Are we architects of our own happiness?

The importance of family background for well-being

Daniel D. Schnitzlein[a,*], Christoph Wunder[b]

October 11, 2014

Abstract

This paper analyzes whether individuals have equal opportunity to achieve happiness (or well-being). We estimate sibling correlations and intergenerational correlations in self-reported life satisfaction, satisfaction with household income, job satisfaction, and satisfaction with health. We find high sibling correlations for all measures of well-being. The results suggest that family background explains, on average, between 30% and 60% of the inequality in permanent well-being. The influence is smaller when the siblings' psychological and geographical distance from their parental home is larger. Results from intergenerational correlations suggest that parental characteristics are considerably less important than family and community factors.

Keywords: subjective well-being, family background, intergenerational mobility, siblings

JEL Classification: D3, I31, J62

[a] Leibniz University Hannover, DIW Berlin
[b] University of Erlangen-Nuremberg
[*] Corresponding author: Daniel D. Schnitzlein, Leibniz University Hannover, Institute of Labour Economics, Koenigsworther Platz 1, 30167 Hannover, Germany; tel: +49 (0)511-762-5298; e-mail: schnitzlein@aoek.uni-hannover.de.

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their creator with certain unalienable rights, that among these are life, liberty, and the pursuit of happiness.
(United States Declaration of Independence)

1 Introduction

The famous second sentence of the US Declaration of Independence quoted above mentions a promise that most modern societies are built upon: all individuals should be able to freely choose actions to achieve their greatest happiness. It is seen as a normative goal to provide all individuals with equal opportunities to develop their happiness. Their success should only be based on the influence of their own effort and not on factors beyond their control. In other words, the promise is that individuals should be architects of their own happiness or well-being. We use a large representative German dataset to investigate whether this promise is fulfilled in one of the biggest western economies.

Resent research on intergenerational mobility and the growing literature on the importance of family and community background has documented substantial influence of parental characteristics and family and community background on the economic success of the offspring in several countries (for a summary of the literature, see, e.g., Solon 1999, Black and Devereux 2011). As family and community factors are beyond the offspring's control, a strong influence of these factors on the children's economic success is a violation of the norm of equality of opportunity. The results in the literature show that the strength of this influence differs among different states. For example, the Nordic countries, Denmark, Sweden, Finland, and Norway show only little influence of family background while Germany, together with the US, is among the countries with the highest influence of the family (Björklund et al. 2002, Schnitzlein 2014).

The influence of family and community factors on well-being has not attracted sustained attention by empirical researchers, yet. Only few studies can be found that investigate the role played by family background for individual well-being (e.g. Winkelmann 2005, Molina et al. 2011, Headey et al. 2014).[1] This is especially surprising as measures of subjective well-being are getting more and more attention as key indicators of prosperity of society. Scientific studies worked out that measures of subjective well-being may deliver insights into people's lives and living conditions that are complementary to information provided by objective indicators, such as income or GDP (e.g., Dolan and Peasgood 2008). Policy makers have also drawn their attention to subjective indicators.[2]

Our knowledge about the equality of opportunity is incomplete as long as it is based only on objective markers of success, such as earnings or education. Since intergenerational transmissions in earnings may differ from intergenerational transmissions in well-being, earnings mobility reveals only part of the picture on intergenerational mobility. Declining earnings inequality and persistent well-being inequality may occur simultaneously when parents transfer material wealth to their children through gifts and bequests (Becker and Tomes 1986). Hence, the use of measures of subjective well-being expands our knowledge of the importance of the family background for children's outcomes.

We estimate sibling correlations and intergenerational correlations of four measures of subjective well-being to gain knowledge about individuals' opportunities to create their own happiness. We regard family and community factors as potential limiting factors for individuals'

---

[1] Both the sociological and the economic literature on intergenerational mobility lack a systematic inquiry of subjective well-being. While the sociological literature focuses mainly on the transmission of social status, economic studies are typically concerned with questions of mobility in income and wealth (for overviews, see, e.g., Erikson and Goldthorpe 2002, Solon 1999, Black and Devereux 2011).

[2] For example, French President Nicholas Sarkozy established a commission chaired by Joseph Stiglitz on the measurement of economic performance and social progress. One of the key recommendations of the final report of the commission is that "[s]tatistical offices should incorporate questions to capture people's life evaluations, hedonic experiences and priorities in their own survey" (Stiglitz et al. 2009, p. 16).

autonomy as they are beyond their control. Our approach is based on the following reasoning: if we observe a high correlation in well-being among siblings, we will regard individuals not as architects of their happiness. In this case, the factors shared by siblings determine well-being. If, in contrast, the correlation among siblings is low, then we will assume that family background plays no crucial role for well-being, and individuals may have the power to achieve well-being.

Our three main contributions are: first we widen the scope of empirical research on mobility by turning attention to the transmission of subjective well-being, a hitherto under-explored outcome. The analysis of the mobility of earnings, for instance, may sometimes shroud important information because such analyses often suffer from the lack of data for sisters or daughter-mother pairs. In contrast, well-being measures are available not only for father-son pairs but also for mother-son/daughter pairs. Thus, we are able to compare sibling correlations among brothers and among sisters and reveal potential gender-specific differences.

Second, we analyze well-being in various domains of life. Different areas of life are presumably characterized by different chances to succeed. For example, individuals may have equal opportunities to lead a healthy life (if there is equal access to the health system) but unequal opportunities in the economic sphere (if there is unequal access to educational institutions). Thus, our contribution is to work out a domain-specific influence of family background on the opportunities to lead a self-determined life.

Third, we contribute to the literature by providing detailed results for three different family types that reflect the geographical and psychological distance between the members of the family, using a single analysis framework. In this context, our analysis takes into account families that live together and those where the individuals live separately. The research to date has tended to focus either on families where all siblings live together with their parents (e.g., Winkelmann

2005) or families where all children left the parental home (e.g., Headey et al. 2014). Our study conducts equivalent analyses on these specific sample types and compares the results.

Using data from the German Socio-Economic Panel (SOEP), we find that family and community background explains, on average, between 30% and 60% of the inequality in four subjective measures of well-being (life satisfaction, satisfaction with household income, job satisfaction, and satisfaction with health). The influence is particularly large for financial satisfaction, even after children moved out of the parental home. Our evidence shows that sibling correlations depend on the psychological and geographical distance between parents and children and between siblings. Correlations are highest among siblings that live together with their parents in the same household. In comparison, we observe lower correlations among siblings that moved out of the parental home. Interestingly, the difference between sibling correlations of families living together and that of families living apart is smaller for sisters than for brothers, suggesting that there is a stronger linkage among sisters than brothers. The analysis of intergenerational correlations reveals that parental well-being is less important than family and community background. Moreover, mothers are clearly more important for job satisfaction of daughters than fathers.

The remaining paper is structured as follows: section 2 gives an overview on the existing literature, section 3 presents the empirical strategy, section 4 describes the data, section 5 presents the results, and section 6 concludes.

2 Literature

This section surveys some selected pieces of literature on intergenerational mobility. We begin with a review of recent studies about the intergenerational transmission of happiness (or well-

being). After that, we broaden the scope and give a short overview of more general studies that look at the transmission of factors that may be relevant for the transmission of well-being.

In a seminal study, Winkelmann (2005) analyzes how family background affects subjective well-being, using an ordered probit model with multiple random effects and SOEP data. He finds that 44% in the variation in long-term well-being is due to family effects.[3] Since the correlation in well-being among spouses is smaller than among siblings, Winkelmann concludes that the transmission of well-being may be attributed primarily to biological factors that are shared by siblings but are not shared by spouses. The study uses a sample of families where both spouses plus at least one child 16 or older live in the same household but does not look into the (long-term) intergenerational mobility when children moved out of the parental home.

Using data from the European Community Household Panel for 15 countries, Molina et al. (2011) apply a rank-order instrumental variable procedure to study the intergenerational mobility of income satisfaction. Their approach also controls for socioeconomic background of parents and offspring. Their sample is, similar to the sample used by Winkelmann (2005), restricted to parents and children between 16 and 24 that are still living at home. The authors report low mobility in Southern Europe and high mobility in Northern Europe. Moreover, the intergenerational correlation between children and their mothers is found to be higher than with their fathers.

Using the SOEP data, Headey et al. (2014) analyze the linkage in life satisfaction between parents and children who have moved out of the parental home. Their study provides evidence for the transmission of well-being. The results obtained from structural equation models point to

---

[3] Winkelmann (2005) includes further control variables for the socio-economic background (i.e. family income, household size, health status, unemployment). Hence, the correlation found is net of these background characteristics.

two important transmission channels beyond genetic personality traits. Parents transmit (1) prosocial and family values and (2) behavioral choices about work-life balance, social participation, and regular exercise. This research suggests that mothers are more important for adult children's life satisfaction than fathers.

Next, we look at the literature on the transmission of factors that may have relevance for the transmission of well-being. Studies by Tellegen et al. (1988) and Lykken and Tellegen (1996) reach the conclusion that subjective well-being appears to be heritable to a large degree. Using data from the Minnesota Twin Study, the authors find that about 50% of measured personality diversity and 80% of the stable component in subjective well-being can be attributed to genetic diversity. Based on a sample of young twins 18-24 years old taken from the National Longitudinal Study of Adolescent Health, Christakis et al. (2012) conclude that about a third of the variation in life satisfaction is heritable. Thus, the transmission of genes appears to be an important mechanism through which well-being is transmitted from parents to offspring.

A second important factor for the transmission of well-being is that well-being depends on expectations and aspirations. The literature provides evidence that preferences are shaped by family background. Using data from Denmark, Kleinjans (2010) finds that family background explains the children's educational expectations. Both daughters and sons have higher educational expectations when their parents have higher education. In addition, son's educational expectations are correlated with parental income. Aspirations are, furthermore, shaped by factors outside the family. The dominant zeitgeist represents another channel through which aspirations are affected. When siblings grow up in a common environment, they are confronted with the same trends and opinions that are disseminated by the media. In a similar way, sociologists argue that the dominant discourse may discourage lower class individuals from making mobility-enhancing investments in schooling, for instance (Piketty 2000). As a result, persis-

tence in well-being inequality may arise from the persistence in family-specific or class-specific aspirations and expectations.

3 Empirical strategy

We are interested in the question of to what extent an individual's well-being is independent from factors that are beyond his or her control, in particular the family and community background. To answer this question, we use two measures. First, we calculate sibling correlations that are a broad measure of the influence of family and community background. Second, we look at intergenerational correlations that tell us about one particular factor of family background, i.e. the relationship between the happiness of parents and their offspring. The comparison of the R^2 measures of these intergenerational regression models and the estimated sibling correlations gives an estimate of the importance of factors besides parental well-being in the determination of offspring's well-being.

The idea of sibling correlations is as follows (Solon et al. 1991): if we observe a high correlation among siblings, then we assume that family background, which is shared by siblings, is an important factor. If, in contrast, the correlation among siblings is not higher than among randomly selected individuals, then we assume that family background plays no role for well-being.

The sibling correlation is a rough omnibus measure (for a discussion, see, e.g., Björklund and Jäntti 2012). It captures any factors that influence well-being and are shared by siblings. These include not only parental characteristics but also community effects. The sibling correlation represents a lower bound for the total effect of family background because factors that are

sibling specific but still related to family background are not captured. For example, siblings may experience different childhood environments if first born are treated differently.

The point of departure to model a sibling correlation is the following decomposition of (long-term) well-being, SWB, for child j in family i (e.g., Solon 1999):

$$SWB_{ij} = a_i + b_{ij}, \tag{1}$$

where a_i represents a family specific component that captures the influence of all factors that are common to siblings. b_{ij} represents an individual component that represents all the influence of factors that are specific to individual j. As we observe each child only in one family, a_i and b_{ij} are orthogonal to each other. Therefore, the variance of the long-term well-being SWB can be written as the sum of the variance of the two components:

$$Var(SWB_{ij}) = Var(a_i) + Var(b_{ij}) = \sigma_a^2 + \sigma_b^2 \tag{2}$$

The correlation between the long-term subjective well-being of two siblings (the sibling correlation ρ) then equals:

$$\rho = \frac{\sigma_a^2}{(\sigma_a^2 + \sigma_b^2)}.$$

The sibling correlation can be interpreted as the share of the variance in long-term subjective well-being that can be attributed to factors shared by siblings. To estimate the variance components, we use the following linear mixed model:

$$SWB_{ijt} = \mathbf{x}_{ijt}\beta + a_i + b_{ij} + v_{ijt}$$

As we do not observe long-term subjective well-being in our data, we use instead annual observations (index t) and include an error term (v_{ijt}) in our model that captures transitory fluctuations. $\mathbf{x}_{ijt}$ includes a third degree polynomial of age and a set of dummy variables to capture fixed year effect. We do not include control variables for socio-economic characteristics in order to capture the overall family correlation in well-being. Following Mazumder (2008), we estimate the variance components by using restricted maximum likelihood. The standard errors of the presented sibling correlations are calculated via the delta method.

We calculate intergenerational correlations as a second mobility measure. We use the following bivariate regression approach, where we regress the child's well-being, SWB_c, on the father's or mother's well-being, SWB_p:

$$SWB_c = \beta_0 + \beta_1 SWB_p + \varepsilon \tag{3}$$

Again, since long-term measures of well-being are not available, we use averages over all available years (given that the respondent was interviewed at least at three times). With this approach, we reduce attenuation bias due to measurement error in annual well-being, which is affected by random fluctuations from the true long-term values (Solon 1989).[4]

4 Data

We use data from the SOEP that provides longitudinal information about children and their parents in Germany (Wagner et al. 2007).[5] Our sample covers the period 1984-2010 and is restricted to West Germany because well-being was significantly different in East and West

---

[4] The use of annual measure would lead to a downward bias in estimates of the intergenerational correlations due to classical measurement error.

[5] We use SOEPv27 (DOI: 10.5684/soep.v27). For more information see *http://www.diw.de/soep*.

Germany throughout the 1990s (Frijters et al. 2004). We include all respondents for whom we have information about the mother and/or father.[6] A particular advantage of the SOEP is that the survey follows children when they leave the parental household. Therefore, we have information not just about siblings and child-parent pairs that live together in the same household but also of those who moved out of the initial household and live separately.

Table 1 reports the sample sizes for brothers, sisters, and mixed sibships. Since we include singletons, the number of individuals is less than twice the number of families in the samples for brothers and sisters, respectively. The sample for mixed-sex siblings does, of course, not include singletons and requires that at least two individuals belong to the same family.

To further refine our analysis, we split each gender-specific sample into three subsamples that reflect the geographical and psychological distance to the family of origin (i.e. between parents and children and between siblings). First, we coded families in which all siblings live together in the parental home as "siblings living with parents". We regard the members of these families to have a low distance. Second, families where all siblings moved out of the parental home are coded as "moved out". Here, we assume a relatively larger distance between the members of the family. Third, families where at least one child moved out and at least one child lives with parents are regarded as "mixed families". Tables 2 to 4 show the respective sample sizes and report the descriptive statistics for the well-being measures.

For the estimations of intergenerational correlations, we finally use a sample of matched child-parent pairs (son-father, son-mother, daughter-father, daughter-mother). We restricted the

---

[6] This may include biological and/or nonbiological parents.

age range to 30-45 for both children and parents. We use all information on subjective well-being in this age range, given that at least three interviews are available.[7]

We use questionnaire data on individuals' subjective well-being as indicators of well-being (or happiness). Today, this approach is widely accepted among economists as well as other behavioral and social scientists (Frey and Stutzer 2002, Kahneman and Krueger 2006).[8] In the SOEP, respondents are asked to evaluate their life in general and specific areas of life using a numerical scale (from 0=completely dissatisfied to 10=completely satisfied).

Following the consensus in the literature on subjective well-being, we assume cardinality of the well-being measures, as studies show that assuming ordinality or cardinality of well-being measures hardly affects the results of regression analyses (e.g., Ferrer-i-Carbonell and Frijters 2004). Kristoffersen (2010) provides a comprehensive discussion of interpersonal, intertemporal and international comparison of subjective well-being measures.

This study focuses on well-being measures that are collected in every year: life satisfaction, satisfaction with household income, health satisfaction, and job satisfaction. The descriptive statistics for life satisfaction and income satisfaction show similar averages for brothers and sisters (Table 1). In contrast, averages of job satisfaction and health satisfaction differ significantly between genders.[9]

---

[7] However, we tend to observe parents at higher ages, on average, than their children. On average, sons and daughters are 34.0 and 33.8 years old while fathers and mothers are on average 41.6 and 40.7 years old, respectively.

[8] Research has revealed factors that help to explain variation in well-being and identified correlates of well-being, such as income (Layard et al. 2008, Clark and Senik 2010), unemployment (Winkelmann and Winkelmann 1998), family status (Lucas et al. 2003), or age (Blanchflower and Oswald 2008, Wunder et al. 2013).

[9] Two-sample mean-comparison tests reject the null hypothesis for job satisfaction and health satisfaction at any reasonable significance level ($p < 0.00$).

5 Results

This section begins with a discussion of general sibling correlations in well-being. After that, we present more detailed results for subsamples of three family types. This approach enables us to give conjectures about the mechanisms behind sibling correlations. Finally, we turn to estimations of the intergenerational mobility of well-being using child-parent pairs.

5.1 Sibling correlations

Figure 1 reports sibling correlations in measures of subjective well-being for brothers, sisters and mixed-sex siblings. The sibling correlations in life satisfaction are between 0.43 and 0.48, which is of similar magnitude as the correlations in economic outcomes reported for Germany. For example, Schnitzlein (2014) reports that 43 percent of the inequality in permanent earnings among brothers can be attributed to family and community factors.

The sibling correlations in satisfaction with household income is approximately 0.6, which is clearly higher than for life satisfaction. This result may be driven in particular by living-together families because members of these families are linked through joint production and consumption of household income. We return to this issue later in subsection 5.2 where we present separate estimates for children that moved out of the parental home and for those living with their parents.

While sibling correlations in life satisfaction and satisfaction with household income do not differ much across the three subgroups examined, we find some evidence for a gender-specific asymmetry in two other domains of life, though these estimates are somewhat imprecise and have large standard errors. First, the point estimate of the sibling correlation in job satisfaction

is clearly smaller for sisters than for brothers (0.35 vs. 0.47). Second, the correlation in health satisfaction is larger for sisters than for brothers (0.44 vs. 0.34). Moreover, the small estimate for brothers, which is the smallest value over all domains, is an unanticipated result. We would have expected a clearly higher sibling correlation in health satisfaction because siblings share a number of health-related influences. For example, (non-identical twin) siblings share, on average, 50% of their genes. They also share similar nutrition habits, especially when they live in the same household.

An explanation for the gender-specific asymmetry in the correlation in health satisfaction may be that women and men have distinct roles in family nutrition. Due to the gendered division of labor, which is still persistent in Germany (e.g., Rosenfeld et al. 2004), women do most of the housework and cooking for the family while men are the breadwinners. Therefore, sisters are more likely to share the same nutrition habits than brothers after they moved out of the parental home. Thus, we suppose that the higher correlation in health satisfaction among sisters results from the similarity in their health-related life styles. We will go into detail in the next section where we illuminate sibling correlation in different types of families in more detail.

5.2   Sibling correlations and distance to parents

The importance of family background to achieve well-being may depend on the psychological and geographical distance between children and their parental family. Moving out of the parental home represents a massive change in the relationship between parents and children and between siblings. Moreover, it implies the development of a more individuated life (e.g., Aquilino 1997). In consequence, we expect that the impact of family background on the child's life and living conditions is weaker if the child left the parental home.

In order to investigate this issue, we partition our sample with respect to three family types: the first subsample includes only siblings that live together with their parents in one household. In this case, the child-parent distance and the distance between siblings is small and we hypothesize that the family background is more important for well-being. The second subsample consists of siblings that moved out of the parental home. Here, the members of the family of origin share less time and less resources compared to families living together. As a result, family background may be less important for well-being. In the third subsample, we use mixed family types where at least one child lives with parents and at least one child left the parental home.

The estimation results for these three subsamples are quite revealing in three ways: First, our expectation about the distance to the original family stated above is clearly confirmed by the empirical evidence. The importance of family background varies with the distance to the original family. In general, we find the highest sibling correlations among children that are living together with their parents (Figure 2). The estimates are between 0.42 (health satisfaction, brothers) to 0.86 (income satisfaction, sisters). In contrast, the family background is least important among siblings that moved out of the parental home (Figure 3). In this case, the highest sibling correlation is found for job satisfaction among sisters (0.43). The results for the mixed family types are generally in between these values (Figure 4).[10]

Second, Figure 3 shows a pronounced gender-specific difference in correlations for siblings that left the parental home. We do not detect such a clear gender-specific pattern for other family types (Figures 2 and 4). The point estimates for the sibling correlation in life satisfaction, job satisfaction, and health satisfaction are considerably smaller among brothers than among sisters

---

[10] The correlation in job satisfaction for sisters is an exception. The smallest value is found for sisters in mixed families.

and mixed-sex sibships. So leaving the parental home weakens the influence of the family of origin considerably more for brothers than for sisters. Interestingly, there is no evidence for a gender-specific pattern in the financial domain. Thus, the importance of family background for the financial satisfaction seems to be independent of gender.

Third, a comparison of the various life domains shows that family background is more important in the financial domain than for satisfaction with job or with health. This finding may be explained by financial ties between children and their parents. Most importantly, bequests and inter vivos monetary transfers may be held responsible for the correlation in financial well-being. For example, Reil-Held (2006) reports that approximately 25% of elderly parents aged between 70 and 85 make financial transfers to at least one of their adult children. So financial ties exist between family members, inducing a correlation in financial well-being. The correlation in income satisfaction is particularly high among siblings living together with parents. We estimate very high values of 0.75 and 0.85 for brothers and sisters, respectively. Resource sharing and collective household production may represent factors that determine financial well-being of all members of the family. The results further suggest that parents treat children in an equal way. In this context, Menchik (1980) provides evidence that parents make equal bequests to their children.

5.3   Intergenerational correlations

This section turns to a more narrow measure of the importance of family background that gives an account of the role played by parental background for well-being: we calculate the (population) correlation of the long-term well-being between children and parents to describe the intergenerational mobility in well-being. The intergenerational correlation is a measure of the

total effect of parental well-being and all factors correlated with parental well-being on the well-being of the offspring. In contrast to sibling correlations it excludes all factors uncorrelated with parental well-being. Solon (1999) shows that the sibling correlation equals the squared IGC plus all factors uncorrelated with the parental measure.

Table 5 shows the results from OLS regressions for four types of dyads: sons and fathers, sons and mothers, daughters and fathers, daughters and mothers.[11] We report the regression co-efficients, their standard error, the R^2, and the sample size. Our focus is on the intergenerational correlation (IGC). It is calculated as $(\sigma_0/\sigma_1)\beta_1$, where σ_0 and σ_1 is the standard deviation of well-being for parents and children, respectively. Note that IGC$= \sqrt{R^2}$. The lower the IGC, the higher the intergenerational mobility. In consequence, low values of the IGC indicate that children's well-being tends to be independent of that of the parents.

In general, the estimates for life satisfaction are between 0.19 and 0.27. The results tend to show a higher correlation for child-mother pairs than for child-father pairs. So mothers seem to be more important for general life satisfaction than fathers. Since mothers do most of the children's education, they are the ones who teach fundamental attitudes and skills.

The IGC in the financial domain is estimated to be between 0.19 and 0.22. Interestingly, this is of similar magnitude as the IGC in life satisfaction. This result deviates from what we found for the sibling correlation in subsections 5.1 and 5.2, where we calculated the highest values for the financial domain. The pronounced difference between IGC and sibling correlations suggest that factors uncorrelated with parental well-being play an important role for financial satisfaction. In addition, the higher value for the sibling correlation may reflect that siblings

---

[11] The results do not change whether or not we control for a third order polynomial of age. All age coefficients are insignificant in the respective regressions.

are connected directly (i.e., not via the parents) through intra-familial transfers and risk sharing, even after they moved out of the parental home.

Our study provides estimates of the IGC that are somewhat smaller than those reported by Molina et al. (2011). These authors obtain the following OLS coefficients for Germany: 0.312 for fathers-sons, 0.266 for fathers-daughters, 0.324 for mothers-sons, 0.302 for mothers-daughters. They also conclude that mothers are more important for the transmission of well-being than fathers.[12] We suppose that the difference between their results and ours is due to the fact that Molina et al. (2011) use a sample of parents and children that live in the same household.

The IGC in job satisfaction is relatively low for three of the four dyads: sons and fathers, sons and mothers, daughters and fathers. The estimates are between 0.11 and 0.14. In contrast, we find a considerable correlation of 0.25 between daughters and their mothers. The importance of mothers for daughters' job satisfaction is contrary to what is known about the intergenerational mobility in occupation, where fathers' occupations are more important than mothers' occupations (e.g., Ermisch and Francesconi 2004). Thus, we suppose that work preferences and work attitudes are transmitted from mothers to daughters while father's might be more important for daughter's occupational choices. In this context, mothers who are successful in reconciling work and family life might represent an useful role model for daughters.

Finally, we turn to the role played by parental background for health satisfaction. Judging from the relative size of the point estimates, it turns out that fathers tend to be more important than mothers. This holds for sons and daughters. In contrast, the literature reports important influences of mothers' on early child outcomes. For example, strong intergenerational corre-

---

[12] However, they detect more pronounced differences between countries than for different subgroups within countries.

lations between mothers and children were reported for birth weight (e.g, Currie and Moretti 2007) and other outcomes of young children (Coneus and Spiess 2012).[13] Our results point out that the relative importance of mothers for children's health declines as children grow older and that factors associated with fathers become relatively more important. A possible explanation could be that fathers' income plays an important role for long-term health.

6   Conclusion

This study gave an exploratory empirical analysis on the role played by family background for well-being (or happiness). Estimating sibling correlations and intergenerational correlations, we calculated a lower bound measure for the proportion of happiness over which individuals have no control. The results suggest that family background explains, on average, between 30% and 60% of the inequality in four subjective measures of well-being (life satisfaction, satisfaction with household income, job satisfaction, and satisfaction with health). The importance of family background is particularly large in the financial domain, even after children moved out of the parental home. We suspect that the members of the families are linked through risk sharing and joint production and consumption of household income, for instance.

Our evidence shows that sibling correlations depend on the psychological and geographical distance between parents and children and between siblings. Correlations are highest among siblings that live together with their parents in the same household. In comparison, we observe lower correlations among siblings that moved out of the parental home. Interestingly, the dif-

---

[13] Using data from the SOEP, Coneus and Spiess (2012) provide evidence for a significant relationships between parental and child health during the first three years of life. Their results suggest that parents with poor health are more likely to have children with poor health.

ference is smaller for sisters than for brothers, suggesting that there is a stronger linkage among sisters than brothers.

The analysis of intergenerational correlations revealed that parental background is considerably less important than family background (which includes community effects). In line with previous studies, we found that mothers are more important for life satisfaction of children than fathers. In particular, mothers are clearly more important for job satisfaction of daughters than fathers.

Our findings lead us to the following conclusions: first, our results indicate that, on the overall, permanent life satisfaction is determined by family background by approximately 50%. This implies, however, that individuals may be able to self-determine the remaining other 50%. So our conclusion is that individuals have a limited ability to achieve happiness and are therefore only to some extent architects of their own happiness.

Second, we find considerable correlations in well-being in various life domains even among adult children who moved out of the parental home, particular among sisters. This suggests that well-being is interdependent in the family. In consequence, things that make an individual happy are supposed to increase also the well-being of the members of his or her family. Notably, females tend to establish a stronger link to the family of origin than males because their happiness is determined by their family background to larger extent than that of males. This result also raises some skepticism about the economic modeling of economic actors as mutually disinterested *homines oeconomici*. At least with respect to relationships among family members, this assumption is questionable because happiness realizes in a social context and not in isolation.

Our final conclusion is that family effects are of great importance for well-being. Since sibling correlations are clearly higher than intergenerational correlations, factors beside parental well-being play an important role.

References

Aquilino, W. S. (1997). From adolescent to young adult: A prospective study of parent-child relations during the transition to adulthood. *Journal of Marriage and Family*, 59(3):670–686.

Becker, G. S. and Tomes, N. (1986). Human capital and the rise and fall of families. *Journal of Labor Economics*, 4(3):S1–S39.

Björklund, A., Eriksson, T., Jäntti, M., Raaum, O., and Österbacka, E. (2002). Brother correlations in earnings in Denmark, Finland, Norway and Sweden compared to the United States. *Journal of Population Economics*, 15(4):757–772.

Björklund, A. and Jäntti, M. (2012). How important is family background for labor-economic outcomes? *Labour Economics*, 19(4):465–474.

Black, S. E. and Devereux, P. J. (2011). Recent developments in intergenerational mobility. In Ashenfelter, O. and Card, D., editors, *Handbook of Labor Economics*, volume 4, part 2, pages 1487–1541. Elsevier, Amsterdam.

Blanchflower, D. G. and Oswald, A. J. (2008). Is well-being U-shaped over the life cycle? *Social Science & Medicine*, 66(8):1733–1749.

Christakis, N. A., Neve, J.-E. D., Fowler, J. H., and Frey, B. S. (2012). Genes, economics and happiness. CEP Discussion Papers 1127, Centre for Economic Performance, LSE.

Clark, A. E. and Senik, C. (2010). Who compares to whom? The anatomy of income comparisons in Europe. *Economic Journal*, 120(544):573–594.

Coneus, K. and Spiess, C. K. (2012). The intergenerational transmission of health in early childhood—Evidence from the German Socio-Economic Panel Study. *Economics and Human Biology*, 10(1):89–97.

Currie, J. and Moretti, E. (2007). Biology as destiny? Short- and long-run determinants of intergenerational transmission of birth weight. *Journal of Labor Economics*, 25(2):231–263.

Dolan, P. and Peasgood, T. (2008). Measuring well-being for public policy: Preferences or experiences? *The Journal of Legal Studies*, 37(2):S5–S31.

Erikson, R. and Goldthorpe, J. H. (2002). Intergenerational inequality: A sociological perspective. *The Journal of Economic Perspectives*, 16(3):31–44.

Ermisch, J. and Francesconi, M. (2004). Intergenerational mobility in Britain: new evidence from the British Household Panel Survey. In Corak, M., editor, *Generational Income Mobility in North America and Europe*, pages 147–189. Cambridge University Press, Cambridge.

Ferrer-i-Carbonell, A. and Frijters, P. (2004). How important is methodology for the estimates of the determinants of happiness? *Economic Journal*, 114(497):641–659.

Frey, B. S. and Stutzer, A. (2002). What can economists learn from happiness research? *Journal of Economic Literature*, 40(2):402–435.

Frijters, P., Haisken-DeNew, J. P., and Shields, M. A. (2004). Money does matter! Evidence from increasing real income and life satisfaction in East Germany following reunification. *American Economic Review*, 94(3):730–740.

Headey, B., Muffels, R., and Wagner, G. G. (2014). Parents transmit happiness along with associated values and behaviors to their children: A lifelong happiness dividend? *Social Indicators Research*, 116(3):909–933.

Kahneman, D. and Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, 20(1):3–24.

Kleinjans, K. J. (2010). Family background and gender differences in educational expectations. *Economics Letters*, 107(2):125–127.

Kristoffersen, I. (2010). The metrics of subjective wellbeing: Cardinality, neutrality and additivity*. *Economic Record*, 86(272):98–123.

Layard, R., Mayraz, G., and Nickell, S. (2008). The marginal utility of income. *Journal of Public Economics*, 92(8-9):1846–1857.

Lucas, R. E., Clark, A. E., Georgellis, Y., and Diener, E. (2003). Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status. *Journal of Personality and Social Psychology*, 84(3):527–539.

Lykken, D. and Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*, 7(3):186–189.

Mazumder, B. (2008). Sibling similarities and economic inequality in the US. *Journal of Population Economics*, 21(3):685–701.

Menchik, P. L. (1980). Primogeniture, equal sharing, and the U.S. distribution of wealth. *The Quarterly Journal of Economics*, 94(2):299–316.

Molina, J. A., Navarro, M., and Walker, I. (2011). Intergenerational well-being mobility in Europe. *Kyklos*, 64(2):253–270.

Piketty, T. (2000). Theories of persistent inequality and intergenerational mobility. In Atkinson, A. B. and Bourguignon, F., editors, *Handbook of Income Distribution*, volume 1, chapter 8, pages 429–476. Elsevier.

Reil-Held, A. (2006). Crowding out or crowding in? Public and private transfers in Germany. *European Journal of Population / Revue européenne de Démographie*, 22:263–280.

Rosenfeld, R. A., Trappe, H., and Gornick, J. C. (2004). Gender and work in Germany: Before and after reunification. *Annual Review of Sociology*, 30:103–124.

Schnitzlein, D. (2014). How important is the family? Evidence from sibling correlations in permanent earnings in the USA, Germany, and Denmark. *Journal of Population Economics*, 27(1):69–89.

Solon, G. (1989). Biases in the estimation of intergenerational earnings correlations. *The Review of Economics and Statistics*, 71(1):172–174.

Solon, G. (1999). Intergenerational mobility in the labor market. In Ashenfelter, O. C. and Card, D., editors, *Handbook of Labor Economics*, volume 3A, chapter 29, pages 1761–1800. Elsevier.

Solon, G., Corcoran, M., Gordon, G., and Laren, D. (1991). A longitudinal analysis of sibling correlations in economic status. *Journal of Human Resources*, 26(3):509–534.

Stiglitz, J. E., Sen, A., and Fitoussi, J.-P. (2009). Report by the commission on the measurement of economic performance and social progress.

Tellegen, A., Lykken, D. T., Bouchard, T. J., Wilcox, K. J., Segal, N. L., and Rich, S. (1988). Personality similarity in twins reared apart and together. *Journal of Personality and Social Psychology*, 54(6):1031–1039.

Wagner, G. G., Frick, J. R., and Schupp, J. (2007). The German Socio-Economic Panel Study (SOEP) – scope, evolution and enhancemants. *Schmollers Jahrbuch (Journal of Applied Social Science Studies)*, 127(1):139–169.

Winkelmann, L. and Winkelmann, R. (1998). Why are the unemployed so unhappy? Evidence from panel data. *Economica*, 65(257):1–15.

Winkelmann, R. (2005). Subjective well-being and the family: Results from an ordered probit model with multiple random effects. *Empirical Economics*, 30(3):749–761.

Wunder, C., Wiencierz, A., Schwarze, J., and Küchenhoff, H. (2013). Well-being over the life span: Semiparametric evidence from British and German longitudinal data. *The Review of Economics and Statistics*, 95(1):154–167.

Table 1
Sample sizes

Outcome	# of families	# of ind.	# nT	T_{max}	Mean	Std. dev.
Brothers						
Life	3204	4268	37055	27	7.27	1.71
Income	3156	4189	35516	27	6.35	2.25
Job	2728	3578	26468	27	7.23	2.03
Health	3209	4273	37094	27	7.69	1.96
Sisters						
Life	2862	3696	30011	27	7.28	1.73
Income	2802	3594	28364	27	6.36	2.29
Job	2350	2944	18391	27	7.13	2.13
Health	2870	3706	30056	27	7.57	2.02
Mixed-sex siblings						
Life	1331	3250	22589	27	7.30	1.70
Income	1323	3181	21611	27	6.30	2.26
Job	1234	2670	15006	27	7.18	2.06
Health	1331	3252	22604	27	7.69	1.97

Source: SOEPv27. West German respondents.

Table 2
Sample sizes
(siblings living with parents)

Outcome	# of families	# of ind.	# nT	T_{max}	Mean	Std. dev.
Brothers						
Life	3013	3905	18719	27	7.38	1.76
Income	2948	3804	17492	27	6.52	2.29
Job	2391	2992	11005	27	7.35	2.08
Health	3016	3908	18739	27	7.98	1.94
Sisters						
Life	2637	3293	13294	25	7.44	1.75
Income	2553	3167	11953	25	6.65	2.28
Job	1914	2250	6869	20	7.38	2.16
Health	2644	3305	13322	25	7.91	1.99
Mixed-sex siblings						
Life	1088	2557	8677	19	7.42	1.76
Income	1075	2463	8057	18	6.54	2.30
Job	963	1822	4966	18	7.32	2.16
Health	1088	2557	8679	19	7.99	1.99

Source: SOEPv27. West German respondents.

Table 3
Sample sizes
(siblings moved out of parental home)

Outcome	# of families	# of ind.	# nT	T_{max}	Mean	Std. dev.
Brothers						
Life	1160	1415	10426	27	7.09	1.65
Income	1158	1412	10390	27	6.21	2.13
Job	1095	1334	9403	27	7.09	1.95
Health	1162	1417	10440	27	7.18	1.93
Sisters						
Life	1231	1458	10147	26	7.11	1.71
Income	1228	1450	10081	26	6.16	2.28
Job	1119	1297	7346	26	6.92	2.09
Health	1232	1459	10156	26	7.16	2.01
Mixed-sex siblings						
Life	343	786	4442	26	7.18	1.63
Income	343	785	4421	26	6.21	2.11
Job	335	709	3503	26	7.04	1.93
Health	343	787	4449	26	7.30	1.89

Source: SOEPv27. West German respondents.

Table 4
Sample sizes
(siblings in mixed families)

Outcome	# of families	# of ind.	# nT	T_{max}	Mean	Std. dev.
Brothers						
Life	986	1578	7910	26	7.25	1.66
Income	974	1558	7634	26	6.13	2.25
Job	884	1364	6060	26	7.23	2.03
Health	987	1579	7915	26	7.71	1.92
Sisters						
Life	967	1439	6570	26	7.23	1.69
Income	960	1408	6330	26	6.13	2.28
Job	844	1174	4176	26	7.09	2.10
Health	970	1441	6578	26	7.49	1.98
Mixed-sex siblings						
Life	753	1906	9470	26	7.24	1.67
Income	753	1877	9133	26	6.12	2.27
Job	717	1596	6537	26	7.16	2.06
Health	753	1909	9476	26	7.60	1.95

Source: SOEPv27. West German respondents.

Table 5
Intergenerational correlations

Outcome	beta	s.e.	IGC	R2	N
Sons and fathers					
Life	0.235	0.063	0.239	0.057	261
Income	0.182	0.059	0.190	0.036	258
Job	0.116	0.067	0.121	0.015	237
Health	0.259	0.067	0.248	0.061	261
Sons and mothers					
Life	0.238	0.044	0.269	0.072	402
Income	0.221	0.045	0.224	0.050	402
Job	0.129	0.060	0.143	0.021	218
Health	0.188	0.051	0.209	0.044	401
Daughters and fathers					
Life	0.194	0.080	0.189	0.036	243
Income	0.222	0.077	0.198	0.039	242
Job	0.123	0.069	0.111	0.012	184
Health	0.251	0.066	0.245	0.060	243
Daughters and mothers					
Life	0.245	0.057	0.242	0.058	359
Income	0.214	0.057	0.196	0.038	359
Job	0.297	0.078	0.261	0.068	174
Health	0.176	0.057	0.180	0.032	359

Note: OLS regressions use average values of well-being over the entire time-window of observation. The intergenerational correlation (IGC) is calculated as $(\sigma_0/\sigma_1)\beta$, where σ_0 and σ_1 is the standard deviation of well-being for parents and children, respectively.
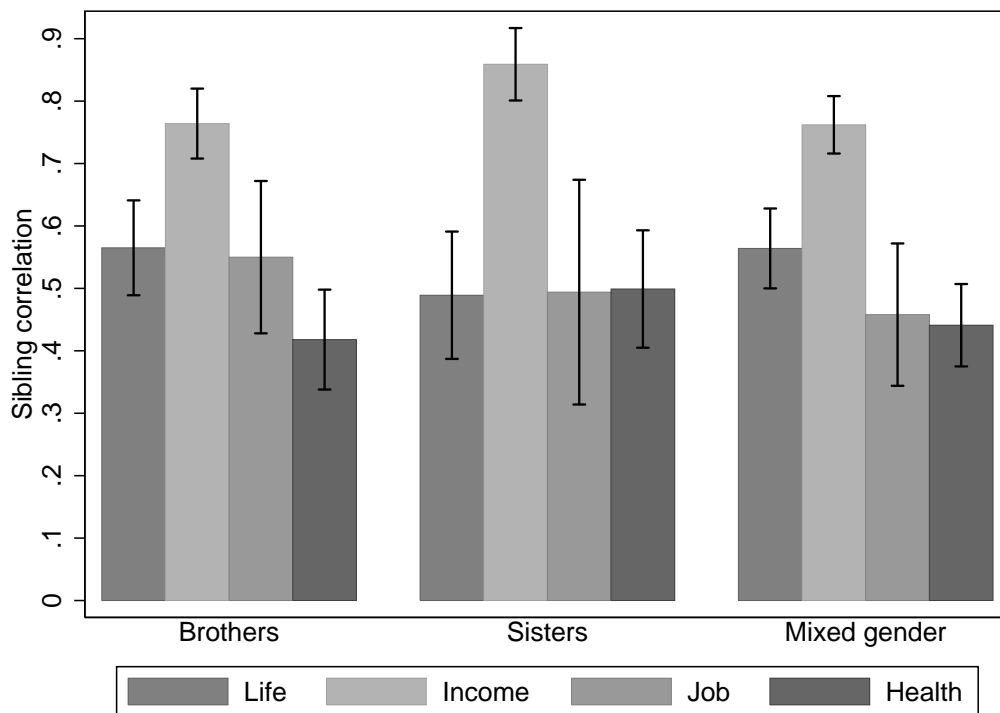*Source*: SOEPv27. West German respondents.

Figure 1
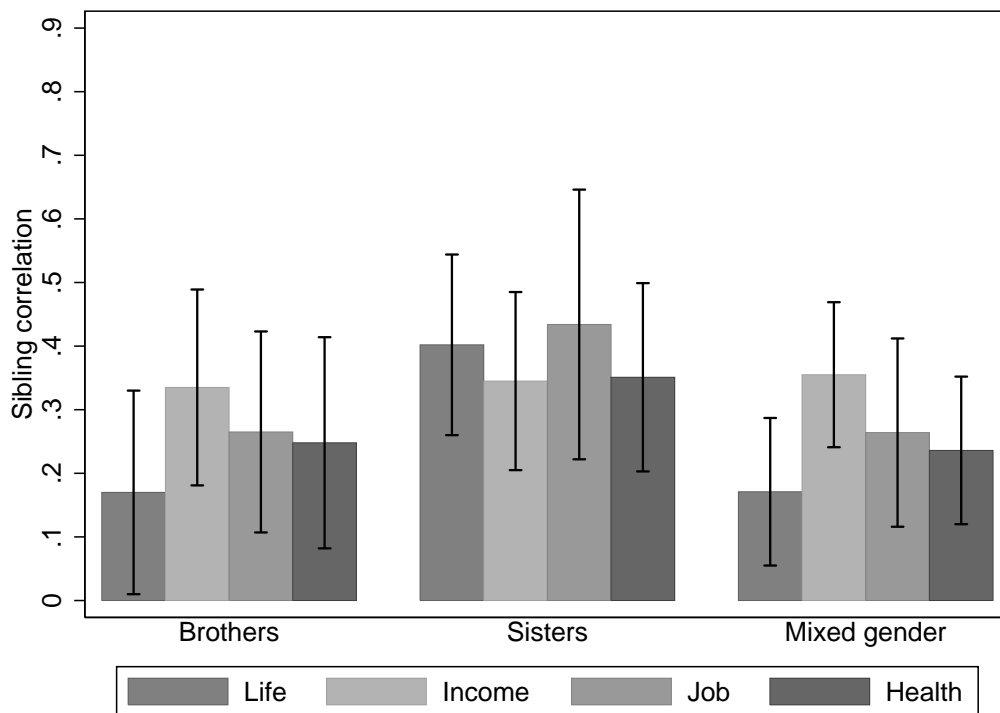**Sibling correlations for measures of subjective well-being**
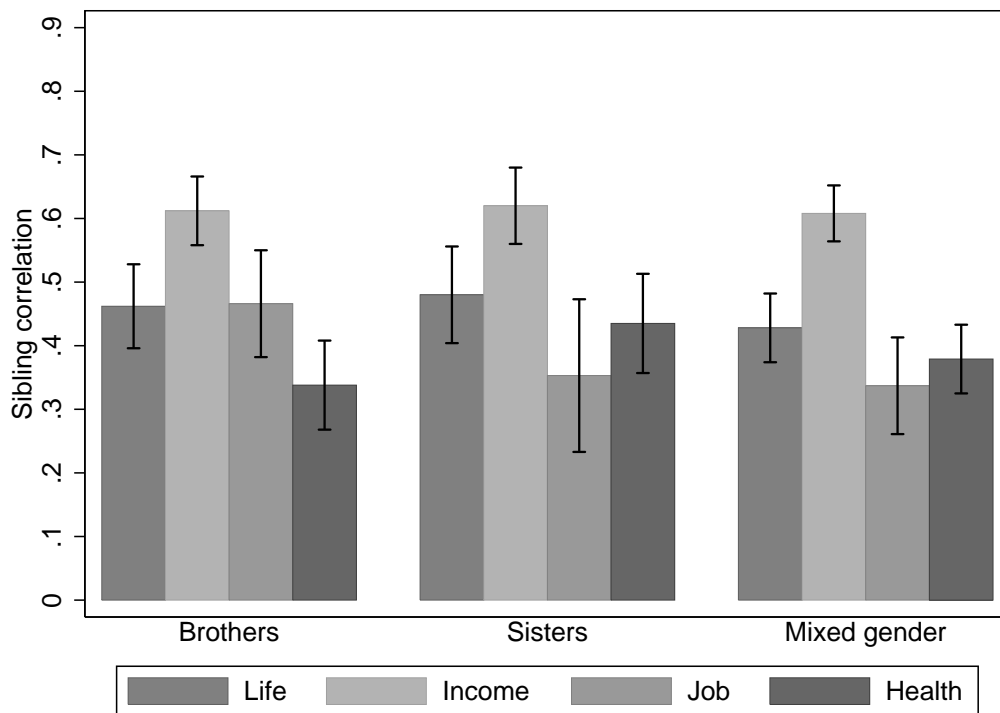
Note: Calculations are based on REML estimates of the variance components. All estimations include controls for a third order polynomial of age and the survey year. Models for mixed-sex siblings also include a gender dummy. Standard errors are calculated using the delta method. The error bars show 95% confidence intervals. *Source*: SOEPv27. West German respondents.

Figure 2
Sibling correlations for measures of subjective well-being
(siblings living with parents)

Note: Calculations are based on REML estimates of the variance components. All estimations include controls for a third order polynomial of age and the survey year. Models for mixed-sex siblings also include a gender dummy. Standard errors are calculated using the delta method. The error bars show 95% confidence intervals. *Source*: SOEPv27. West German respondents.
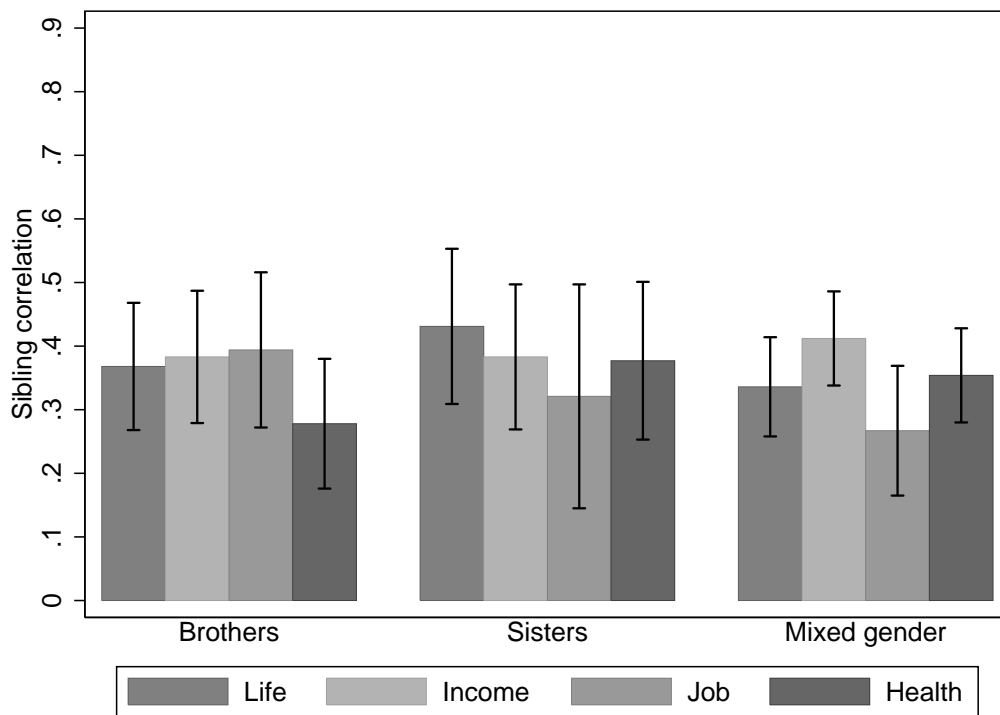
Figure 3
Sibling correlations for measures of subjective well-being
(siblings moved out of parental home)

Note: Calculations are based on REML estimates of the variance components. All estimations include controls for a third order polynomial of age and the survey year. Models for mixed-sex siblings also include a gender dummy. Standard errors are calculated using the delta method. The error bars show 95% confidence intervals. *Source*: SOEPv27. West German respondents.

Figure 4
Sibling correlations for measures of subjective well-being
(siblings in mixed families)

Note: Calculations are based on REML estimates of the variance components. All estimations include controls for a third order polynomial of age and the survey year. Models for mixed-sex siblings also include a gender dummy. Standard errors are calculated using the delta method. The error bars show 95% confidence intervals. *Source*: SOEPv27. West German respondents.