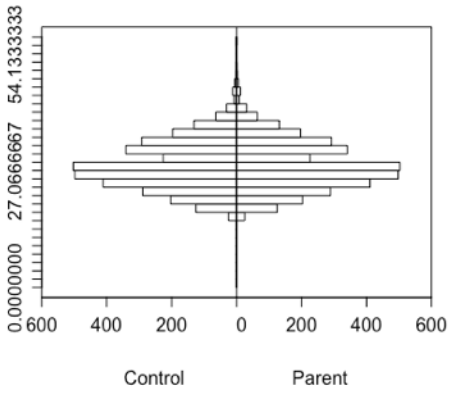
Gender – After matching



Age – Before matching

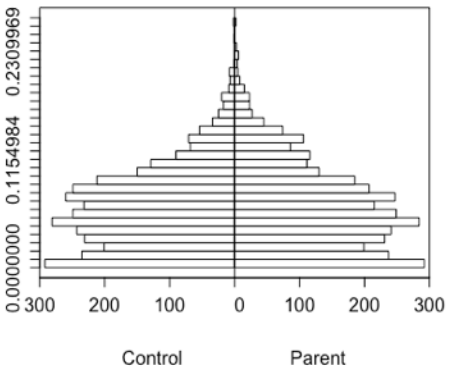


Age – After matching

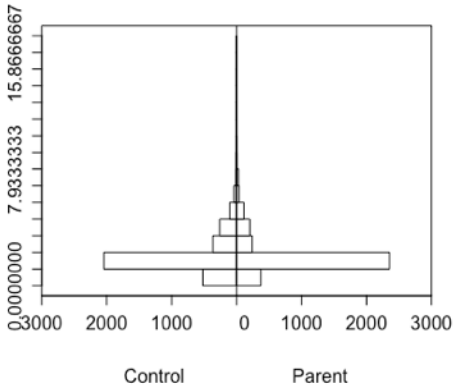


B

Propensity score

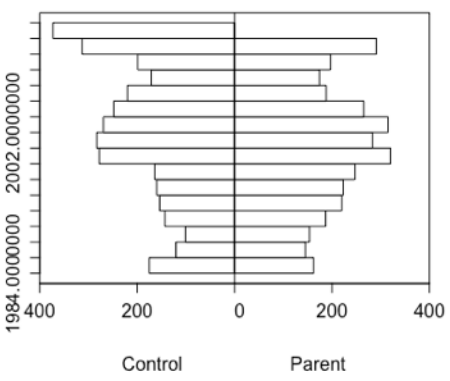


Size of household

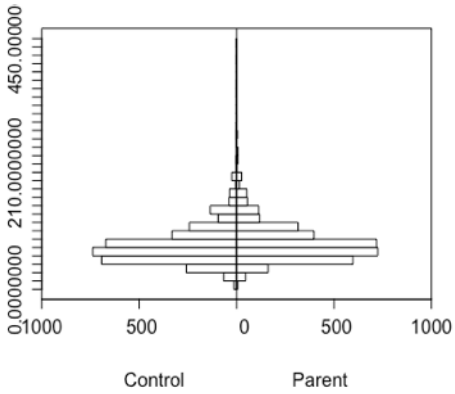


B (continued)

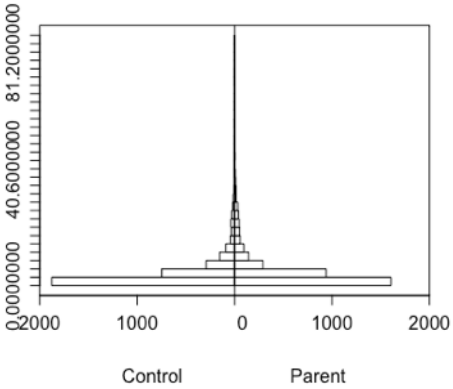
Survey year



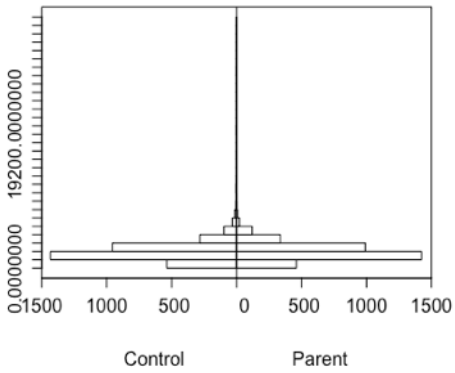
Size of house or apartment in m2



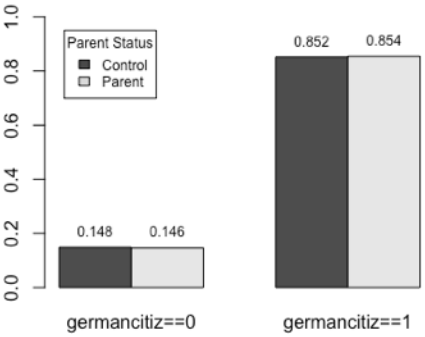
Moved to this household X years ago



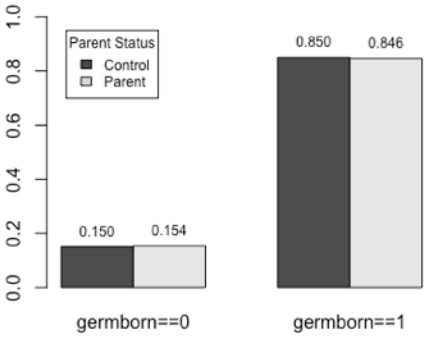
Monthly net household income in €



Dummy: 1 = German nationality

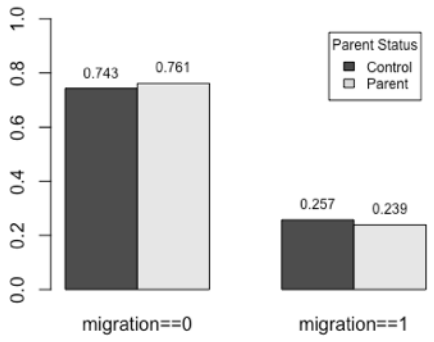


Dummy: 1 = Born in Germany

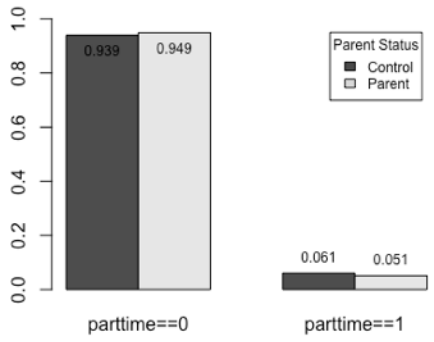


B (continued)

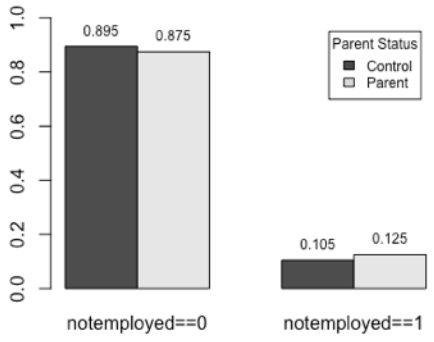
Dummy: 1 = Migration background, direct or indirect



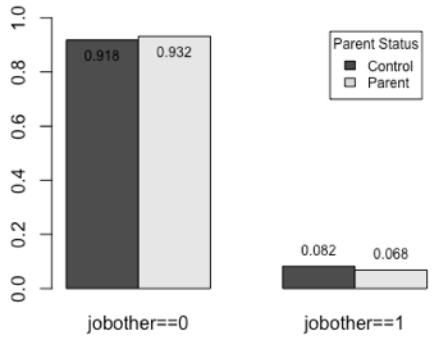
Dummy: 1 = Part-time employment (reference category = full-time)



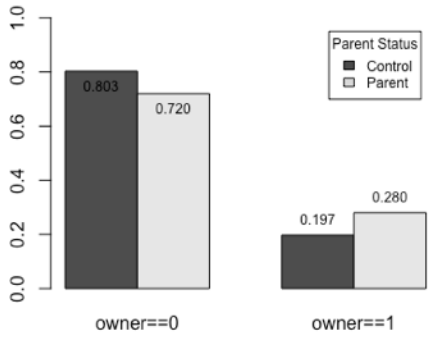
Dummy: 1 = Not employed (reference category = full-time)



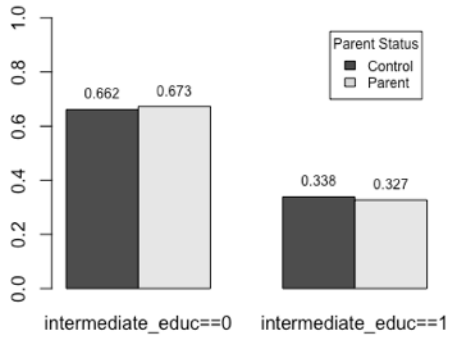
Dummy: 1 = Other form of employment (reference category = full-time)



Dummy: 1 = Home owner (house or apartment)

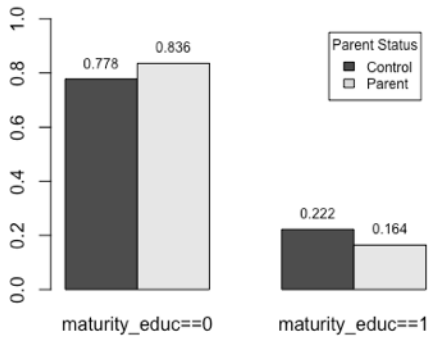


Dummy: 1 = Intermediate qualifications (CASMIN codes 2a, 2b; reference category = basic/general education)

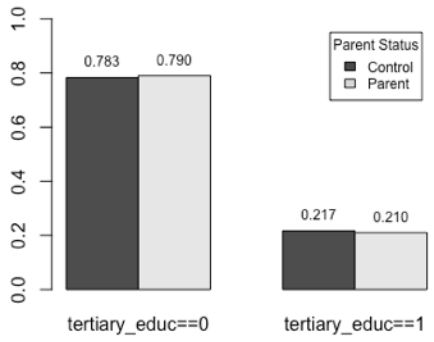


B (continued)

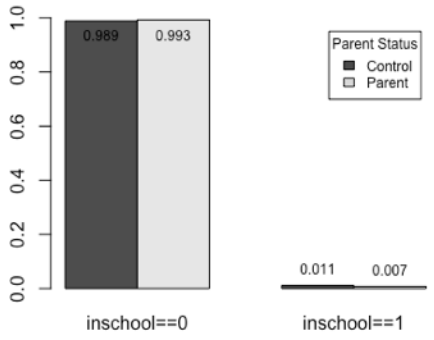
Dummy: 1 = Maturity certificate (CASMIN code 2c; reference category = basic/general education)



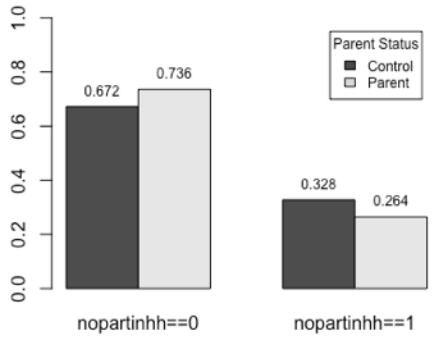
Dummy: 1 = Tertiary education (CASMIN codes 3a, 3b; reference category = basic/general education)



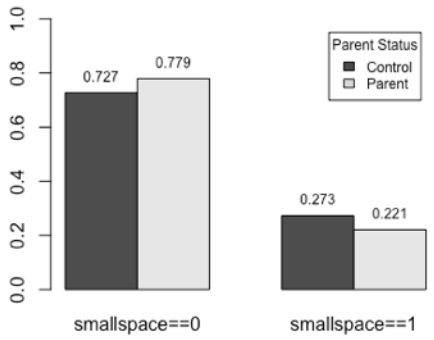
Dummy: 1 = Still in school (CASMIN code 0; reference category = basic/general education)



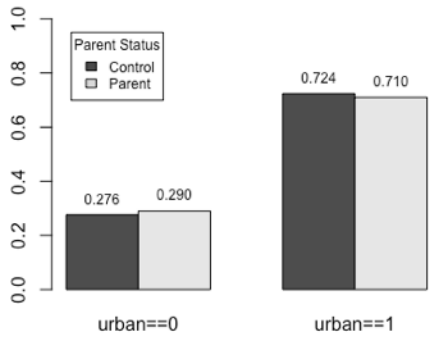
Dummy: 1 = Not living with a significant other in this household



Dummy: 1 = Adequacy of living space rated as either "Much too small" or "A bit too small" on 5-point scale

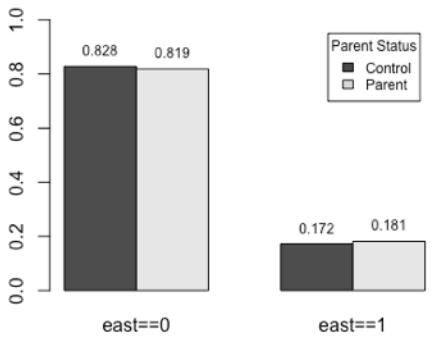


Dummy: 1 = Lives in urban area

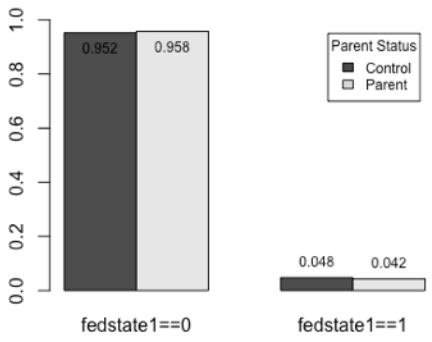


B (continued)

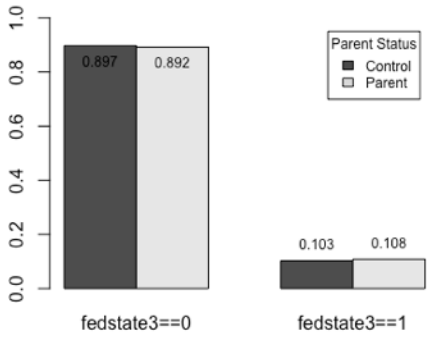
Dummy: 1 = Lives in Eastern Germany



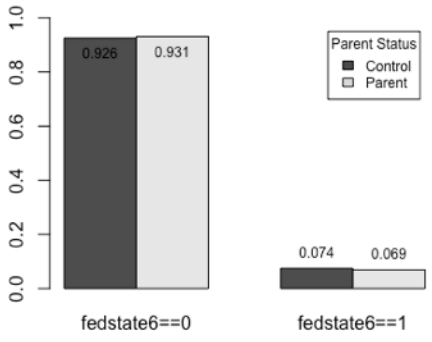
Dummy: 1 = Lives in federal states of Schleswig-Holstein or Hamburg (reference category = North Rhine-Westphalia)



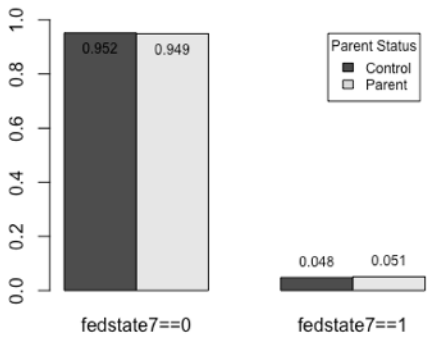
Dummy: 1 = Lives in federal states of Lower Saxony or Bremen (reference category = North Rhine-Westphalia)



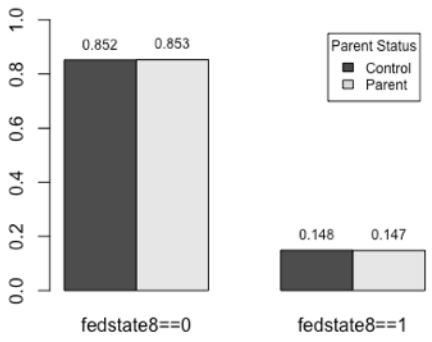
Dummy: 1 = Lives in federal state of Hesse (reference category = North Rhine-Westphalia)



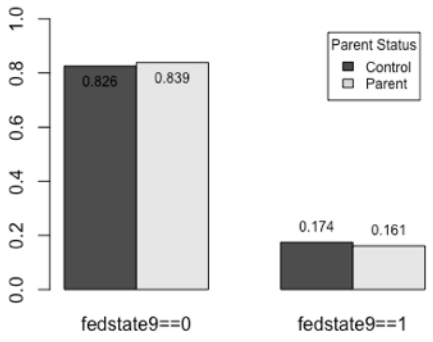
Dummy: 1 = Lives in federal states of Rhineland-Palatinate or Saarland (reference category = North Rhine-Westphalia)



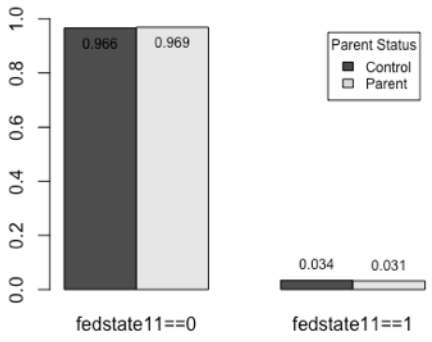
Dummy: 1 = Lives in federal state of Baden-Wuerttemberg (reference category = North Rhine-Westphalia)



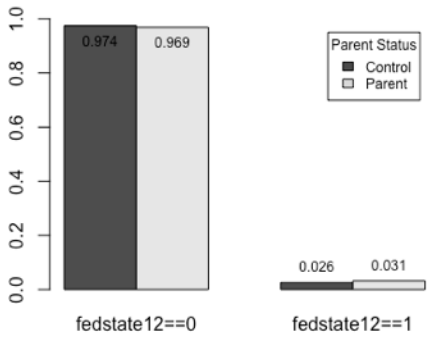
Dummy: 1 = Lives in federal state of Bavaria (reference category = North Rhine-Westphalia)



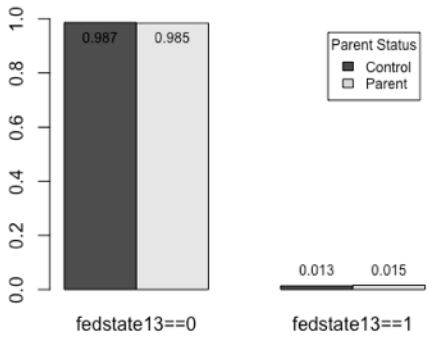
Dummy: 1 = Lives in federal state of Berlin (reference category = North Rhine-Westphalia)



Dummy: 1 = Lives in federal state of Brandenburg (reference category = North Rhine-Westphalia)

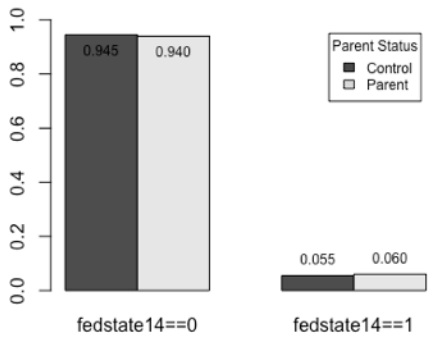


Dummy: 1 = Lives in federal state of Mecklenburg-West Pomerania (reference category = North Rhine-Westphalia)

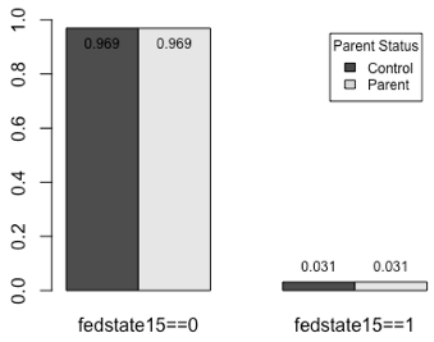


B (Continued)

Dummy: 1 = Lives in federal state of Saxony
(reference category = North Rhine-Westphalia)



Dummy: 1 = Lives in federal state of Saxony-Anhalt
(reference category = North Rhine-Westphalia)



Dummy: 1 = Lives in federal state of Thuringia
(reference category = North Rhine-Westphalia)

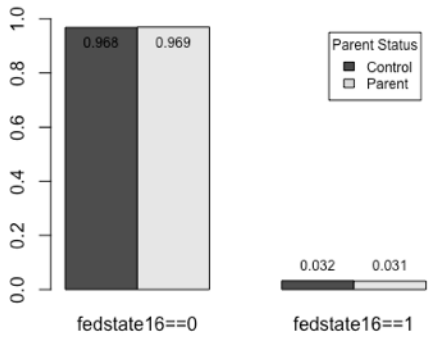


Figure S1. Distributions of covariates involved in the matching procedure. (A) Exact matching covariates and their balance before and after matching. (B) Covariates used for propensity score estimation as well as the propensity score itself, and their balance between parents and controls after matching.

A

$$y_{ij} = \beta_{0j} + \beta_{1j}slope1_{ij} + \beta_{2j}slope2_{ij} + \beta_{3j}jump_{ij} + e_{ij}$$
$$\beta_{0j} = \gamma_{00} + \gamma_{01}parent_j + \gamma_{02}pscore_j + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}parent_j$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}parent_j$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}parent_j$$

$$e_{ij} \sim N(0, \sigma_e^2)$$
$$u_{0j} \sim N(0, \tau_{00})$$

Reduced-Form:

$$y_{ij} = \gamma_{00} + \gamma_{01}parent_j + \gamma_{02}pscore_j + \gamma_{10}slope1_{ij} + \gamma_{11}parent_j slope1_{ij} + \gamma_{20}slope2_{ij} + \gamma_{21}parent_j slope2_{ij} + \gamma_{30}jump_{ij} + \gamma_{31}parent_j jump_{ij} + u_{0j} + e_{ij}$$

B

$$y_{ij} = \beta_{0j} + \beta_{1j}slope1_{ij} + \beta_{2j}slope2_{ij} + \beta_{3j}jump_{ij} + e_{ij}$$
$$\beta_{0j} = \gamma_{00} + \gamma_{01}parent_j + \gamma_{02}female_j + \gamma_{03}parent_j female_j + \gamma_{04}pscore_j + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}parent_j + \gamma_{12}female_j + \gamma_{13}parent_j female_j$$
$$\beta_{2j} = \gamma_{20} + \gamma_{21}parent_j + \gamma_{22}female_j + \gamma_{23}parent_j female_j$$
$$\beta_{3j} = \gamma_{30} + \gamma_{31}parent_j + \gamma_{32}female_j + \gamma_{33}parent_j female_j$$

$$e_{ij} \sim N(0, \sigma_e^2)$$
$$u_{0j} \sim N(0, \tau_{00})$$

Reduced-Form:

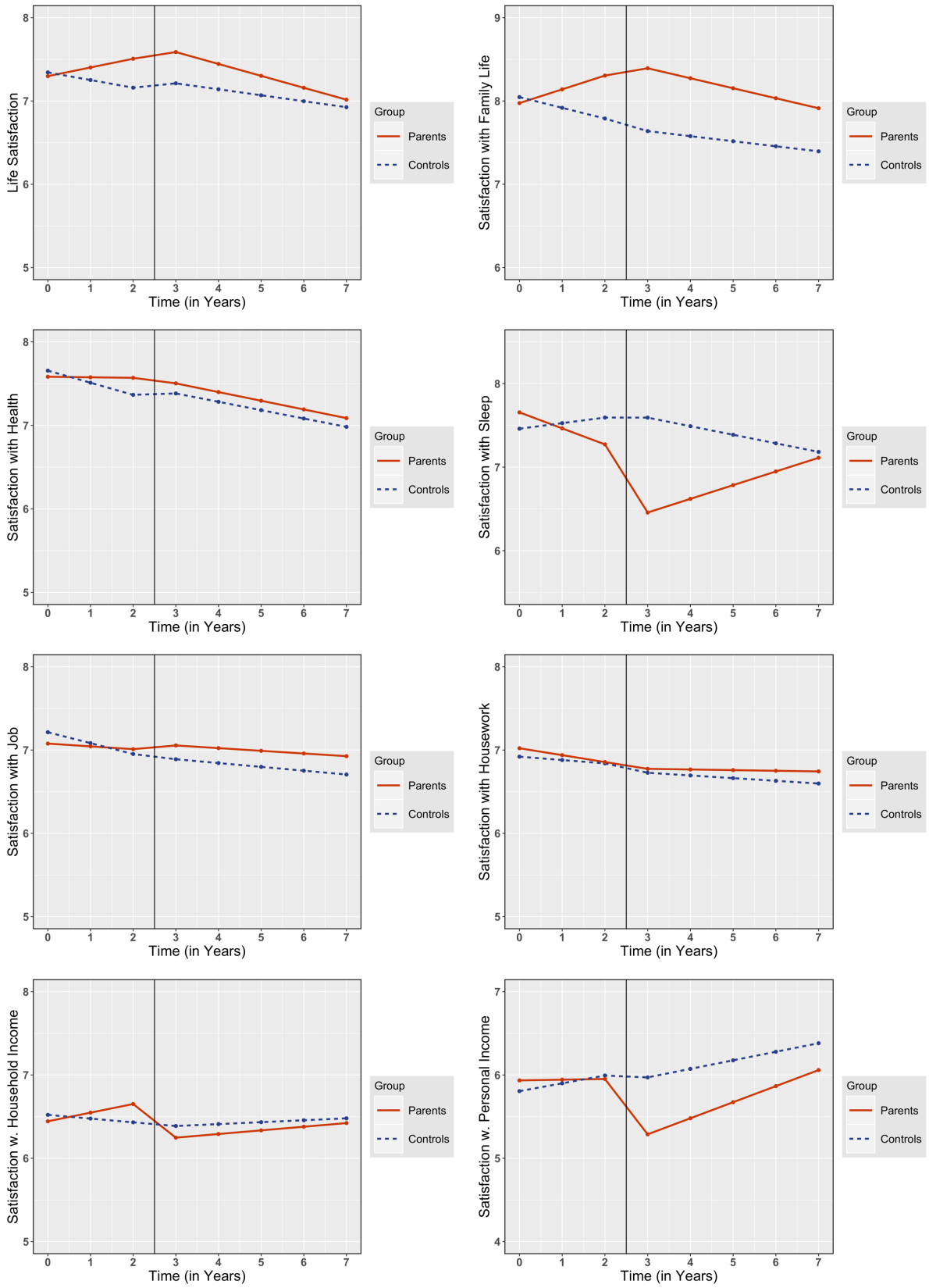
$$y_{ij} = \gamma_{00} + \gamma_{01}parent_j + \gamma_{02}female_j + \gamma_{03}parent_j female_j + \gamma_{04}pscore_j + \gamma_{10}slope1_{ij} + \gamma_{11}parent_j slope1_{ij} + \gamma_{12}female_j slope1_{ij} + \gamma_{13}parent_j female_j slope1_{ij} + \gamma_{20}slope2_{ij} + \gamma_{21}parent_j slope2_{ij} + \gamma_{22}female_j slope2_{ij} + \gamma_{23}parent_j female_j slope2_{ij} + \gamma_{30}jump_{ij} + \gamma_{31}parent_j jump_{ij} + \gamma_{32}female_j jump_{ij} + \gamma_{33}parent_j female_j jump_{ij} + u_{0j} + e_{ij} +$$

C

Time	0	1	2	3	4	5	6	7
slope1	0	1	2	2	2	2	2	2
slope2	0	0	0	1	2	3	4	5
jump	0	0	0	1	1	1	1	1

Figure S2. (A) Model equation for the basic model without the gender interaction. (B) Model equation for the full model that includes the gender interaction. (C) Coding scheme for the piecewise regression coefficients used in both the basic and the full model where childbirth takes place between *time 2* and *time 3*.

Exploratory Sample (25% of the Total Sample)



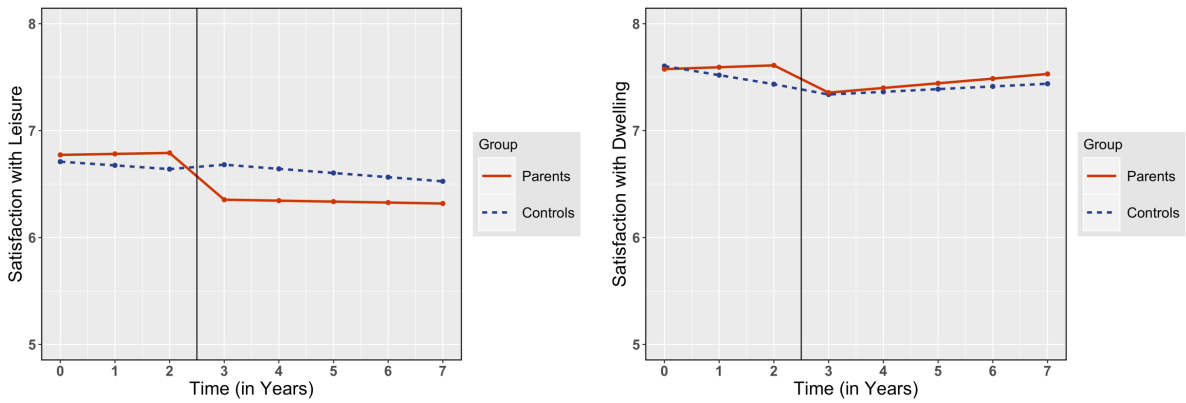
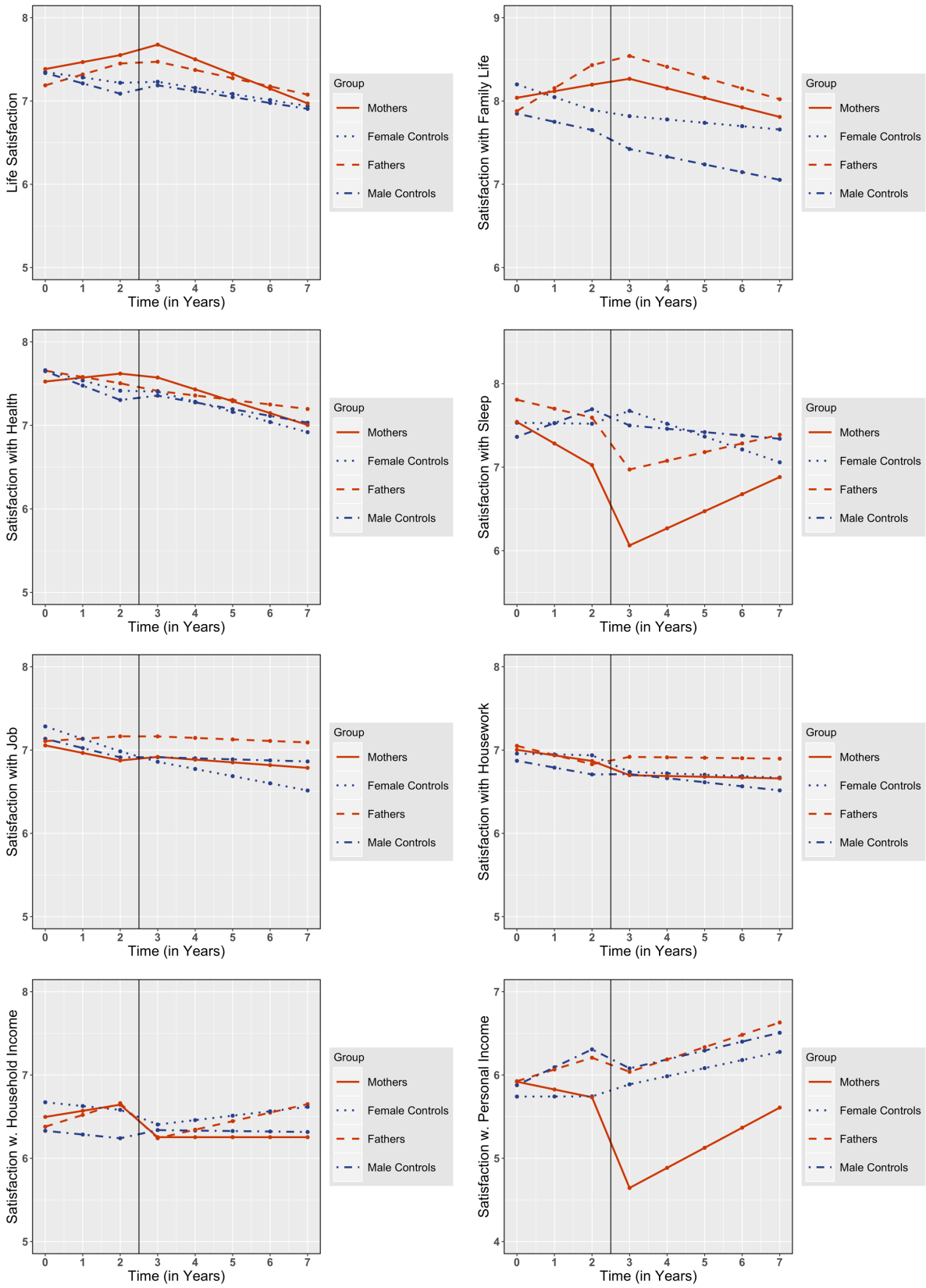


Figure S3. Trajectories of life satisfaction and satisfaction in nine specific domains for parents and matched childless controls in the Exploratory Sample (25% of the Total Sample). These are based on the basic models that do not include the gender interactions. The approximate time of birth is indicated by a vertical line.

Exploratory Sample (25% of the Total Sample)



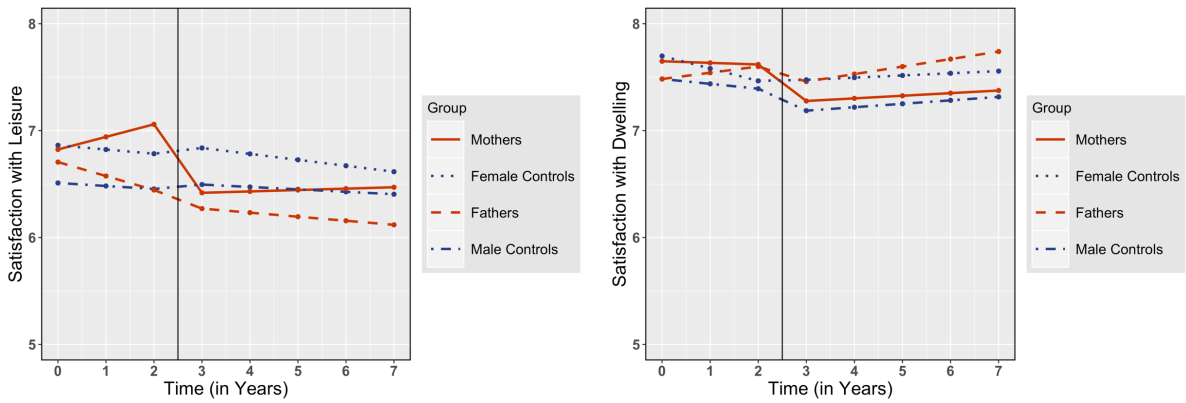
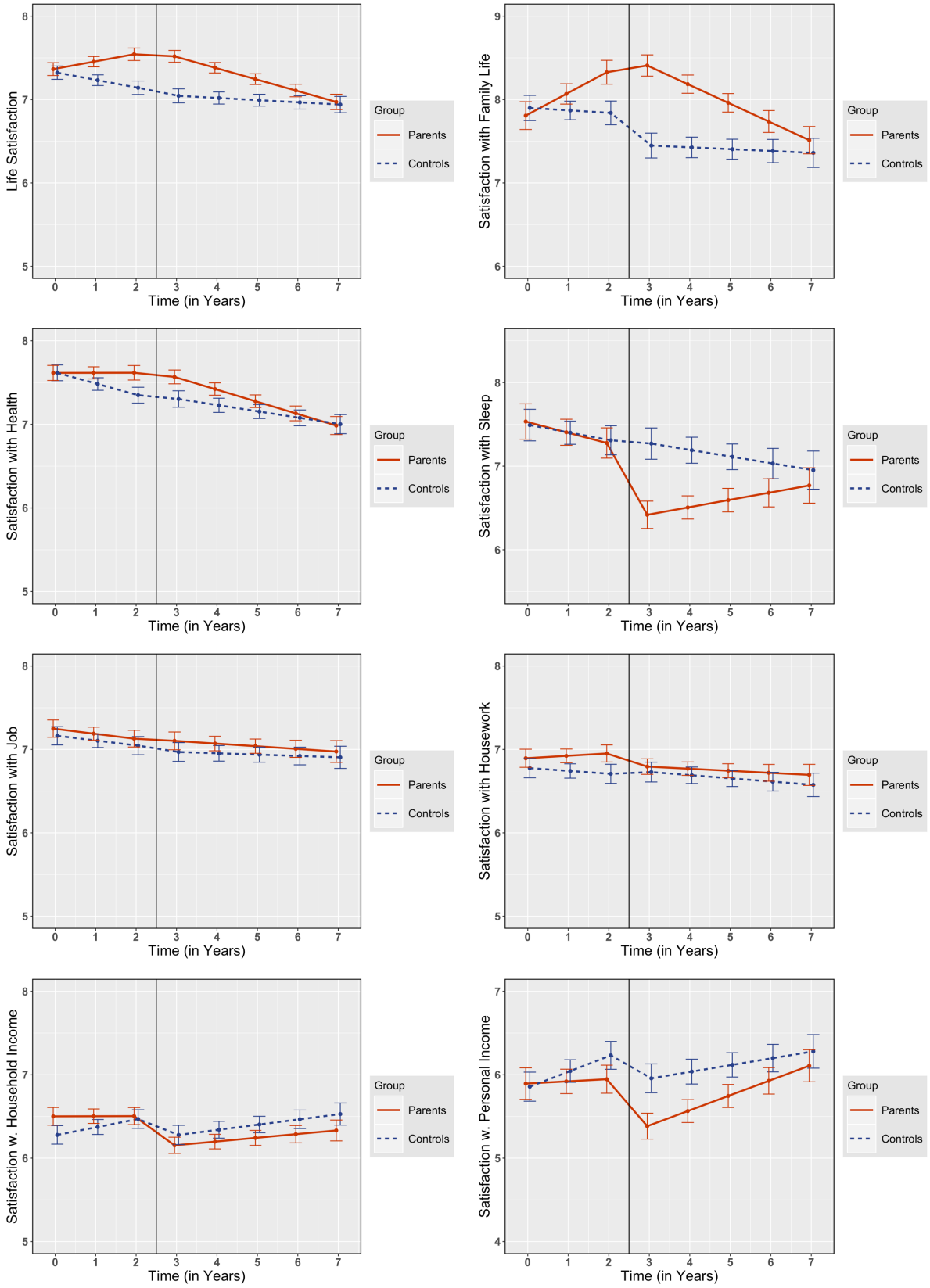


Figure S4. Trajectories of life satisfaction and satisfaction in nine specific domains for parents and matched childless controls in the Exploratory Sample (25% of the Total Sample). These are based on the full models that include the gender interactions. The approximate time of birth is indicated by a vertical line.

Main Holdout Sample (50% of the Total Sample)



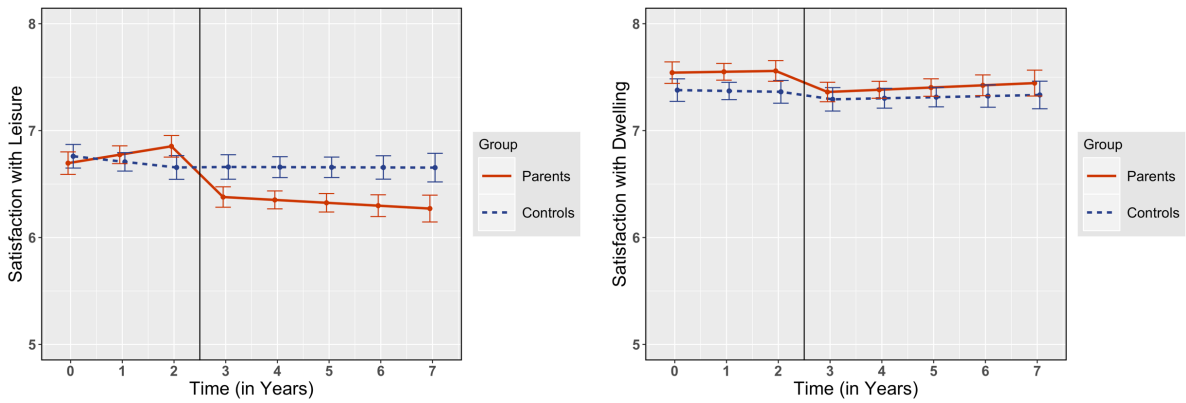


Figure S5. Trajectories of life satisfaction and satisfaction in nine specific domains for parents and matched childless controls in the Main Holdout Sample (50% of the Total Sample). These are based on the basic models that do not include the gender interactions. The error bars are 95% confidence intervals of the predicted values for each subgroup. Being multilevel models, these only account for the fixed-effects portion of the model. The approximate time of birth is indicated by a vertical line.

Table S1

Sensitivity analyses investigating differences between included and excluded respondents

Variable	Cohen's *d* for parents excluded after Step 2	Cohen's *d* for parents excluded after Step 3	Cohen's *d* for parents excluded after Step 4	Cohen's *d* for childless resp. excluded after Step 2
Life satisfaction	-0.11	-0.04	-0.07	-0.08
Satisfaction with family life	-0.28	0.06	-0.02	-0.03
Satisfaction with health	-0.08	-0.06	0.01	-0.18
Satisfaction with sleep	0.02	-0.04	0.22	-0.05
Satisfaction with job	-0.05	-0.12	-0.05	-0.08
Satisfaction with housework	-0.04	0.00	0.05	-0.04
Satisfaction w. household inc.	0.00	0.03	-0.11	0.06
Satisfaction w. personal inc.	0.02	0.20	0.07	0.21
Satisfaction with leisure	0.03	-0.03	0.16	-0.02
Satisfaction with dwelling	0.06	0.01	0.00	0.05

Note. 2,628 parents without valid information from the second wave before birth were excluded after Step 2 (see Figure 1). 304 parents with any missing data in the covariates used for propensity score estimation were excluded after Step 3. 149 parents were excluded because the birth of the first and the second child were reported in subsequent survey years. These three groups of excluded parents were compared to the total sample of 3,371 included parents. 2,605 childless respondents with any missing data in the covariates used for propensity score estimation were excluded after Step 2 (see Figure 1). These were compared to the total sample of 22,106 eligible childless matches. The median (mean) effect size for parents from all three steps was 0.05 (0.07), and for childless respondents 0.05 (0.08).

Table S2

List of the Covariates Used for Propensity Score Estimation and their Coefficients in the Estimation

Covariate	Coefficient	P>z	Explanation
germancitiz	-0.28	0.00	Dummy: 1 = German nationality
germborn	0.24	0.00	Dummy: 1 = Born in Germany
migration	0.26	0.00	Dummy: 1 = Migration background, direct or indirect
parttime	-0.31	0.00	Dummy: 1 = Part-time employment (reference category = full-time)
notemployed	-1.10	0.00	Dummy: 1 = Not employed (reference category = full-time)
jobother	-0.51	0.00	Dummy: 1 = Other form of employment (reference category = full-time)
inschool	-0.75	0.00	Dummy: 1 = Still in school (CASMIN code 0; reference category = basic/general education)
intermediate_educ	0.44	0.00	Dummy: 1 = Intermediate qualifications (CASMIN codes 2a, 2b; reference category = basic/general education)
maturity_educ	0.40	0.00	Dummy: 1 = Maturity certificate (CASMIN code 2c; reference category = basic/general education)
tertiary_educ	0.33	0.00	Dummy: 1 = Tertiary education (CASMIN codes 3a, 3b; reference category = basic/general education)
nopartinhh	-0.88	0.00	Dummy: 1 = Not living with a significant other in this household
hinc	0.00	0.25	Monthly net household income in €
owner	-0.05	0.33	Dummy: 1 = Home owner (house or apartment)
size	0.00	0.01	Size of house or apartment in m^2
smallspace	0.13	0.00	Dummy: 1 = Adequacy of living space rated as either "Much too small" or "A bit too small" on 5-point scale
livedhere	-0.10	0.00	Moved to this household X years ago
fedstate1	-0.19	0.05	Dummy: 1 = Lives in federal states of Schleswig-Holstein or Hamburg (reference category = North Rhine-Westphalia)
fedstate3	0.10	0.15	Dummy: 1 = Lives in federal states of Lower Saxony or Bremen (reference category = North Rhine-Westphalia)
fedstate6	-0.27	0.00	Dummy: 1 = Lives in federal state of Hesse (reference category = North Rhine-Westphalia)
fedstate7	-0.03	0.70	Dummy: 1 = Lives in federal states of Rhineland-Palatinate or Saarland (reference category = North Rhine-Westphalia)
fedstate8	0.16	0.01	Dummy: 1 = Lives in federal state of Baden-Wuerttemberg (reference category = North Rhine-Westphalia)
fedstate9	0.10	0.12	Dummy: 1 = Lives in federal state of Bavaria (reference category = North Rhine-Westphalia)
fedstate11	-0.50	0.00	Dummy: 1 = Lives in federal state of Berlin (reference category = North Rhine-Westphalia)
fedstate12	-0.40	0.08	Dummy: 1 = Lives in federal state of Brandenburg (reference category = North Rhine-Westphalia)
fedstate13	-0.79	0.00	Dummy: 1 = Lives in federal state of Mecklenburg-West Pomerania (reference category = North Rhine-Westphalia)

fedstate14	-0.29	0.19	Dummy: 1 = Lives in federal state of Saxony (reference category = North Rhine-Westphalia)
fedstate15	-0.32	0.17	Dummy: 1 = Lives in federal state of Saxony-Anhalt (reference category = North Rhine-Westphalia)
fedstate16	-0.40	0.09	Dummy: 1 = Lives in federal state of Thuringia (reference category = North Rhine-Westphalia)
hhgr	0.08	0.00	Size of household
east	0.41	0.05	Dummy: 1 = Lives in Eastern Germany
urban	-0.16	0.00	Dummy: 1 = Lives in urban area
syear	-0.05	0.00	Survey year / wave
constant	88.63	0.00	

Note. Logistic regression of 32 covariates on the binary parent variable (1=parent / 0=control) using a logit link function. N = 141,819. Likelihood ratio $\chi^2(32)$ = 4660.32. Log-likelihood = -13045.014. CASMIN = Comparative Analysis of Social Mobility in Industrial Nations (Brauns, Scherer, & Steinmann, 2003).

Table S3

Standardized Difference in Means for Covariates Used in Matching Procedure and the Propensity Score

Covariate	Before Matching	After Matching	Change
Propensity Score	0.982	0.051	0.931
hhgr	-0.101	0.009	0.092
syear	-0.393	-0.295	0.098
size	-0.245	0.148	0.098
livedhere	-1.301	0.109	1.192
hinc	-0.020	0.038	-0.018
germancitiz	-0.158	0.008	0.150
germborn	-0.121	-0.010	0.111
migration	0.111	-0.043	0.068
parttime	0.021	-0.043	-0.022
notemployed	-0.908	0.060	0.847
jobother	-0.143	-0.057	0.086
intermediate_educ	0.175	-0.024	0.151
maturity_educ	0.026	-0.156	-0.130
tertiary_educ	0.099	-0.017	0.082
inschool	-0.684	-0.046	0.639
nopartinhh	-0.594	-0.145	0.449
smallspace	0.147	-0.125	0.022
urban	0.029	-0.029	0.000
east	-0.075	0.024	0.051
owner	-0.354	0.185	0.169
fedstate1	-0.021	-0.026	-0.006
fedstate3	0.043	0.018	0.025
fedstate6	-0.037	-0.023	0.013
fedstate7	-0.035	0.013	0.022
fedstate8	0.070	-0.003	0.067
fedstate9	0.044	-0.035	0.009
fedstate11	-0.078	-0.014	0.064
fedstate12	-0.022	0.034	-0.012
fedstate13	-0.053	0.017	0.036
fedstate14	-0.016	0.022	-0.006
fedstate15	-0.029	0.002	0.027
fedstate16	-0.039	-0.007	0.032

Note. Standardized difference in means between the parent and the control group was computed by $(\bar{x}_p - \bar{x}_c)/\hat{\sigma}_p$. A rule of thumb says that this measure should ideally be below .25 (Stuart, 2010).

Table S4

Fixed Effects Multilevel Modeling Regression Parameters for Life Satisfaction in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	7.23	7.09	7.38
Propensity Score, $\hat{\gamma}_{02}$	1.7	0.35	3.06
slope1, $\hat{\gamma}_{10}$	-0.09	-0.16	-0.02
slope2, $\hat{\gamma}_{20}$	-0.07	-0.11	-0.03
jump, $\hat{\gamma}_{30}$	0.12	-0.02	0.27
parent, $\hat{\gamma}_{01}$	-0.05	-0.21	0.11
slope1:parent, $\hat{\gamma}_{11}$	0.2	0.1	0.29
slope2:parent, $\hat{\gamma}_{21}$	-0.07	-0.12	-0.02
jump:parent, $\hat{\gamma}_{31}$	0.1	-0.09	0.29
Full Model			
Intercept, $\hat{\gamma}_{00}$	7.22	7.03	7.42
Propensity Score, $\hat{\gamma}_{04}$	1.73	0.38	3.09
slope1, $\hat{\gamma}_{10}$	-0.12	-0.23	-0.02
slope2, $\hat{\gamma}_{20}$	-0.07	-0.13	-0.02
jump, $\hat{\gamma}_{30}$	0.17	-0.04	0.38
parent, $\hat{\gamma}_{01}$	-0.15	-0.39	0.09
female, $\hat{\gamma}_{02}$	0.02	-0.21	0.25
slope1:parent, $\hat{\gamma}_{11}$	0.26	0.12	0.39
slope2:parent, $\hat{\gamma}_{21}$	-0.03	-0.11	0.05
jump:parent, $\hat{\gamma}_{31}$	-0.05	-0.33	0.23
slope1:female, $\hat{\gamma}_{12}$	0.06	-0.08	0.2
slope2:female, $\hat{\gamma}_{22}$	0	-0.08	0.08
jump:female, $\hat{\gamma}_{32}$	-0.09	-0.38	0.21
parent:female, $\hat{\gamma}_{03}$	0.18	-0.14	0.5
slope1:parent:female, $\hat{\gamma}_{13}$	-0.11	-0.29	0.08
slope2:parent:female, $\hat{\gamma}_{23}$	-0.08	-0.18	0.03
jump:parent:female, $\hat{\gamma}_{33}$	0.27	-0.12	0.65

Note. Number of Respondents = 1,686; Number of Observations = 9,048.

Table S5

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Family Life in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	7.95	7.69	8.2
Propensity Score, $\hat{\gamma}_{02}$	2.3	-0.77	5.37
slope1, $\hat{\gamma}_{10}$	-0.13	-0.26	0
slope2, $\hat{\gamma}_{20}$	-0.06	-0.14	0.02
jump, $\hat{\gamma}_{30}$	-0.09	-0.37	0.19
parent, $\hat{\gamma}_{01}$	-0.07	-0.38	0.24
slope1:parent, $\hat{\gamma}_{11}$	0.29	0.1	0.49
slope2:parent, $\hat{\gamma}_{21}$	-0.06	-0.16	0.04
jump:parent, $\hat{\gamma}_{31}$	0.3	-0.07	0.66
Full Model			
Intercept, $\hat{\gamma}_{00}$	7.72	7.37	8.07
Propensity Score, $\hat{\gamma}_{04}$	2.83	-0.23	5.89
slope1, $\hat{\gamma}_{10}$	-0.1	-0.3	0.1
slope2, $\hat{\gamma}_{20}$	-0.09	-0.21	0.02
jump, $\hat{\gamma}_{30}$	-0.14	-0.55	0.28
parent, $\hat{\gamma}_{01}$	0.04	-0.43	0.51
female, $\hat{\gamma}_{02}$	0.37	-0.05	0.79
slope1:parent, $\hat{\gamma}_{11}$	0.37	0.08	0.67
slope2:parent, $\hat{\gamma}_{21}$	-0.04	-0.19	0.11
jump:parent, $\hat{\gamma}_{31}$	0.38	-0.17	0.92
slope1:female, $\hat{\gamma}_{12}$	-0.05	-0.32	0.21
slope2:female, $\hat{\gamma}_{22}$	0.05	-0.1	0.21
jump:female, $\hat{\gamma}_{32}$	0.1	-0.46	0.66
parent:female, $\hat{\gamma}_{03}$	-0.21	-0.84	0.42
slope1:parent:female, $\hat{\gamma}_{13}$	-0.14	-0.53	0.24
slope2:parent:female, $\hat{\gamma}_{23}$	-0.04	-0.24	0.17
jump:parent:female, $\hat{\gamma}_{33}$	-0.16	-0.89	0.58

Note. Number of Respondents = 847; Number of Observations = 3,195.

Table S6

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Health in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	7.64	7.47	7.81
Propensity Score, $\hat{\gamma}_{02}$	0.26	-1.3	1.81
slope1, $\hat{\gamma}_{10}$	-0.14	-0.22	-0.07
slope2, $\hat{\gamma}_{20}$	-0.1	-0.15	-0.05
jump, $\hat{\gamma}_{30}$	0.12	-0.05	0.29
parent, $\hat{\gamma}_{01}$	-0.07	-0.26	0.11
slope1:parent, $\hat{\gamma}_{11}$	0.14	0.03	0.25
slope2:parent, $\hat{\gamma}_{21}$	0	-0.07	0.06
jump:parent, $\hat{\gamma}_{31}$	-0.08	-0.3	0.14
Full Model			
Intercept, $\hat{\gamma}_{00}$	7.63	7.41	7.86
Propensity Score, $\hat{\gamma}_{04}$	0.26	-1.3	1.81
slope1, $\hat{\gamma}_{10}$	-0.17	-0.29	-0.05
slope2, $\hat{\gamma}_{20}$	-0.08	-0.14	-0.02
jump, $\hat{\gamma}_{30}$	0.13	-0.11	0.38
parent, $\hat{\gamma}_{01}$	0.01	-0.27	0.29
female, $\hat{\gamma}_{02}$	0.01	-0.26	0.28
slope1:parent, $\hat{\gamma}_{11}$	0.1	-0.06	0.26
slope2:parent, $\hat{\gamma}_{21}$	0.03	-0.06	0.12
jump:parent, $\hat{\gamma}_{31}$	-0.17	-0.5	0.16
slope1:female, $\hat{\gamma}_{12}$	0.05	-0.11	0.21
slope2:female, $\hat{\gamma}_{22}$	-0.04	-0.13	0.05
jump:female, $\hat{\gamma}_{32}$	-0.02	-0.36	0.32
parent:female, $\hat{\gamma}_{03}$	-0.14	-0.52	0.23
slope1:parent:female, $\hat{\gamma}_{13}$	0.07	-0.14	0.29
slope2:parent:female, $\hat{\gamma}_{23}$	-0.05	-0.17	0.08
jump:parent:female, $\hat{\gamma}_{33}$	0.16	-0.29	0.61

Note. Number of Respondents = 1,679; Number of Observations = 9,031.

Table S7

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Sleep in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	7.65	7.32	7.99
Propensity Score, $\hat{\gamma}_{02}$	-4.8	-9.39	-0.21
slope1, $\hat{\gamma}_{10}$	0.07	-0.09	0.22
slope2, $\hat{\gamma}_{20}$	-0.1	-0.2	-0.01
jump, $\hat{\gamma}_{30}$	0.1	-0.22	0.43
parent, $\hat{\gamma}_{01}$	0.2	-0.19	0.6
slope1:parent, $\hat{\gamma}_{11}$	-0.26	-0.49	-0.03
slope2:parent, $\hat{\gamma}_{21}$	0.27	0.14	0.39
jump:parent, $\hat{\gamma}_{31}$	-1.08	-1.51	-0.65
Full Model			
Intercept, $\hat{\gamma}_{00}$	7.55	7.1	8
Propensity Score, $\hat{\gamma}_{04}$	-4.48	-9.06	0.11
slope1, $\hat{\gamma}_{10}$	0.17	-0.07	0.4
slope2, $\hat{\gamma}_{20}$	-0.04	-0.18	0.1
jump, $\hat{\gamma}_{30}$	-0.15	-0.63	0.32
parent, $\hat{\gamma}_{01}$	0.44	-0.15	1.03
female, $\hat{\gamma}_{02}$	0.15	-0.38	0.68
slope1:parent, $\hat{\gamma}_{11}$	-0.27	-0.62	0.07
slope2:parent, $\hat{\gamma}_{21}$	0.14	-0.05	0.33
jump:parent, $\hat{\gamma}_{31}$	-0.57	-1.21	0.07
slope1:female, $\hat{\gamma}_{12}$	-0.17	-0.49	0.14
slope2:female, $\hat{\gamma}_{22}$	-0.11	-0.3	0.07
jump:female, $\hat{\gamma}_{32}$	0.46	-0.19	1.11
parent:female, $\hat{\gamma}_{03}$	-0.41	-1.21	0.38
slope1:parent:female, $\hat{\gamma}_{13}$	0.02	-0.44	0.48
slope2:parent:female, $\hat{\gamma}_{23}$	0.21	-0.04	0.47
jump:parent:female, $\hat{\gamma}_{33}$	-0.9	-1.77	-0.04

Note. Number of Respondents = 691; Number of Observations = 2,478.

Table S8

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Job in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	7.17	6.98	7.37
Propensity Score, $\hat{\gamma}_{02}$	0.59	-1.09	2.27
slope1, $\hat{\gamma}_{10}$	-0.13	-0.24	-0.03
slope2, $\hat{\gamma}_{20}$	-0.05	-0.1	0.01
jump, $\hat{\gamma}_{30}$	-0.02	-0.24	0.2
parent, $\hat{\gamma}_{01}$	-0.14	-0.36	0.08
slope1:parent, $\hat{\gamma}_{11}$	0.1	-0.04	0.24
slope2:parent, $\hat{\gamma}_{21}$	0.01	-0.07	0.1
jump:parent, $\hat{\gamma}_{31}$	0.09	-0.21	0.4
Full Model			
Intercept, $\hat{\gamma}_{00}$	7.1	6.84	7.37
Propensity Score, $\hat{\gamma}_{04}$	0.5	-1.18	2.18
slope1, $\hat{\gamma}_{10}$	-0.11	-0.27	0.04
slope2, $\hat{\gamma}_{20}$	-0.01	-0.09	0.07
jump, $\hat{\gamma}_{30}$	0.01	-0.3	0.33
parent, $\hat{\gamma}_{01}$	-0.03	-0.36	0.3
female, $\hat{\gamma}_{02}$	0.15	-0.18	0.47
slope1:parent, $\hat{\gamma}_{11}$	0.14	-0.07	0.35
slope2:parent, $\hat{\gamma}_{21}$	-0.01	-0.12	0.11
jump:parent, $\hat{\gamma}_{31}$	0	-0.42	0.42
slope1:female, $\hat{\gamma}_{12}$	-0.04	-0.25	0.17
slope2:female, $\hat{\gamma}_{22}$	-0.07	-0.19	0.04
jump:female, $\hat{\gamma}_{32}$	-0.05	-0.49	0.39
parent:female, $\hat{\gamma}_{03}$	-0.2	-0.64	0.24
slope1:parent:female, $\hat{\gamma}_{13}$	-0.08	-0.37	0.2
slope2:parent:female, $\hat{\gamma}_{23}$	0.06	-0.11	0.23
jump:parent:female, $\hat{\gamma}_{33}$	0.11	-0.52	0.74

Note. Number of Respondents = 1,616; Number of Observations = 7,468.

Table S9

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Housework in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	6.92	6.73	7.12
Propensity Score, $\hat{\gamma}_{02}$	-0.06	-1.72	1.59
slope1, $\hat{\gamma}_{10}$	-0.04	-0.15	0.07
slope2, $\hat{\gamma}_{20}$	-0.03	-0.09	0.03
jump, $\hat{\gamma}_{30}$	-0.08	-0.3	0.14
parent, $\hat{\gamma}_{01}$	0.1	-0.12	0.32
slope1:parent, $\hat{\gamma}_{11}$	-0.04	-0.18	0.1
slope2:parent, $\hat{\gamma}_{21}$	0.02	-0.05	0.1
jump:parent, $\hat{\gamma}_{31}$	0.01	-0.28	0.29
Full Model			
Intercept, $\hat{\gamma}_{00}$	6.87	6.6	7.15
Propensity Score, $\hat{\gamma}_{04}$	-0.05	-1.71	1.6
slope1, $\hat{\gamma}_{10}$	-0.08	-0.25	0.08
slope2, $\hat{\gamma}_{20}$	-0.05	-0.13	0.04
jump, $\hat{\gamma}_{30}$	0.05	-0.27	0.38
parent, $\hat{\gamma}_{01}$	0.18	-0.17	0.53
female, $\hat{\gamma}_{02}$	0.09	-0.24	0.42
slope1:parent, $\hat{\gamma}_{11}$	-0.03	-0.25	0.2
slope2:parent, $\hat{\gamma}_{21}$	0.04	-0.08	0.17
jump:parent, $\hat{\gamma}_{31}$	0.04	-0.41	0.49
slope1:female, $\hat{\gamma}_{12}$	0.07	-0.14	0.29
slope2:female, $\hat{\gamma}_{22}$	0.03	-0.09	0.15
jump:female, $\hat{\gamma}_{32}$	-0.23	-0.67	0.2
parent:female, $\hat{\gamma}_{03}$	-0.13	-0.59	0.32
slope1:parent:female, $\hat{\gamma}_{13}$	-0.03	-0.32	0.26
slope2:parent:female, $\hat{\gamma}_{23}$	-0.04	-0.2	0.13
jump:parent:female, $\hat{\gamma}_{33}$	-0.02	-0.6	0.56

Note. Number of Respondents = 1,552; Number of Observations = 6,593.

Table S10

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Household Income in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	6.35	6.16	6.55
Propensity Score, $\hat{\gamma}_{02}$	2.63	0.79	4.46
slope1, $\hat{\gamma}_{10}$	-0.04	-0.14	0.05
slope2, $\hat{\gamma}_{20}$	0.02	-0.03	0.08
jump, $\hat{\gamma}_{30}$	-0.07	-0.26	0.13
parent, $\hat{\gamma}_{01}$	-0.08	-0.3	0.13
slope1:parent, $\hat{\gamma}_{11}$	0.15	0.02	0.27
slope2:parent, $\hat{\gamma}_{21}$	0.02	-0.05	0.09
jump:parent, $\hat{\gamma}_{31}$	-0.38	-0.64	-0.12
Full Model			
Intercept, $\hat{\gamma}_{00}$	6.16	5.89	6.42
Propensity Score, $\hat{\gamma}_{04}$	2.63	0.79	4.46
slope1, $\hat{\gamma}_{10}$	-0.04	-0.18	0.09
slope2, $\hat{\gamma}_{20}$	-0.01	-0.08	0.07
jump, $\hat{\gamma}_{30}$	0.1	-0.18	0.39
parent, $\hat{\gamma}_{01}$	0.05	-0.28	0.37
female, $\hat{\gamma}_{02}$	0.35	0.03	0.67
slope1:parent, $\hat{\gamma}_{11}$	0.19	0	0.37
slope2:parent, $\hat{\gamma}_{21}$	0.11	0.01	0.21
jump:parent, $\hat{\gamma}_{31}$	-0.63	-1	-0.25
slope1:female, $\hat{\gamma}_{12}$	0	-0.19	0.19
slope2:female, $\hat{\gamma}_{22}$	0.06	-0.05	0.16
jump:female, $\hat{\gamma}_{32}$	-0.33	-0.73	0.06
parent:female, $\hat{\gamma}_{03}$	-0.23	-0.67	0.21
slope1:parent:female, $\hat{\gamma}_{13}$	-0.07	-0.32	0.18
slope2:parent:female, $\hat{\gamma}_{23}$	-0.16	-0.3	-0.02
jump:parent:female, $\hat{\gamma}_{33}$	0.47	-0.05	0.98

Note. Number of Respondents = 1,677; Number of Observations = 8,938.

Table S11

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Personal Income in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	5.6	5.27	5.93
Propensity Score, $\hat{\gamma}_{02}$	4.54	0.65	8.43
slope1, $\hat{\gamma}_{10}$	0.09	-0.07	0.26
slope2, $\hat{\gamma}_{20}$	0.1	0.01	0.19
jump, $\hat{\gamma}_{30}$	-0.13	-0.46	0.21
parent, $\hat{\gamma}_{01}$	0.13	-0.26	0.52
slope1:parent, $\hat{\gamma}_{11}$	-0.09	-0.31	0.14
slope2:parent, $\hat{\gamma}_{21}$	0.09	-0.03	0.21
jump:parent, $\hat{\gamma}_{31}$	-0.73	-1.17	-0.3
Full Model			
Intercept, $\hat{\gamma}_{00}$	5.67	5.22	6.11
Propensity Score, $\hat{\gamma}_{04}$	4.28	0.42	8.14
slope1, $\hat{\gamma}_{10}$	0.21	-0.03	0.46
slope2, $\hat{\gamma}_{20}$	0.11	-0.03	0.24
jump, $\hat{\gamma}_{30}$	-0.33	-0.82	0.15
parent, $\hat{\gamma}_{01}$	0.07	-0.51	0.64
female, $\hat{\gamma}_{02}$	-0.11	-0.64	0.43
slope1:parent, $\hat{\gamma}_{11}$	-0.07	-0.41	0.26
slope2:parent, $\hat{\gamma}_{21}$	0.04	-0.14	0.22
jump:parent, $\hat{\gamma}_{31}$	0.02	-0.62	0.66
slope1:female, $\hat{\gamma}_{12}$	-0.21	-0.54	0.11
slope2:female, $\hat{\gamma}_{22}$	-0.01	-0.19	0.17
jump:female, $\hat{\gamma}_{32}$	0.38	-0.28	1.04
parent:female, $\hat{\gamma}_{03}$	0.09	-0.68	0.87
slope1:parent:female, $\hat{\gamma}_{13}$	-0.02	-0.47	0.43
slope2:parent:female, $\hat{\gamma}_{23}$	0.1	-0.14	0.34
jump:parent:female, $\hat{\gamma}_{33}$	-1.39	-2.26	-0.53

Note. Number of Respondents = 992; Number of Observations = 3,976.

Table S12

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Leisure in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	6.91	6.71	7.1
Propensity Score, $\hat{\gamma}_{02}$	-3.05	-4.75	-1.35
slope1, $\hat{\gamma}_{10}$	-0.03	-0.13	0.06
slope2, $\hat{\gamma}_{20}$	-0.04	-0.09	0.02
jump, $\hat{\gamma}_{30}$	0.08	-0.13	0.29
parent, $\hat{\gamma}_{01}$	0.07	-0.14	0.29
slope1:parent, $\hat{\gamma}_{11}$	0.04	-0.09	0.18
slope2:parent, $\hat{\gamma}_{21}$	0.03	-0.05	0.11
jump:parent, $\hat{\gamma}_{31}$	-0.51	-0.78	-0.23
Full Model			
Intercept, $\hat{\gamma}_{00}$	6.7	6.44	6.96
Propensity Score, $\hat{\gamma}_{04}$	-2.92	-4.62	-1.23
slope1, $\hat{\gamma}_{10}$	-0.03	-0.17	0.12
slope2, $\hat{\gamma}_{20}$	-0.02	-0.1	0.06
jump, $\hat{\gamma}_{30}$	0.06	-0.24	0.36
parent, $\hat{\gamma}_{01}$	0.2	-0.12	0.52
female, $\hat{\gamma}_{02}$	0.34	0.03	0.66
slope1:parent, $\hat{\gamma}_{11}$	-0.1	-0.3	0.1
slope2:parent, $\hat{\gamma}_{21}$	-0.02	-0.12	0.09
jump:parent, $\hat{\gamma}_{31}$	-0.2	-0.6	0.2
slope1:female, $\hat{\gamma}_{12}$	-0.01	-0.21	0.19
slope2:female, $\hat{\gamma}_{22}$	-0.03	-0.14	0.08
jump:female, $\hat{\gamma}_{32}$	0.05	-0.37	0.46
parent:female, $\hat{\gamma}_{03}$	-0.23	-0.66	0.2
slope1:parent:female, $\hat{\gamma}_{13}$	0.26	-0.01	0.53
slope2:parent:female, $\hat{\gamma}_{23}$	0.08	-0.07	0.24
jump:parent:female, $\hat{\gamma}_{33}$	-0.56	-1.11	-0.01

Note. Number of Respondents = 1,670; Number of Observations = 8,947.

Table S13

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Dwelling in the Exploratory Sample (25% of the Total Sample)

Parameter	Value	95% CI	
Basic Model			
Intercept, $\hat{\gamma}_{00}$	7.64	7.46	7.82
Propensity Score, $\hat{\gamma}_{02}$	-0.5	-2.08	1.09
slope1, $\hat{\gamma}_{10}$	-0.08	-0.18	0.01
slope2, $\hat{\gamma}_{20}$	0.03	-0.03	0.08
jump, $\hat{\gamma}_{30}$	-0.12	-0.32	0.08
parent, $\hat{\gamma}_{01}$	-0.03	-0.23	0.18
slope1:parent, $\hat{\gamma}_{11}$	0.1	-0.02	0.23
slope2:parent, $\hat{\gamma}_{21}$	0.02	-0.05	0.09
jump:parent, $\hat{\gamma}_{31}$	-0.18	-0.44	0.09
Full Model			
Intercept, $\hat{\gamma}_{00}$	7.52	7.27	7.76
Propensity Score, $\hat{\gamma}_{04}$	-0.49	-2.08	1.09
slope1, $\hat{\gamma}_{10}$	-0.05	-0.19	0.09
slope2, $\hat{\gamma}_{20}$	0.03	-0.04	0.11
jump, $\hat{\gamma}_{30}$	-0.24	-0.53	0.05
parent, $\hat{\gamma}_{01}$	0	-0.31	0.31
female, $\hat{\gamma}_{02}$	0.21	-0.08	0.51
slope1:parent, $\hat{\gamma}_{11}$	0.1	-0.09	0.29
slope2:parent, $\hat{\gamma}_{21}$	0.04	-0.07	0.14
jump:parent, $\hat{\gamma}_{31}$	0.03	-0.36	0.42
slope1:female, $\hat{\gamma}_{12}$	-0.07	-0.26	0.12
slope2:female, $\hat{\gamma}_{22}$	-0.01	-0.12	0.1
jump:female, $\hat{\gamma}_{32}$	0.23	-0.18	0.63
parent:female, $\hat{\gamma}_{03}$	-0.05	-0.46	0.36
slope1:parent:female, $\hat{\gamma}_{13}$	0	-0.26	0.25
slope2:parent:female, $\hat{\gamma}_{23}$	-0.03	-0.18	0.11
jump:parent:female, $\hat{\gamma}_{33}$	-0.38	-0.91	0.15

Note. Number of Respondents = 1,678; Number of Observations = 8,971.

Table S14

Descriptive Statistics in the Exploratory Sample (25% of the Total Sample)

	time==0		time==1		time==2		time==3		time==4		time==5		time==6		time==7	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Life Satisfaction																
Mothers	7.40	1.74	7.41	1.65	7.58	1.53	7.79	1.37	7.31	1.61	7.11	1.68	7.07	1.64	6.94	1.69
Fathers	7.20	1.74	7.27	1.68	7.50	1.56	7.51	1.57	7.29	1.45	7.12	1.52	7.13	1.42	7.05	1.57
Childless Women	7.32	1.74	7.30	1.75	7.23	1.76	7.29	1.87	7.09	1.90	7.21	1.75	6.75	2.07	6.96	1.73
Childless Men	7.17	1.73	7.37	1.54	6.90	1.76	7.11	1.46	6.94	1.56	6.92	1.65	6.57	1.85	6.83	1.46
Satisfaction with Family Life																
Mothers	8.09	1.48	8.08	1.64	8.26	1.57	8.45	1.50	8.05	1.58	7.78	1.56	7.67	1.97	8.05	1.70
Fathers	8.07	1.94	8.23	1.70	8.49	1.58	8.60	1.43	8.41	1.35	7.95	1.79	7.91	1.71	8.18	1.74
Childless Women	8.18	1.56	8.09	1.87	7.97	1.99	7.93	2.01	7.85	1.82	7.69	2.05	7.70	2.00	7.64	1.83
Childless Men	8.11	1.62	7.79	2.02	7.87	1.78	7.62	1.67	7.04	2.24	6.98	2.17	7.00	2.47	7.04	2.17
Satisfaction with Health																
Mothers	7.55	1.93	7.47	1.94	7.69	1.71	7.60	1.80	7.44	1.99	7.16	2.00	7.06	1.99	7.06	2.07
Fathers	7.63	1.93	7.60	1.94	7.52	1.93	7.46	1.88	7.28	1.83	7.21	1.85	7.18	1.93	7.36	1.72
Childless Women	7.65	1.91	7.57	1.85	7.41	1.93	7.54	1.94	7.18	2.14	7.06	2.17	6.97	2.18	6.99	2.10
Childless Men	7.60	1.86	7.46	1.94	7.25	1.80	7.31	1.92	7.14	1.96	7.07	1.87	6.81	2.03	6.85	1.89
Satisfaction with Sleep																
Mothers	7.21	1.97	7.39	2.16	6.83	2.14	5.92	2.42	6.48	2.22	6.25	2.12	6.35	2.36	7.08	1.82
Fathers	7.45	2.08	7.78	2.05	7.38	2.02	6.91	2.10	6.87	1.75	6.86	2.08	7.02	2.20	7.51	1.70
Childless Women	7.46	1.82	7.63	2.00	7.52	2.15	7.67	1.90	7.51	1.92	7.79	2.29	7.30	2.31	6.87	2.51
Childless Men	7.31	2.12	7.57	1.99	7.63	1.78	7.41	1.96	7.31	1.88	7.17	1.75	7.12	1.90	7.00	1.89

Satisfaction with Job																
Mothers	7.09	2.07	6.96	2.30	6.97	2.18	7.04	2.16	7.05	2.25	6.93	2.09	6.97	2.20	6.90	2.26
Fathers	7.13	2.05	7.14	2.12	7.20	1.94	7.22	1.90	7.01	2.05	7.12	1.95	7.10	1.95	6.86	2.09
Childless Women	7.35	2.05	7.07	2.21	7.05	2.13	7.04	2.05	6.68	2.31	6.68	2.59	6.57	2.30	6.58	2.34
Childless Men	7.15	1.91	7.01	2.18	6.90	2.13	6.88	2.06	6.93	1.97	6.80	2.03	6.71	2.18	6.85	1.78
Satisfaction with Housework																
Mothers	6.95	1.88	6.97	1.85	6.88	1.83	6.85	1.85	6.51	1.85	6.63	1.75	6.78	1.66	6.86	1.69
Fathers	7.11	1.79	7.10	2.02	6.82	1.97	6.96	1.89	6.90	1.94	6.95	2.02	6.85	1.96	6.67	2.07
Childless Women	6.96	1.98	6.96	1.90	6.94	2.01	6.71	1.96	6.60	1.83	6.37	2.12	6.54	1.81	6.65	1.81
Childless Men	6.85	2.08	6.89	2.03	6.63	1.99	6.67	2.08	6.61	2.21	6.61	2.01	6.36	2.21	6.48	2.13
Satisfaction with Household Inc.																
Mothers	6.52	2.22	6.56	2.30	6.66	2.31	6.25	2.29	6.24	2.42	6.18	2.41	6.10	2.18	6.13	2.31
Fathers	6.29	2.36	6.71	2.19	6.61	1.99	6.25	2.14	6.32	2.04	6.34	1.97	6.41	1.98	6.51	1.74
Childless Women	6.72	2.22	6.58	2.26	6.64	2.25	6.46	2.28	6.42	2.29	6.38	2.26	6.51	2.14	6.53	2.21
Childless Men	6.31	2.25	6.35	2.23	6.15	2.27	6.25	2.20	6.28	2.10	6.20	2.08	6.09	2.22	6.14	2.10
Satisfaction with Personal Inc.																
Mothers	6.06	2.44	5.88	2.62	5.89	2.61	4.82	2.73	4.64	2.95	5.53	2.64	5.26	2.40	5.47	2.60
Fathers	5.95	2.70	6.36	2.46	6.28	2.60	6.19	2.47	6.18	2.53	6.08	2.45	6.31	2.21	6.42	2.07
Childless Women	6.00	2.47	5.96	2.56	5.93	2.54	6.00	2.53	5.79	2.71	5.76	2.80	5.85	2.67	6.07	2.33
Childless Men	6.20	2.42	6.29	2.35	6.33	2.27	6.08	2.54	5.93	2.50	6.01	2.27	6.01	2.32	6.07	2.08
Satisfaction with Leisure																
Mothers	6.87	2.10	6.76	2.16	7.14	1.92	6.42	2.26	6.40	2.26	6.42	2.25	6.34	2.30	6.40	2.11
Fathers	6.61	2.29	6.67	2.17	6.39	2.28	6.32	2.17	6.19	2.17	5.93	2.30	5.91	2.31	6.22	2.32
Childless Women	6.90	2.18	6.76	2.25	6.86	2.26	6.93	2.25	6.78	2.12	6.67	2.31	6.58	2.21	6.72	2.29

Childless Men	6.56	2.20	6.39	2.26	6.50	2.12	6.57	2.12	6.41	2.28	6.29	2.28	6.38	2.05	6.40	2.19
Satisfaction with Dwelling																
Mothers	7.63	2.04	7.73	2.07	7.58	2.17	7.36	2.23	7.14	2.41	7.38	2.23	7.29	2.18	7.49	1.99
Fathers	7.42	2.03	7.60	1.98	7.57	1.94	7.43	1.99	7.59	1.84	7.52	1.98	7.68	1.89	7.81	1.94
Childless Women	7.66	2.09	7.63	2.16	7.44	2.29	7.54	2.15	7.37	2.20	7.38	2.13	7.48	2.14	7.50	2.04
Childless Men	7.42	1.98	7.52	2.02	7.32	2.03	7.15	2.05	7.24	1.98	7.12	2.09	7.19	1.94	7.16	1.98

Note. Inc. = Income; *M* = mean, *SD* = standard deviation. See Fig. S2 for an overview of the *time* dummy coding.

Table S15

Fixed Effects Multilevel Modeling Regression Parameters for Life Satisfaction in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	7.24	7.14	7.34	0.051	14485	143.152	0
Propensity Score, $\hat{\gamma}_{02}$	1.3	0.36	2.23	0.475	3364	2.728	0.006
slope1, $\hat{\gamma}_{10}$	-0.09	-0.14	-0.04	0.025	14485	-3.607	0
slope2, $\hat{\gamma}_{20}$	-0.03	-0.05	0	0.015	14485	-1.794	0.073
jump, $\hat{\gamma}_{30}$	-0.07	-0.18	0.04	0.054	14485	-1.312	0.19
parent, $\hat{\gamma}_{01}$	0.04	-0.07	0.15	0.057	3364	0.665	0.506
slope1:parent, $\hat{\gamma}_{11}$	0.18	0.11	0.25	0.034	14485	5.351	0
slope2:parent, $\hat{\gamma}_{21}$	-0.11	-0.15	-0.07	0.019	14485	-5.68	0
jump:parent, $\hat{\gamma}_{31}$	0.18	0.05	0.32	0.07	14485	2.606	0.009
Full Model							
Intercept, $\hat{\gamma}_{00}$	7.19	7.05	7.32	0.068	14479	106.45	0
Propensity Score, $\hat{\gamma}_{04}$	1.32	0.39	2.25	0.475	3362	2.772	0.006
slope1, $\hat{\gamma}_{10}$	-0.09	-0.16	-0.02	0.036	14479	-2.429	0.015
slope2, $\hat{\gamma}_{20}$	-0.03	-0.07	0	0.02	14479	-1.725	0.085
jump, $\hat{\gamma}_{30}$	-0.05	-0.2	0.1	0.077	14479	-0.695	0.487
parent, $\hat{\gamma}_{01}$	0.15	-0.01	0.32	0.084	3362	1.847	0.065
female, $\hat{\gamma}_{02}$	0.1	-0.06	0.26	0.082	3362	1.221	0.222
slope1:parent, $\hat{\gamma}_{11}$	0.12	0.03	0.22	0.049	14479	2.509	0.012
slope2:parent, $\hat{\gamma}_{21}$	-0.06	-0.11	0	0.028	14479	-2.015	0.044
jump:parent, $\hat{\gamma}_{31}$	0.07	-0.13	0.26	0.101	14479	0.647	0.518
slope1:female, $\hat{\gamma}_{12}$	0	-0.1	0.1	0.05	14479	-0.053	0.958
slope2:female, $\hat{\gamma}_{22}$	0.02	-0.04	0.08	0.029	14479	0.636	0.525
jump:female, $\hat{\gamma}_{32}$	-0.04	-0.25	0.17	0.108	14479	-0.348	0.728
parent:female, $\hat{\gamma}_{03}$	-0.22	-0.44	0.01	0.114	3362	-1.9	0.057
slope1:parent:female, $\hat{\gamma}_{13}$	0.1	-0.03	0.24	0.067	14479	1.541	0.123
slope2:parent:female, $\hat{\gamma}_{23}$	-0.1	-0.18	-0.03	0.039	14479	-2.668	0.008
jump:parent:female, $\hat{\gamma}_{33}$	0.22	-0.06	0.49	0.141	14479	1.561	0.119

Note. Number of Respondents = 3,367; Number of Observations = 17,858.

Table S16

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Health in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	7.59	7.48	7.71	0.06	14452	127.372	0
Propensity Score, $\hat{\gamma}_{02}$	0.39	-0.7	1.49	0.556	3356	0.709	0.478
slope1, $\hat{\gamma}_{10}$	-0.13	-0.19	-0.08	0.03	14452	-4.534	0
slope2, $\hat{\gamma}_{20}$	-0.08	-0.11	-0.04	0.017	14452	-4.414	0
jump, $\hat{\gamma}_{30}$	0.03	-0.09	0.15	0.063	14452	0.462	0.644
parent, $\hat{\gamma}_{01}$	0	-0.13	0.13	0.067	3356	-0.038	0.97
slope1:parent, $\hat{\gamma}_{11}$	0.13	0.06	0.21	0.039	14452	3.423	0.001
slope2:parent, $\hat{\gamma}_{21}$	-0.07	-0.11	-0.03	0.023	14452	-3.088	0.002
jump:parent, $\hat{\gamma}_{31}$	0.07	-0.09	0.23	0.082	14452	0.81	0.418
Full Model							
Intercept, $\hat{\gamma}_{00}$	7.55	7.39	7.71	0.08	14446	94.646	0
Propensity Score, $\hat{\gamma}_{04}$	0.4	-0.69	1.49	0.557	3354	0.722	0.47
slope1, $\hat{\gamma}_{10}$	-0.12	-0.21	-0.04	0.043	14446	-2.899	0.004
slope2, $\hat{\gamma}_{20}$	-0.06	-0.1	-0.01	0.023	14446	-2.472	0.013
jump, $\hat{\gamma}_{30}$	-0.02	-0.2	0.16	0.09	14446	-0.214	0.83
parent, $\hat{\gamma}_{01}$	0.12	-0.07	0.32	0.099	3354	1.256	0.209
female, $\hat{\gamma}_{02}$	0.08	-0.11	0.26	0.097	3354	0.776	0.438
slope1:parent, $\hat{\gamma}_{11}$	0.07	-0.05	0.18	0.058	14446	1.141	0.254
slope2:parent, $\hat{\gamma}_{21}$	-0.08	-0.14	-0.01	0.032	14446	-2.36	0.018
jump:parent, $\hat{\gamma}_{31}$	0.08	-0.15	0.31	0.118	14446	0.699	0.485
slope1:female, $\hat{\gamma}_{12}$	-0.02	-0.13	0.1	0.059	14446	-0.291	0.771
slope2:female, $\hat{\gamma}_{22}$	-0.04	-0.1	0.03	0.034	14446	-1.115	0.265
jump:female, $\hat{\gamma}_{32}$	0.1	-0.15	0.35	0.127	14446	0.797	0.425
parent:female, $\hat{\gamma}_{03}$	-0.23	-0.5	0.03	0.134	3354	-1.743	0.081
slope1:parent:female, $\hat{\gamma}_{13}$	0.13	-0.03	0.28	0.079	14446	1.614	0.106
slope2:parent:female, $\hat{\gamma}_{23}$	0.02	-0.07	0.11	0.046	14446	0.365	0.715
jump:parent:female, $\hat{\gamma}_{33}$	-0.04	-0.36	0.28	0.165	14446	-0.259	0.796

Note. Number of Respondents = 3,359; Number of Observations = 17,817.

Table S17

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Sleep in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	7.45	7.22	7.68	0.117	3528	63.469	0
Propensity Score, $\hat{\gamma}_{02}$	1.11	-1.77	3.98	1.465	1445	0.755	0.45
slope1, $\hat{\gamma}_{10}$	-0.09	-0.21	0.03	0.06	3528	-1.515	0.13
slope2, $\hat{\gamma}_{20}$	-0.08	-0.15	-0.01	0.036	3528	-2.195	0.028
jump, $\hat{\gamma}_{30}$	0.04	-0.21	0.29	0.125	3528	0.321	0.748
parent, $\hat{\gamma}_{01}$	0.04	-0.24	0.33	0.145	1445	0.289	0.772
slope1:parent, $\hat{\gamma}_{11}$	-0.04	-0.21	0.13	0.086	3528	-0.436	0.663
slope2:parent, $\hat{\gamma}_{21}$	0.17	0.07	0.26	0.048	3528	3.459	0.001
jump:parent, $\hat{\gamma}_{31}$	-0.99	-1.31	-0.66	0.165	3528	-5.981	0
Full Model							
Intercept, $\hat{\gamma}_{00}$	7.47	7.17	7.77	0.154	3522	48.444	0
Propensity Score, $\hat{\gamma}_{04}$	0.91	-1.96	3.79	1.469	1443	0.621	0.535
slope1, $\hat{\gamma}_{10}$	-0.08	-0.25	0.08	0.084	3522	-0.959	0.338
slope2, $\hat{\gamma}_{20}$	-0.11	-0.2	-0.01	0.049	3522	-2.187	0.029
jump, $\hat{\gamma}_{30}$	-0.03	-0.37	0.31	0.173	3522	-0.172	0.863
parent, $\hat{\gamma}_{01}$	-0.15	-0.56	0.27	0.214	1443	-0.679	0.497
female, $\hat{\gamma}_{02}$	-0.02	-0.4	0.35	0.192	1443	-0.127	0.899
slope1:parent, $\hat{\gamma}_{11}$	0.16	-0.08	0.41	0.126	3522	1.307	0.191
slope2:parent, $\hat{\gamma}_{21}$	0.08	-0.05	0.21	0.068	3522	1.149	0.25
jump:parent, $\hat{\gamma}_{31}$	-0.58	-1.04	-0.12	0.235	3522	-2.482	0.013
slope1:female, $\hat{\gamma}_{12}$	-0.02	-0.26	0.21	0.12	3522	-0.184	0.854
slope2:female, $\hat{\gamma}_{22}$	0.06	-0.08	0.2	0.072	3522	0.877	0.381
jump:female, $\hat{\gamma}_{32}$	0.13	-0.36	0.62	0.25	3522	0.522	0.602
parent:female, $\hat{\gamma}_{03}$	0.3	-0.26	0.87	0.29	1443	1.047	0.295
slope1:parent:female, $\hat{\gamma}_{13}$	-0.35	-0.68	-0.01	0.172	3522	-2.012	0.044
slope2:parent:female, $\hat{\gamma}_{23}$	0.15	-0.04	0.34	0.097	3522	1.569	0.117
jump:parent:female, $\hat{\gamma}_{33}$	-0.75	-1.39	-0.1	0.33	3522	-2.262	0.024

Note. Number of Respondents = 1,448; Number of Observations = 4,982.

Table S18

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Household Income in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	6.1	5.97	6.24	0.071	14269	86.258	0
Propensity Score, $\hat{\gamma}_{02}$	2.78	1.47	4.1	0.67	3349	4.152	0
slope1, $\hat{\gamma}_{10}$	0.09	0.03	0.16	0.034	14269	2.823	0.005
slope2, $\hat{\gamma}_{20}$	0.06	0.02	0.1	0.019	14269	3.246	0.001
jump, $\hat{\gamma}_{30}$	-0.25	-0.39	-0.11	0.072	14269	-3.513	0
parent, $\hat{\gamma}_{01}$	0.21	0.06	0.37	0.078	3349	2.721	0.007
slope1:parent, $\hat{\gamma}_{11}$	-0.09	-0.18	-0.01	0.045	14269	-2.092	0.036
slope2:parent, $\hat{\gamma}_{21}$	-0.02	-0.07	0.03	0.026	14269	-0.698	0.485
jump:parent, $\hat{\gamma}_{31}$	-0.14	-0.32	0.04	0.093	14269	-1.53	0.126
Full Model							
Intercept, $\hat{\gamma}_{00}$	6.12	5.93	6.3	0.094	14263	65.102	0
Propensity Score, $\hat{\gamma}_{04}$	2.78	1.46	4.09	0.67	3347	4.145	0
slope1, $\hat{\gamma}_{10}$	0.09	-0.01	0.18	0.049	14263	1.801	0.072
slope2, $\hat{\gamma}_{20}$	0.07	0.02	0.12	0.026	14263	2.774	0.006
jump, $\hat{\gamma}_{30}$	-0.3	-0.5	-0.1	0.102	14263	-2.981	0.003
parent, $\hat{\gamma}_{01}$	0.31	0.08	0.53	0.116	3347	2.658	0.008
female, $\hat{\gamma}_{02}$	-0.03	-0.25	0.2	0.114	3347	-0.226	0.821
slope1:parent, $\hat{\gamma}_{11}$	-0.12	-0.25	0	0.065	14263	-1.89	0.059
slope2:parent, $\hat{\gamma}_{21}$	-0.03	-0.11	0.04	0.036	14263	-0.93	0.353
jump:parent, $\hat{\gamma}_{31}$	-0.05	-0.31	0.21	0.134	14263	-0.358	0.72
slope1:female, $\hat{\gamma}_{12}$	0.01	-0.12	0.15	0.067	14263	0.204	0.838
slope2:female, $\hat{\gamma}_{22}$	-0.02	-0.1	0.05	0.039	14263	-0.544	0.587
jump:female, $\hat{\gamma}_{32}$	0.1	-0.18	0.38	0.144	14263	0.702	0.483
parent:female, $\hat{\gamma}_{03}$	-0.17	-0.48	0.13	0.157	3347	-1.108	0.268
slope1:parent:female, $\hat{\gamma}_{13}$	0.05	-0.12	0.23	0.09	14263	0.613	0.54
slope2:parent:female, $\hat{\gamma}_{23}$	0.03	-0.07	0.13	0.052	14263	0.604	0.546
jump:parent:female, $\hat{\gamma}_{33}$	-0.18	-0.55	0.18	0.186	14263	-0.981	0.327

Note. Number of Respondents = 3,352; Number of Observations = 17,627.

Table S19

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Personal Income in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	5.44	5.22	5.66	0.112	6011	48.585	0
Propensity Score, $\hat{\gamma}_{02}$	8.83	6.22	11.44	1.332	2049	6.633	0
slope1, $\hat{\gamma}_{10}$	0.19	0.08	0.29	0.053	6011	3.541	0
slope2, $\hat{\gamma}_{20}$	0.08	0.02	0.14	0.03	6011	2.668	0.008
jump, $\hat{\gamma}_{30}$	-0.36	-0.57	-0.14	0.109	6011	-3.252	0.001
parent, $\hat{\gamma}_{01}$	0.02	-0.23	0.28	0.131	2049	0.19	0.849
slope1:parent, $\hat{\gamma}_{11}$	-0.16	-0.31	-0.02	0.074	6011	-2.167	0.03
slope2:parent, $\hat{\gamma}_{21}$	0.1	0.02	0.18	0.041	6011	2.466	0.014
jump:parent, $\hat{\gamma}_{31}$	-0.39	-0.67	-0.1	0.144	6011	-2.685	0.007
Full Model							
Intercept, $\hat{\gamma}_{00}$	5.55	5.27	5.83	0.143	6005	38.789	0
Propensity Score, $\hat{\gamma}_{04}$	8.2	5.61	10.79	1.322	2047	6.2	0
slope1, $\hat{\gamma}_{10}$	0.21	0.06	0.35	0.073	6005	2.799	0.005
slope2, $\hat{\gamma}_{20}$	0.12	0.04	0.2	0.041	6005	2.942	0.003
jump, $\hat{\gamma}_{30}$	-0.38	-0.68	-0.09	0.151	6005	-2.538	0.011
parent, $\hat{\gamma}_{01}$	0.11	-0.26	0.48	0.188	2047	0.596	0.551
female, $\hat{\gamma}_{02}$	-0.15	-0.5	0.19	0.176	2047	-0.856	0.392
slope1:parent, $\hat{\gamma}_{11}$	-0.13	-0.33	0.08	0.106	6005	-1.183	0.237
slope2:parent, $\hat{\gamma}_{21}$	-0.09	-0.2	0.02	0.057	6005	-1.64	0.101
jump:parent, $\hat{\gamma}_{31}$	0.34	-0.06	0.74	0.204	6005	1.648	0.099
slope1:female, $\hat{\gamma}_{12}$	-0.04	-0.24	0.17	0.106	6005	-0.36	0.719
slope2:female, $\hat{\gamma}_{22}$	-0.09	-0.21	0.03	0.06	6005	-1.47	0.142
jump:female, $\hat{\gamma}_{32}$	0.07	-0.36	0.5	0.218	6005	0.315	0.753
parent:female, $\hat{\gamma}_{03}$	-0.16	-0.67	0.35	0.26	2047	-0.599	0.549
slope1:parent:female, $\hat{\gamma}_{13}$	-0.06	-0.35	0.23	0.148	6005	-0.39	0.696
slope2:parent:female, $\hat{\gamma}_{23}$	0.37	0.21	0.53	0.081	6005	4.598	0
jump:parent:female, $\hat{\gamma}_{33}$	-1.37	-1.94	-0.81	0.288	6005	-4.779	0

Note. Number of Respondents = 2,052; Number of Observations = 8,069.

Table S20

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Leisure in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	6.97	6.84	7.11	0.069	14324	100.906	0
Propensity Score, $\hat{\gamma}_{02}$	-3.4	-4.64	-2.17	0.63	3342	-5.397	0
slope1, $\hat{\gamma}_{10}$	-0.05	-0.12	0.02	0.035	14324	-1.483	0.138
slope2, $\hat{\gamma}_{20}$	0	-0.04	0.04	0.02	14324	-0.074	0.941
jump, $\hat{\gamma}_{30}$	0.01	-0.14	0.15	0.076	14324	0.081	0.935
parent, $\hat{\gamma}_{01}$	-0.05	-0.21	0.1	0.078	3342	-0.675	0.5
slope1:parent, $\hat{\gamma}_{11}$	0.13	0.04	0.22	0.047	14324	2.783	0.005
slope2:parent, $\hat{\gamma}_{21}$	-0.03	-0.08	0.03	0.027	14324	-0.938	0.348
jump:parent, $\hat{\gamma}_{31}$	-0.45	-0.65	-0.26	0.098	14324	-4.619	0
Full Model							
Intercept, $\hat{\gamma}_{00}$	6.83	6.65	7.01	0.093	14318	73.67	0
Propensity Score, $\hat{\gamma}_{04}$	-3.38	-4.61	-2.14	0.63	3340	-5.361	0
slope1, $\hat{\gamma}_{10}$	-0.02	-0.12	0.08	0.051	14318	-0.439	0.661
slope2, $\hat{\gamma}_{20}$	0	-0.05	0.06	0.028	14318	0.054	0.957
jump, $\hat{\gamma}_{30}$	0.04	-0.17	0.25	0.107	14318	0.341	0.733
parent, $\hat{\gamma}_{01}$	0.08	-0.14	0.31	0.115	3340	0.713	0.476
female, $\hat{\gamma}_{02}$	0.26	0.03	0.48	0.113	3340	2.262	0.024
slope1:parent, $\hat{\gamma}_{11}$	-0.01	-0.14	0.13	0.069	14318	-0.091	0.928
slope2:parent, $\hat{\gamma}_{21}$	-0.02	-0.1	0.06	0.039	14318	-0.531	0.596
jump:parent, $\hat{\gamma}_{31}$	-0.38	-0.66	-0.1	0.142	14318	-2.672	0.008
slope1:female, $\hat{\gamma}_{12}$	-0.05	-0.19	0.09	0.071	14318	-0.756	0.45
slope2:female, $\hat{\gamma}_{22}$	-0.01	-0.09	0.07	0.041	14318	-0.199	0.842
jump:female, $\hat{\gamma}_{32}$	-0.06	-0.35	0.24	0.152	14318	-0.375	0.708
parent:female, $\hat{\gamma}_{03}$	-0.25	-0.55	0.06	0.156	3340	-1.59	0.112
slope1:parent:female, $\hat{\gamma}_{13}$	0.25	0.07	0.44	0.094	14318	2.67	0.008
slope2:parent:female, $\hat{\gamma}_{23}$	-0.01	-0.11	0.1	0.055	14318	-0.123	0.902
jump:parent:female, $\hat{\gamma}_{33}$	-0.14	-0.52	0.25	0.197	14318	-0.699	0.484

Note. Number of Respondents = 3,345; Number of Observations = 17,675.

Table S21

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Job in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	7.12	6.98	7.25	0.068	11441	104.222	0
Propensity Score, $\hat{\gamma}_{02}$	0.73	-0.42	1.88	0.587	3219	1.244	0.213
slope1, $\hat{\gamma}_{10}$	-0.06	-0.13	0.01	0.037	11441	-1.578	0.115
slope2, $\hat{\gamma}_{20}$	-0.02	-0.06	0.03	0.021	11441	-0.753	0.451
jump, $\hat{\gamma}_{30}$	-0.06	-0.22	0.1	0.079	11441	-0.758	0.449
parent, $\hat{\gamma}_{01}$	0.08	-0.07	0.23	0.077	3219	1.082	0.279
slope1:parent, $\hat{\gamma}_{11}$	0	-0.1	0.1	0.05	11441	-0.02	0.984
slope2:parent, $\hat{\gamma}_{21}$	-0.02	-0.07	0.04	0.03	11441	-0.531	0.595
jump:parent, $\hat{\gamma}_{31}$	0.07	-0.15	0.28	0.109	11441	0.601	0.548
Full Model							
Intercept, $\hat{\gamma}_{00}$	7.02	6.85	7.2	0.091	11435	77.295	0
Propensity Score, $\hat{\gamma}_{04}$	0.73	-0.42	1.88	0.587	3217	1.249	0.212
slope1, $\hat{\gamma}_{10}$	0.03	-0.08	0.13	0.054	11435	0.48	0.631
slope2, $\hat{\gamma}_{20}$	-0.04	-0.09	0.02	0.029	11435	-1.245	0.213
jump, $\hat{\gamma}_{30}$	-0.07	-0.29	0.15	0.111	11435	-0.653	0.514
parent, $\hat{\gamma}_{01}$	0.29	0.07	0.51	0.112	3217	2.585	0.01
female, $\hat{\gamma}_{02}$	0.17	-0.05	0.39	0.113	3217	1.528	0.127
slope1:parent, $\hat{\gamma}_{11}$	-0.1	-0.24	0.04	0.072	11435	-1.366	0.172
slope2:parent, $\hat{\gamma}_{21}$	0	-0.08	0.08	0.04	11435	-0.058	0.954
jump:parent, $\hat{\gamma}_{31}$	0.05	-0.24	0.33	0.146	11435	0.331	0.741
slope1:female, $\hat{\gamma}_{12}$	-0.16	-0.31	-0.02	0.075	11435	-2.183	0.029
slope2:female, $\hat{\gamma}_{22}$	0.04	-0.04	0.13	0.043	11435	1.003	0.316
jump:female, $\hat{\gamma}_{32}$	0.02	-0.3	0.33	0.159	11435	0.096	0.924
parent:female, $\hat{\gamma}_{03}$	-0.39	-0.69	-0.09	0.154	3217	-2.536	0.011
slope1:parent:female, $\hat{\gamma}_{13}$	0.18	-0.01	0.38	0.1	11435	1.843	0.065
slope2:parent:female, $\hat{\gamma}_{23}$	-0.03	-0.15	0.09	0.061	11435	-0.483	0.629
jump:parent:female, $\hat{\gamma}_{33}$	0.05	-0.39	0.48	0.224	11435	0.201	0.84

Note. Number of Respondents = 3,222; Number of Observations = 14,669.

Table S22

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Housework in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	6.77	6.63	6.91	0.07	9902	96.144	0
Propensity Score, $\hat{\gamma}_{02}$	0.1	-1.1	1.3	0.614	3091	0.162	0.871
slope1, $\hat{\gamma}_{10}$	-0.03	-0.11	0.04	0.039	9902	-0.875	0.382
slope2, $\hat{\gamma}_{20}$	-0.04	-0.08	0.01	0.022	9902	-1.718	0.086
jump, $\hat{\gamma}_{30}$	0.06	-0.1	0.22	0.083	9902	0.716	0.474
parent, $\hat{\gamma}_{01}$	0.12	-0.04	0.28	0.081	3091	1.466	0.143
slope1:parent, $\hat{\gamma}_{11}$	0.06	-0.04	0.16	0.052	9902	1.215	0.224
slope2:parent, $\hat{\gamma}_{21}$	0.01	-0.04	0.07	0.029	9902	0.462	0.644
jump:parent, $\hat{\gamma}_{31}$	-0.19	-0.4	0.02	0.105	9902	-1.815	0.07
Full Model							
Intercept, $\hat{\gamma}_{00}$	6.64	6.44	6.83	0.099	9896	67.368	0
Propensity Score, $\hat{\gamma}_{04}$	0.07	-1.13	1.28	0.614	3089	0.12	0.905
slope1, $\hat{\gamma}_{10}$	0.04	-0.08	0.15	0.059	9896	0.633	0.527
slope2, $\hat{\gamma}_{20}$	0	-0.07	0.06	0.032	9896	-0.15	0.881
jump, $\hat{\gamma}_{30}$	-0.07	-0.3	0.17	0.122	9896	-0.538	0.591
parent, $\hat{\gamma}_{01}$	0.14	-0.11	0.38	0.125	3089	1.094	0.274
female, $\hat{\gamma}_{02}$	0.23	0	0.46	0.119	3089	1.943	0.052
slope1:parent, $\hat{\gamma}_{11}$	0.05	-0.11	0.2	0.08	9896	0.601	0.548
slope2:parent, $\hat{\gamma}_{21}$	0.02	-0.07	0.11	0.044	9896	0.427	0.67
jump:parent, $\hat{\gamma}_{31}$	-0.07	-0.39	0.25	0.162	9896	-0.434	0.664
slope1:female, $\hat{\gamma}_{12}$	-0.12	-0.28	0.03	0.079	9896	-1.569	0.117
slope2:female, $\hat{\gamma}_{22}$	-0.07	-0.15	0.02	0.045	9896	-1.481	0.139
jump:female, $\hat{\gamma}_{32}$	0.24	-0.09	0.56	0.166	9896	1.422	0.155
parent:female, $\hat{\gamma}_{03}$	-0.04	-0.36	0.28	0.164	3089	-0.238	0.812
slope1:parent:female, $\hat{\gamma}_{13}$	0.03	-0.18	0.23	0.104	9896	0.271	0.786
slope2:parent:female, $\hat{\gamma}_{23}$	0	-0.11	0.12	0.059	9896	0.041	0.967
jump:parent:female, $\hat{\gamma}_{33}$	-0.23	-0.65	0.19	0.214	9896	-1.065	0.287

Note. Number of Respondents = 3,094; Number of Observations = 13,002.

Table S23

Fixed Effects Multilevel Modeling Regression Parameters for Satisfaction with Dwelling in the Main Analysis Sample (50% of the Total Sample)

Parameter	Value	95% CI		Standard Error	Degrees of Freedom	t-value	p-value
Basic Model							
Intercept, $\hat{\gamma}_{00}$	7.41	7.28	7.54	0.065	14345	113.464	0
Propensity Score, $\hat{\gamma}_{02}$	-0.55	-1.7	0.61	0.589	3356	-0.927	0.354
slope1, $\hat{\gamma}_{10}$	-0.01	-0.08	0.06	0.035	14345	-0.23	0.818
slope2, $\hat{\gamma}_{20}$	0.01	-0.03	0.05	0.02	14345	0.51	0.61
jump, $\hat{\gamma}_{30}$	-0.08	-0.23	0.07	0.075	14345	-1.078	0.281
parent, $\hat{\gamma}_{01}$	0.17	0.02	0.31	0.074	3356	2.226	0.026
slope1:parent, $\hat{\gamma}_{11}$	0.02	-0.07	0.11	0.046	14345	0.344	0.731
slope2:parent, $\hat{\gamma}_{21}$	0.01	-0.04	0.06	0.027	14345	0.398	0.691
jump:parent, $\hat{\gamma}_{31}$	-0.14	-0.33	0.05	0.097	14345	-1.422	0.155
Full Model							
Intercept, $\hat{\gamma}_{00}$	7.34	7.17	7.51	0.088	14339	83.399	0
Propensity Score, $\hat{\gamma}_{04}$	-0.54	-1.7	0.61	0.589	3354	-0.92	0.358
slope1, $\hat{\gamma}_{10}$	-0.01	-0.1	0.09	0.05	14339	-0.109	0.913
slope2, $\hat{\gamma}_{20}$	0.05	0	0.11	0.027	14339	1.889	0.059
jump, $\hat{\gamma}_{30}$	-0.19	-0.4	0.01	0.105	14339	-1.834	0.067
parent, $\hat{\gamma}_{01}$	0.24	0.02	0.45	0.11	3354	2.155	0.031
female, $\hat{\gamma}_{02}$	0.13	-0.08	0.34	0.108	3354	1.213	0.225
slope1:parent, $\hat{\gamma}_{11}$	-0.01	-0.15	0.12	0.068	14339	-0.187	0.852
slope2:parent, $\hat{\gamma}_{21}$	-0.02	-0.09	0.06	0.038	14339	-0.475	0.634
jump:parent, $\hat{\gamma}_{31}$	0.04	-0.23	0.31	0.139	14339	0.296	0.767
slope1:female, $\hat{\gamma}_{12}$	0	-0.14	0.13	0.07	14339	-0.042	0.967
slope2:female, $\hat{\gamma}_{22}$	-0.09	-0.17	-0.01	0.04	14339	-2.194	0.028
jump:female, $\hat{\gamma}_{32}$	0.24	-0.06	0.53	0.149	14339	1.577	0.115
parent:female, $\hat{\gamma}_{03}$	-0.13	-0.42	0.16	0.149	3354	-0.871	0.384
slope1:parent:female, $\hat{\gamma}_{13}$	0.05	-0.13	0.23	0.093	14339	0.548	0.583
slope2:parent:female, $\hat{\gamma}_{23}$	0.06	-0.04	0.17	0.054	14339	1.202	0.23
jump:parent:female, $\hat{\gamma}_{33}$	-0.36	-0.74	0.02	0.194	14339	-1.84	0.066

Note. Number of Respondents = 3,359; Number of Observations = 17,710.

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