

# Intergenerational Transmission of Latent Satisfaction Reflected by Satisfaction Across Multiple Life Domains: A Prospective 32-year Follow-Up Study

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**Abstract** Intergenerational transmission of life satisfaction has been empirically established, but less is known about the continuity of satisfaction as being reflected across multiple life domains, unique effects of parental domain-specific satisfaction on offspring overall life satisfaction, and potential gender effects. In this population-based prospective study, the association between the life satisfaction of parents (G1) (2191 mothers and 2156 fathers) and their children (G2) (921 sons and 1277 daughters) was examined. In both generations, satisfaction as a parent, as a spouse, and at work was assessed in about the same developmental stage (mean age for G1 38–42 years, and for G2 38–43 years at the times when LS was measured). When both parents were considered jointly, only mothers' overall life satisfaction had an independent effect on their adult children's overall life satisfaction, with the effect diminishing over time. However, we also found a robust effect of paternal satisfaction at work on offspring's overall life satisfaction in adulthood. Gender of the offspring did not significantly moderate the strength of the associations between generations. The current findings emphasize the high interdependence of life satisfaction within families long after children have moved out of the parental home.

**Keywords** Intergenerational transmission · Life satisfaction · Multiple life domains · Gender effects · Young Finns study

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## 1 Background

Life satisfaction is usually assessed with individuals' judgments of their life as a whole or in terms of their satisfaction with concrete areas of life, such as social roles (e.g., satisfaction as a mother/father), relationships with others (e.g., satisfaction as a spouse), and pursued goals (e.g., satisfaction at work) (Diener et al. 1999). Life satisfaction is seen as one of the components of subjective well-being (Diener et al. 2003), which has been recommended as an alternative measure of a country's development substituting traditional economic indicators (e.g., the gross domestic product; Stiglitz et al. 2009). High life satisfaction has many benefits: it has been associated with better mental health (Rissanen et al. 2011) and longer lifespan (Martín-María et al. 2016). Besides playing crucial role in individuals' and societies' well-being, life satisfaction also seems to "run in families" being transmitted from one generation to the next (Carlsson et al. 2014; Casas et al. 2008; Clair 2012; Headey et al. 2014; Ma 2016; Winkelmann 2005).

Intergenerational transmission of life satisfaction has been empirically established across culturally diverse samples from Europe (Casas et al. 2008; Clair 2012; Headey et al. 2014; Schwarze and Winkelmann 2011; Winkelmann 2005) and Asia (Carlsson et al. 2014; Ma 2016). Evidence is accumulating that family environment<sup>1</sup> has some effect on children's life satisfaction long after they have moved out of the parental home; while associations between generations are found to be stronger for children still living with their parents (Headey et al. 2014; Ma 2016). However, findings regarding the effect of the gender of parents and the offspring are inconclusive. Moreover, less is known about the intergenerational transmission of the level of satisfaction as being reflected across multiple life domains—as a parent, as a spouse, and at work—of greatest importance for the atmosphere within a family.

Psychological transmission models have been proposed for emotions (Larson and Almeida 1999) and characteristics related to satisfaction across life domains (Grusec and Goodnow 1994; Van IJzendoorn 1992). These models make use of at least one of the following theoretical frameworks to explain why children have, later in life, a similar level of satisfaction as their parents had. The social learning theory (Bandura 1977), for instance, suggests that parents function as role models and their children model their behaviors and emotional reactions when being constantly exposed to them. According to the attachment theory (Bowlby 1988), the emotional family atmosphere affects children's attachment bonds and evaluation of relationships over the lifespan. Parents' satisfaction with life is likely a strong contributor to the overall atmosphere within a family (Katainen et al. 1999). Finally, as most parents wish their children, most of all, to be happy (Tulviste et al. 2012) they might take an active role in promoting life satisfaction in their sons and daughters. Parents with higher satisfaction are likely to have better means to do this because subjective wellbeing is associated with higher social capital and involvement, better psychological functioning (Lyubomirsky et al. 2005; Ward et al. 2017), and a more mature personality (Diener et al. 1999; Park et al. 2015). For these diverse reasons, *we hypothesize that adult children self-report a similar level of satisfaction as their parents did three decades earlier.*

By assuming that the overall level of life satisfaction is the common cause of participants' satisfaction as a parent, as a spouse, and at work, we follow what is usually called

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<sup>1</sup> The intergenerational transmission of life satisfaction is also dependent on shared genes (Bartels 2015; Carlsson et al. 2014). We will return to this limitation of our study design in the discussion section.

a top-down approach to life satisfaction (Lance et al. 1989). A bottom-up model, instead, would assume that satisfaction in specific life domains determines overall life satisfaction. Assessing the intergenerational transmission of satisfaction as being reflected across multiple life domains further allows us to test whether one of these more nuanced factors has an effect on the next generation over and above the overall life satisfaction of the parents.

There are some theoretical grounds [e.g. early formulations of the attachment theory (Bowlby 1988)] based on which we might expect that parents' gender moderates the effect of parent's life satisfaction on offspring life satisfaction. A mother is, in most families, the principle caregiver and it is, therefore, possible that the emotional bond to the mother has a stronger effect on a child's later life satisfaction as compared to the contribution of the father. More recent theorizing on fathers as attachment figures (for reviews, see Adamsons and Palkovitz 2014; Bretherton 2010), however, postulates that parents interact differently with their children resulting in an equally strong and complementary influence of mothers and fathers on their offspring's development.

Some studies reported that both parents similarly transmitted their life satisfaction to the next generation (Casas et al. 2008; Ma 2016; Nes et al. 2010). Other research indicated that only maternal life satisfaction might have a direct effect on their offspring's life satisfaction later in life, while the influence of fathers was transmitted through values and behaviors (Headey et al. 2014). Again, other research has found gender effects in the opposite direction, namely that, as compared to mothers, fathers might even have a greater influence on the children's satisfaction with life or with marriage (Clair 2012; Jarnecke and South 2013). Thus, the empirical evidence on the moderating role of parent's gender is inconclusive, and, for this reason, *we do not pose any directional hypothesis concerning this conditional effect.*

Previous research also suggests that there might be disparities between father-son and mother-daughter pairs and between different gender pairs (Lamb 1977a, b). This might be the case because sons and daughters' relationship with mother and father involve different kinds of experiences, "resulting in differential influences on children's personality development from infancy onward" (Bretherton 2010, p. 12) or because daughters may model their mother more strongly than their father, whereas sons may model their fathers more strongly (Bandura 1977). The findings regarding disparities between parent and offspring pairs are mixed, however, some studies reporting no differences (Clair 2012) and others reporting a stronger link between life satisfaction of mother and daughter than between mother and son (Headey et al. 2014). Even so, *we hypothesize to find stronger intergenerational transmission for father-son and mother-daughter pairs than between different gender pairs.*

## 1.1 The Current Study

It has been suggested that methodically rigorous transmission studies have at least four key design characteristics: They (a) should include prospective data (as opposed to retrospective information) on two or more generations, (b) have different informants in both generations (i.e., G1 parents and G2 participants), and (c) have used equivalent measures in both generations d) obtained at a comparable age or at least at the same developmental stages (Thornberry 2016). Only a single previous study (Headey et al. 2014) has each of these characteristics, yet, it assessed the intergenerational transmission of overall life satisfaction with a single item only.

Drawing upon prospective, population-based data, the present study examines whether life satisfaction is transmitted from parents to children when studied at the same

developmental stage/age in both generations. As the participants have been followed up for 32 years, we also investigate whether parents have an effect on children's life satisfaction after children had moved out of the parental home and entered working life, formed romantic partnerships, and had children of their own. In both generations, overall life satisfaction is operationalized as being the common cause behind participants' satisfaction across multiple life domains—as a parent, as a spouse, and at work—using the same questions and response categories. We were also able to control for the same covariates in G1 and G2 known to be associated with life satisfaction, such as age, income, education, and number of children (Diener et al. 1999; Lyubomirsky et al. 2005; Ward et al. 2017). Thus, the current study has all key design characteristics outlined by Thornberry (2016). The aims of the current study are (1) to replicate and extend previous work on the inter-generational continuity of life satisfaction, (2) to test for unique effects of parental domain-specific satisfaction on offspring overall life satisfaction, and (3) to illuminate on potential gender effects of both the parents and the offspring.

## 2 Method

### 2.1 Procedure

Data were taken from the ongoing Young Finns Study (YFS) (<http://youngfinnsstudy.utu.fi>). YFS is a prospective study that was designed to examine cardiovascular risk in six representative Finnish birth cohorts from childhood to adulthood. This multidisciplinary study was conducted in five university cities with medical schools (i.e., in Helsinki, Kuopio, Oulu, Tampere, and Turku) and the regions surrounding them (Raitakari et al. 2008). The parent generation answered to the psychological questionnaire in 1980 and 1983 and the offspring generation in 2007 and 2011/2012. Each study wave was conducted in compliance with the Helsinki Declaration and approved by local ethics committees.

### 2.2 Participants

The baseline study included 3596 randomly selected children and adolescents, who were 3, 6, 9, 12, 15, and 18 years old, and their parents. G1 and G2 participants were matched by use of their personal identification code, resulting in a near perfect matching rate. The study sample included participants who had information on life satisfaction available for both generations. The final sample included 2191 mothers and 2156 fathers and their offspring ( $N=2198$ , 58.1% female). Mean age was for G1 38–42 years, and for G2 38–43 years at the times when life satisfaction was measured. Written informed consent was obtained from G1 to G2 participants, respectively.

## 3 Measures

### 3.1 Life Satisfaction

In 1980 (mothers) and 1983 (both mothers and fathers), G1 self-reported their satisfaction with themselves as a parent, as a spouse, and at work (i.e. “I am satisfied with myself as a parent”; “I am satisfied with myself as a spouse”; “I am satisfied with myself at work”).

In 1980, fathers were not asked to self-report their satisfaction across these life domains.<sup>2</sup> The three single items were rated on a 5-point scale ranging from 1 (*satisfied*) to 5 (*dissatisfied*). The answers were reversed that high scores indicate high life satisfaction. G2 life-satisfaction was assessed in 2007 and 2011/2012 using the same questions and response categories.

### 3.2 Covariates

Additional to G1 and G2 age and gender of G2 participants, information on the socioeconomic status (SES) were available for both generations. G1 SES was measured by the annual family income (measured on eight-point scales) and the average of fathers and mothers' years spent in the educational system. For G2, SES was measured by personal gross income (using an eight-point scale in 2007 and a 13-point scale in 2011/2012) and total years of education. Education and income were standardized before being summed to the SES indices. The number of children was reported by both generations at each study wave.

### 3.3 Comparability of Sample Characteristics Across Generations

Sample characteristics are presented in Table 1. Comparing 1983 and 2007 data, G2 approached about the same age as G1, even though mothers and fathers were in average 3.2/5.8 years older than their offspring when being surveyed, and they spent in average 5.4/5.8 years less in the educational system. G2 had on average 0.6 children less than G1 (all differences significant at  $p < .001$  level). It should be noted that G1 and G2 income could not be compared directly because it was assessed with different categories. Observed life satisfaction also differed for about half of the domains: G2 was 0.1/0.2 points less satisfied as a spouse than their mothers ( $p = .002$ ) and fathers ( $p < .001$ ) and 0.1 points less satisfied at work than their fathers ( $p < .001$ ). Pearson correlations between study variables are reported in Supplement Table S1.

### 3.4 Excluded Cases and Attrition Analysis

We tested whether G1 and G2 age, SES, and number of children, G1 domain-specific life satisfaction, and G2 gender were associated with exclusion or the risk of attrition. Participants were more likely to be female (difference 18.2% points;  $X^2 = 112.98$ ,  $p < .001$ ) and to have a higher SES in 2007 (mean difference 0.1,  $p = .004$ ) than those who did not participate in the follow-ups years when life satisfaction was measured or were excluded because their parents did not answer any of the life satisfaction items. There were, however, no differences between the satisfaction as a mother/father, satisfaction as a spouse, and satisfaction at work between the parents of study participants and the parents of those who did not participate.

<sup>2</sup> To use all the available information, in addition to data on fathers' and mothers' life satisfaction in 1983, we also decided to include data on mothers' life satisfaction in 1980.

**Table 1** Descriptive statistics of the study variables in both generations

	Mean (%)	SD	N	Range
<i>Self-assessment as a mother/father</i>				
1980 Mother (G1)	4.2	0.8	2106	1–5
1983 Mother (G1)	4.2	0.8	1829	1–5
1983 Father (G1)	4.2	0.8	1533	1–5
2007 (G2)	4.1	0.7	1422	1–5
2011/2012 (G2)	4.1	0.8	1342	1–5
<i>Self-assessment as a spouse</i>				
1980 Mother (G1)	4.0	0.9	1904	1–5
1983 Mother (G1)	4.0	0.9	1589	1–5
1983 Father (G1)	4.1	0.9	1493	1–5
2007 (G2)	3.9	0.9	1608	1–5
2011/2012 (G2)	3.8	1.0	1420	1–5
<i>Self-assessment at work</i>				
1980 Mother (G1)	4.1	0.8	2035	1–5
1983 Mother (G1)	4.1	0.8	1553	1–5
1983 Father (G1)	4.1	0.8	1409	1–5
2007 (G2)	4.0	0.8	1849	1–5
2011/2012 (G2)	4.0	0.8	1611	1–5
<i>Age</i>				
1980 Mother (G1)	37.7	7.6	2191	21–66
1983 Mother (G1)	40.7	7.6	2191	24–69
1983 Father (G1)	43.3	8.5	2156	25–83
2007 (G2)	37.5	5.0	2198	30–45
2011/2012 (G2)	42.5	5.0	2198	35–50
<i>Gender of G2</i>				
Female = 1; male = 0	(58.1)		2198	0–1
<i>Years of education</i>				
1980 Mother (G1)	10.1	3.2	2144	0–22
1980 Father (G1)	9.8	3.7	1927	0–28
1983 Mother (G1)	10.1	3.3	1818	1–27
1983 Father (G1)	9.8	3.6	1613	0–29
2007 (G2)	15.5	3.4	1816	8–28
2011/2012 (G2)	15.5	3.6	1657	8–30
<i>Income</i>				
1980 (G1)	4.9	1.9	2131	1–8
1983 (G1)	5.8	2.0	1816	1–8
2007 (G2)	3.5	1.5	1762	1–8
2011/2012 (G2)	7.3	3.0	1628	1–13
<i>Number of children</i>				
1980 (G1)	2.7	1.8	2195	1–18
1983 (G1)	2.8	1.8	1902	1–18
2007 (G2)	2.2	1.1	1428	0–7
2011/2012 (G2)	2.3	1.1	1323	0–7

### 3.5 Statistical Analyses

Structural equation modeling was applied within the R environment (version 3.1.2 (2014-10-31)), using the packages *semTools* (version 0.4-14) (Pornprasertmanit et al. 2013), *psy* (version 1.6.12) (Falissard 2005), and *lavaan* (version 0.5-22) (Rosseeel 2012). A model was assessed as having a good fit to the data with a combination of CFI/TLI values greater than 0.95 and RMSEA/SRMR values close to 0.06 or below (Hu and Bentler 1999). When using a latent variables model, we assess a participant's overall (i.e., latent) level of life satisfaction as being reflected by his/her satisfaction as a parent, as a spouse, and at work.

To provide a quantitative estimate of the magnitude of the intergenerational continuity of life satisfaction (i.e., effect size), we report  $R^2$  for the transmission path(s). This effect size measure indicates the relative amount of variance of offspring life satisfaction explained by parental life satisfaction and included covariates.

Missing data were handled by conducting all analyses with full information maximum likelihood (FIML) estimator. Using FIML has the advantage that it takes all available information into account when estimating the models but does not impute missing values (Allison 2012). This is important because, for instance, for participants without children the question of whether they are satisfied with themselves as a parent was not answered and should not be imputed. This approach allowed us to analyze the maximum number of cases when estimating the latent life satisfaction for G1 and G2.

First, we examined the factorial structure of life satisfaction within each wave, internal consistency, and covariate associations. Then we examined how maternal and paternal latent life satisfaction, assessed in 1980 and 1983, is transmitted to the next generation when G2 reached a similar age and developmental stage (in 2007 and 2011/2012). First, the effect of G1 mothers' and fathers' life satisfaction on their offspring's life satisfaction was examined separately. Model A examined the inter-generational transmission of mothers' overall life satisfaction in 1980. Model B examined the inter-generational transmission of mothers' overall life satisfaction in 1983. Model C examined the inter-generational transmission of fathers' overall life satisfaction in 1983. Next, we accounted for potentially missing paths in the models. Model D is a modified Model C, it examined the inter-generational transmission of fathers' overall life satisfaction in 1983 and added the incremental effect of father's domain-specific satisfaction (namely, the satisfaction at work item) on offspring's overall life satisfaction. The next pair of analyses examined if both parents independently transmit their life satisfaction to the next generation when entered into the same model (Model E). Here, we take the high interdependencies of the ratings of husbands and wives into account, by allowing the paternal and maternal latent life satisfaction to correlate and by adding correlated errors between the three domain-specific item pairs. Multi-group analyses were performed to examine potential differences dependent on the gender of the offspring. Model F is identical to Model E, but data were split into sons and daughters. In Model G we further constrained the intergenerational transmission paths to be equal across offspring genders to test for statistical significance of the conditional effects.

## 4 Results

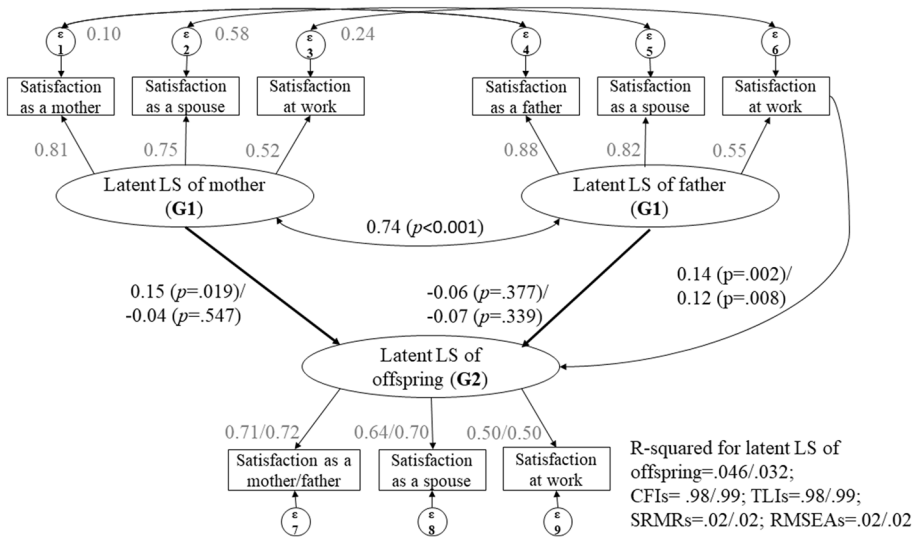
Cronbach's alphas for latent life satisfaction, as reflected by the satisfaction at work, as a spouse, and as a mother/father, were 0.72/0.73 for mothers in 1980 and 1983, 0.78 for

**Table 2** Intergenerational transmission of life satisfaction (ls): Effects of parents on their adult children when being assessed between 24 and 32 years apart

Model	Predictors	Latent LS 2007 offspring			Latent LS 2011/2012 offspring				
		$\beta$	<i>p</i> value	R <sup>2</sup> for the trans-mission path(s)	Years between assessments	$\beta$	<i>p</i> value	R <sup>2</sup> for the trans-mission path(s)	Years between assessments
A	Latent LS 1980 mother	0.19	<.001	.043	27	0.09	.018	.017	32
B	Latent LS 1983 mother	0.17	<.001	.037	24	0.07	.061	.015	29
C	Latent LS 1983 father	0.12	.003	.021	24	0.10	.013	.020	29
D	Latent LS 1983 father	0.03	.565	.032	24	0.02	.696	.028	29
	Father's satisfaction at work item	0.15	<.001			0.12	.006		

Effects of mothers' latent LS (1980, 1983) and fathers' latent LS and their satisfaction at work (1983) on their offspring's latent LS (2007, 2011/2012) were examined in four separate models





**Fig. 1** Intergenerational transmission model of life satisfaction (LS), assessed 24 (left panel) and 29 (right panel) years apart (Model E). Note. G1 (1983; separating effects of mothers and fathers) and G2 (2007, 2011; analyzing sons and daughters jointly) participant’s overall level of life satisfaction is modeled as the common cause of his/her satisfaction as a parent, as a spouse, and at work. A regression path from father’s satisfaction at work item to the latent life satisfaction of offspring was added after inspecting the misspecification indices of the model. Missing data were handled by estimating the structural equations with full information maximum likelihood ( $N = 2198$ ). Covariate associations omitted.  $\epsilon$  = standard error

fathers in 1983, and 0.63/0.65 for adult offspring in 2007 and 2011/2012, respectively (i.e., indicating satisfactory internal consistency). A one-factorial model of life satisfaction fit the data well across waves and informants, with CFI values of 0.96 and greater, TLI values of 0.91 and above, SRMR values of 0.03 and below, and RMSEA values below 0.04. Covariate associations are reported in Supplement Table S2.

The structural models in which the latent life satisfaction of G2 was predicted with the latent life satisfaction of G1 while controlling for SES, age, and number of children in both generations and G2 gender, fit the data well (CFIs > 0.97, TLIs > 0.96, SRMRs < 0.03, and RMSEAs < 0.03). Models A and B in Table 2 showed that maternal latent life satisfaction was found to transmit to offspring latent life satisfaction when being assessed 24 ( $\beta = 0.17, p < .001$ ), 27 ( $\beta = 0.19, p < .001$ ) and 32 ( $\beta = 0.09, p = .018$ ) years apart. Mother’s life satisfaction in 1983, however, was not associated with offspring life satisfaction in 2011/2012 ( $p = .061$ ). Similarly, paternal latent life satisfaction was associated with offspring latent life satisfaction when being assessed 24 ( $\beta = 0.12, p = .003$ ) and 29 ( $\beta = 0.10, p = .013$ ) year apart (Model C). However, an inspection of the misspecification indices indicated that the model fit could be improved by adding a regression path from fathers’ satisfaction at work item to the latent life satisfaction of G2. After this adjustment (Model D), fathers influence on their offspring’s overall life satisfaction in 2007 and 2011/2012 was fully explained by their satisfaction at work ( $\beta = 0.15, p < .001$  and  $\beta = 0.12, p = .006$ , respectively). A similar effect was not found for any of the single domain items in mothers.  $R^2$  for the transmission paths varied from 0.015 (Model B; in 2011/2012) to 0.043 (Model A; in 2007), corresponding to

medium-sized correlations relative to most social psychological effects (Richard et al. 2003). Furthermore, the pattern of these eight separately ran analyses already confirmed our first hypothesis.

When jointly entering life satisfaction of both parents as predictors (Model E; presented in Fig. 1), mothers' latent life satisfaction ( $\beta=0.15$ ,  $p=.019$ ; in 2007), but not fathers' latent life satisfaction had an independent effect on their adult children's latent life satisfaction and this effect diminished over time ( $\beta=-0.04$ ,  $p=.547$ ; in 2011/2012). The analyses further showed that the effect of paternal work satisfaction on G2 latent life satisfaction was robust over both measurement points ( $\beta=0.14$ ,  $p<.001$  and  $\beta=0.12$ ,  $p<.001$ , respectively). Finally, it should be noted that in both analyses the strongest within-family association of latent life satisfaction was that between father and mother,  $\beta=0.74$  ( $p<.001$ ).  $R^2$  for latent LS of offspring, 0.046/0.032, indicated medium-sized transmission effects (Richard et al. 2003).

Multi-group analyses (Table 3) indicated that the effect of mothers' latent life satisfaction on their offspring might be stronger for daughters ( $\beta=0.19$ ,  $p=.034$ ) than for sons ( $\beta=0.13$ ,  $p=.137$ ) (in 2007) and that the associations between satisfaction at work of fathers and sons ( $\beta=0.21$ ,  $p=.006$ ) might be stronger than between fathers and daughters ( $\beta=0.08$ ,  $p=.172$ ) (in 2011/2012). Further analyses, however, showed—in conflict with our second hypothesis—that Model F did not fit the data significantly better than a model (Model G) in which we constrained the intergenerational transmission paths to be equal across genders (Chisq [df] difference=2.4/2.2 [3/3];  $p=.491/.533$ ; for 2007 and 2011/2012, respectively). This comparison suggests that there was not enough evidence in our data to support the expectation that gender of the offspring moderates the intergenerational transmission of life satisfaction. Effect sizes ( $R^2$ ) for Models F (in 2007) and G (at both time points), however, suggested that the intergenerational transmission of life satisfaction might be overall stronger in sons than in daughters.

## 5 Discussion

The current study—using a prospective design with up to 32 years of follow-up and assessing life satisfaction as the common cause behind satisfaction across multiple life domains—showed that life satisfaction transmits from the mother to the child over a generation, but this effect seems to weaken over time. Paternal life satisfaction, in turn, transmits to offspring only when considered separately from the influence of maternal life satisfaction. On the contrary, we found a robust and incremental effect of fathers' satisfaction at work on children's overall life satisfaction.

Our findings indicate that transmission of life satisfaction is partly specific to parents' gender and more evident in mothers than fathers. These gender-specific effects are supported by the attachment theory (Bowlby 1988) as there is a long-lasting emotional bond between the child and the principal caregiver, often the mother. As a result, adult children seem to repeat the overall life satisfaction of their mothers, but not fathers. Fathers' life satisfaction does not have a direct influence on their children's life satisfaction over and above the effect of mothers' life satisfaction. These results are in line with findings of a long-running German panel study with similar gender effects (Headey et al. 2014). However, the transmission of maternal life-satisfaction did not persist at the last follow-up in 2011/2012. This finding accords with previous studies, in which the strength of associations decreases gradually after children move out of the parental home (Headey et al. 2014; Ma 2016).

**Table 3** Multi-group analysis of intergenerational transmission of life satisfaction (LS) taking potential gender effects into account

Model	Predictors	Latent LS 2007 offspring			Latent LS 2011/12 offspring		
		$\beta$	<i>p</i> value	R <sup>2</sup> for the transmission paths	$\beta$	<i>p</i> value	R <sup>2</sup> for the transmission paths
F Daughters	Latent LS G1 1983 mother	0.19	.034	.067	-0.03	.701	.041
	Latent LS G1 1983 father	-0.02	.816		0.11	.235	
	G1 1983 father's satisfaction at work item	0.13	.034		0.08	.172	
Sons	Latent LS G1 1983 mother	0.13	.137	.041	-0.03	.728	.042
	Latent LS G1 1983 father	-0.12	.243		-0.03	.782	
G Transmission paths of sons and daughters constrained to equality	G1 1983 father's satisfaction at work item	0.13	.050		0.21	.006	
	Latent LS G1 1983 mother	0.14	.013	.054 (daughters)/.049 (sons)	-0.04	.570	.041 (daughters)/.033 (sons)
	Latent LS G1 1983 father	-0.04	.521		0.06	.395	
	G1 1983 father's satisfaction at work item	0.11	.006		0.14	.005	

Effects of parents' LS on their adult daughters' and sons' overall LS was examined jointly. Statistical significance of gender differences was tested by constraining the transmission paths to be equal across the two groups and comparing the model fit between the free and the constrained model

Our finding regarding the association between paternal satisfaction at work and children's overall life satisfaction supports more recent work on fathers as attachment figures (for reviews, see Adamsons and Palkovitz 2014; Bretherton 2010) and suggests that fathers and mothers might have differential but complementary influences on children's development across the lifespan (cf. Bretherton 2010). At the same time, satisfaction at work may operate through a different pathway than attachment, such as through the transmission of social status (Erola et al. 2016); mothers might affect their offspring's placement into the society via factors aligned with their educational attainment while fathers tend to contribute stronger via their earnings and social capital (Beller 2009; Korupp et al. 2002). Interpreting the current findings in this way highlights the importance of parental SES for the later life satisfaction of the offspring (Lyubomirsky et al. 2005; Ward et al. 2017). Work satisfaction could, alternatively, be especially meaningful for the general mood of men, and that would be reflected in their caregiving behavior and the family atmosphere. This, in turn, would affect the children's development of life satisfaction.

The intergenerational transmission of satisfaction as being reflected across multiple life domains cannot be understood without taking into account the intertwined and inextricably linked relationship between spouses. In the current study, the effect of fathers on the offspring was fully explained by the effect of their spouse, while maternal and paternal overall life satisfaction was found to be strongly correlated. Schimmack and Lucas (2010), for instance, used dyadic latent panel analysis and found that overall and domain-specific satisfaction of spouses changes in the same direction over time. Building on a nonrecursive model, Headey et al. (2014b) further showed that spouses have a reciprocal effect on each other's life-satisfaction, with fathers influencing the mothers' life satisfaction stronger than the other way around. While alternative mechanisms that explain this association can be speculated about, such as affective contagion and selective mating, shared environmental influences in spouses are of primary importance in explaining the similarity of life satisfaction in family members (Bookwala and Schulz 1996). Moreover, children's life-satisfaction in adulthood still influences their parents' life-satisfaction long after the children have moved out and set up their own household (Headey et al. 2014; Schimmack and Lucas 2010). Life satisfaction should, therefore, be understood as a collectivistic good within families rather than a purely individualistic construct. Hence, intervention to increase individual life satisfaction by raising positive feelings, positive cognitions, or positive behavior (Bolier et al. 2013; Sin and Lyubomirsky 2009) should target whole families because it is known that supportive and close relationships can "break" the intergenerational cycle of disadvantaged position in life (Belsky et al. 2009).

The presented evidence should make fathers aware of their importance for the overall family atmosphere and well-being of their spouse instead of discouraging them from getting actively involved in raising well-adjusted children. Gender roles and family structure have changed dramatically since the 1980s (Adamsons and Palkovitz 2014). Work may play a different role for today's mothers than it used to in previous generations as increasing number of women aspire a career and rise to high positions. The percentage of children in daycare has risen from 44.4% in 1985 to 67.6% in 2015 (Säkinen and Kuoppala 2016). These changes may alter the whole family dynamics so that the transmission of different aspects of life satisfaction from mothers and fathers could be somewhat different in present-day society as compared to the present findings. More and more fathers want to take a leading role in the early development of their offspring as indicated, for example, by the comparatively high use of paternity leave in Finland (Haataja 2009). This suggests that effects of parents' gender might diminish as gender roles and family structure are in a constant state of flux.

This study also examined whether parents affected their sons and daughters life satisfaction differently given the proposed differences in the interaction during childhood (Lamb 1977a, b) and gender-specific role models (Bandura 1977). Although we found a trend showing a stronger associations between father-son and mother-daughter pairs than between different gender pairs, gender differences were not statistically significant in our data.

## 5.1 Limitations and Strengths

Parents and children do not only share the same environment but are, in most cases, also genetically related (cf. Carlsson et al. 2014). From twin-studies, it is well known that genes account for about one-third of the variation in life satisfaction (Bartels 2015). This is not in conflict with psychological models of intergenerational transmission, even though the heritability of life satisfaction suggests that a significant part of the found association is due to shared genes. Given that heritability estimates include gene—environment correlations and gene x environment interactions, the genetic and environmental effects are inseparable (Overton 1973). At the same time, shared environment has been found to account for a substantial part of the variation in life satisfaction within families (Nes et al. 2010; Schimmack and Lucas 2010; Tellegen et al. 1988). Our study design, therefore, has the limitation that we are not able to disentangle environmental from shared genetic influences.

Moreover, we must acknowledge as a limitation that it is not possible to ensure causation since a third variable could have caused the level of life satisfaction in both parents and offspring. A previous study has already shown that fathers may influence their offspring's life satisfaction indirectly via transmitted values and behaviors which are known to be associated with well-being (Headey et al. 2014). Another main limitation of the current study is that we did not measure life satisfaction with a standardized instrument. Instead, life satisfaction was assessed as being reflected across multiple meaningful life domains (as a mother/father, as a spouse, and at work). However, the wording of these items is near identical to those of more established domain-specific scales (see Diener et al. 1985), and nuanced factors such as these have been found to have wide and long-lasting effects on offspring social and mental development (Josefsson et al. 2013; Katainen et al. 1999). Because not all G2 participants had children (does not apply to G1 which were sampled because they are parents of G2), were living together with a spouse, or were employed when the assessments were conducted, this resulted in a rather high number of missing values.

The current study also has several strengths. First, this study has an intergenerational design that fulfills criteria presented by Thornberry (2016). Second, we used population-based prospective data where life satisfaction was assessed at four study waves and for both parents and their offspring when reaching the same developmental stage/age, allowing us to identify transmission processes within families. Finally, the same covariates were taken into account in both generations.

## 5.2 Conclusions

We found an effect of parents' gender; only mothers' overall life satisfaction had an independent effect on their adult children's overall life satisfaction, and this effect weakened over time. We, however, found a robust effect of fathers' satisfaction at work on adult

children's overall life satisfaction. Offspring gender did not meaningfully moderate the transmission of life satisfaction across the two generations.

We aimed at improving the understanding of the conditions for the transmission of life satisfaction. Our findings have practical implications as it may help in intervention efforts targeting to prevent the adverse health consequences related to low life satisfaction and to support individuals' overall well-being, which in turn reflects positively to public health and economy.

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