

How socio-cultural factors and opportunity costs shape the transition to a third child

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Abstract

Objective: Why do parents decide to have more than two children?

Background: This study explores how opportunity costs and socio-cultural factors such as value of children, perceived social pressure and intergenerational fertility transmission influence the transition to higher order fertility in seven European countries.

Method: Using panel data for Austria, Bulgaria, France, Georgia, Hungary, Poland and Russia, stemming from the Generations and Gender Survey (GGS), we aim to identify the driving mechanisms behind the birth of a third child and draw attention to socio-cultural factors and opportunity costs. We estimate average marginal effects in binomial logistic regressions.

Results: Multivariate analyses demonstrate that lower opportunity costs and perceived social pressure positively influence the transition to the third child – for both sexes. In contrast, emotional and social values of children are not relevant and intergenerational transmission is associated with the birth of the third child for men and women differently. Perceived social pressure turns out to matter in all countries, although the social groups likely to have large families differ across countries.

Conclusion: Overall, this study provides insights into the link between socio-cultural factors, perceived cost and the formation of large families in life course, revealing the reasons why women and men may deviate from the widespread two child norm. Therefore, it brings new contribution regarding the motivation for a third child.

Key words: fertility, third birth, social pressure, value of children, opportunity costs, Generations and Gender Survey



1. Introduction

In recent decades, fertility rates have dropped in many European countries, with considerable cross-country differences in fertility levels (Zeman et al., 2018). Apart from the rise of childlessness, the drop in fertility rates has been driven by the decline of large families (Bujard & Sulak, 2016; Kohler et al., 2002). Previous literature has focused on the causes of childlessness (Kreyenfeld & Konietzka, 2017; Mynarska et al., 2015), whereas the formation of large families¹ remains less explored. The transition to the third child is a crucial event in women's and men's life course that deserves special attention, especially in view of the increase of two-child families since the baby boom cohorts (Van Bavel et al., 2018) and the persistent two-child family ideal in Europe (Sobotka & Beaujouan, 2014).

To better understand fertility and thus demographic change it is necessary to consider why, in most modern European societies, on the one hand more than two children are less often desired and realised than two children and, on the other hand, why some people still decide to have a third child despite this prevailing tendency. However, there are some significant research gaps with regard to the influencing factors of the third child. Even though there is a variety of theories on fertility behaviour in advanced societies (Balbo et al., 2013), their relevance differs with regard to the transition to different parities: some explanations are more relevant for the transition to parenthood than for the transition to higher order births. Further, fertility research has focused on structural factors such as economic uncertainty (Comolli, 2017), family policies (Kalwij, 2010) and socio-economic determinants like education (Wood et al., 2014) and migration background (Baykara-Krumme & Milewski, 2017). Some of the previous research analyses fertility intentions (Balbo & Mills, 2011; Dommermuth et al., 2011). Moreover, most studies on higher order parities are based on cross-sectional data (e.g. Balbo & Mills, 2011; Nauck, 2007, 2014; Nauck & Klaus, 2007) and only consider women (Baykara-Krumme & Milewski, 2017; Gray et al., 2010; Nauck, 2007, 2014). Further, previous research on the transition to a third child has often been conducted on one or two countries only (Balbo & Mills, 2011; Berrington & Pattaro, 2014; Bremhorst et al., 2016; Gray et al., 2010; Milewski, 2010).

Studies focusing on socio-cultural factors provide evidence that the latter play a key role in understanding the transition to the third child (Baykara-Krumme & Milewski, 2017; Berrington & Pattaro, 2014; Murphy & Knudsen, 2002; Nauck, 2014; Nauck & Klaus, 2007). Since the birth of the third child marks the transition to a large family and a deviation from the social two-child norm, we believe that positive value aspects of children and the normative influence from the immediate social environment could be key determinants to explain this fertility transition. These aspects have rarely been taken up in previous research and if so, with the shortcomings mentioned above. By combining the negatively loaded aspect of opportunity costs in the economic theory of fertility (Becker, 1981) with utilitarian and normative aspects from the value of children (VOC) approach (Hoffman & Hoffman, 1973; Nauck, 2014), the theory of planned behaviour (TPB) (Fishbein & Ajzen, 2011), and the life course approach (Bernardi, 2003), these research gaps are addressed and the transition to the third child is analysed.

Drawing on panel data of seven European countries (Austria, Bulgaria, France, Georgia, Hungary, Poland and Russia), we aim to identify gender-specific mechanisms behind the birth of a third child. By relating socio-cultural factors and opportunity costs captured at wave one to actual births between the two survey points, our analyses allow conclusions with regard to the direction of influence. First, we compare the values, norms and perceived opportunity costs of persons with two children who had a third child between the two waves with those who did not. Second, we apply logistic regressions to identify determinants for the transition to a third child. Therein, we extend the previous research by studying the effect of socio-cultural factors and opportunity costs on the transition to a third child among women and men in Europe.

1 We define the term "large family" in this article in a demographic context and refer to three or more children in an individual or biological perspective. It must be clearly distinguished from the multi-child family form, which is defined by the number of children in a life course perspective (including e.g. step-children).

2. Higher order parity transitions – theoretical factors and previous research

Literature on the determinants for the transition to a third child predominantly focuses on demographic, socioeconomic and life course-related factors and less often on socio-cultural factors (e.g. Berrington & Pattaro, 2014; Bremhorst et al., 2016; Callens & Croux, 2005; Heckman & Walker, 1990; Hoem & Hoem, 1989). In the following section, we evaluate the relevant theoretical approaches in terms of how specific and relevant their arguments are for explaining the decision to have the third child and review the previous empirical studies on large families.

Thus, we identify opportunity costs and three socio-cultural factors such as the value of children, perceived social pressure and intergenerational fertility transmission as crucial for the transition to the third child. Based on this, we explore rationales for the assumption of gender differences. In addition, we introduce other factors of the birth of the third child which should be taken into account as control variables when analysing the formation of large families.

2.1 Opportunity costs

Micro-economic approaches (Becker 1981; Mincer 1963) as well as psychological and sociological theories of fertility behaviour assume rational choice and emphasizes that *opportunity costs* of children are important argument against the transition to a third child (Nauck 2007, 2014). In contrast to the direct financial costs and the psychological costs (e.g., stress, emotional distress) of having more children, the indirect costs (opportunity costs) refer to the lost benefits of an alternative use of time, e.g., time spent paid working (for a discussion on the definition and the different types of costs of children see Liefbroer, 2005). We deliberately focus on perceived opportunity costs rather than on income because one's perception includes other individual factors such as additional financial security from a partner or inheritance, financial burdens like loans, social capital, child-friendliness of the employer, etc., but is also embedded in the social opportunity structures. Although the opportunity cost argument is known to be crucial when starting a family (Klein & Eckhard, 2007) and less important for second-order births, we believe that perceived opportunity costs could be very important for third births. The birth of the third child marks the transition to a large family and imposes particularly high constraints on parents in societies where the two-child norm prevails and where public facilities, housing and social acceptance are geared towards two children. In this study, we refer to opportunity costs as the perceived consequences of another birth in terms of financial situation, employment and personal freedom and use the term cost as synonymous for this.

2.2 Socio-cultural factors

While costs cover the negative consequences of having children, such as loss of income and freedom and job obstacles, the positive motivation for having another child remains understudied. In order to address the question “What is the motivation to have a third child?”, we need to consider the subjective motivation for the birth of a (further) child and emphasize the supply side of children. The *value of children* (VOC) approach takes utilities of children for their parents into account as the complement of the costs children incur and draws attention to the reasons for having children by different parities (Hoffman & Hoffman, 1973; Nauck, 2007). As to empirical evidence on the VOC approach, normative and psychological aspects of children turned out to be relevant in high developed societies: social esteem utility (creating new relationships and intensifying and/or improving existing relationships) and affect utility (creating immediate, typically non-substitutable, native, highly intimate parent–child relationship) (Nauck & Klaus, 2007). The interaction between the utility and the costs of children affects the ideas about family size and influences the decision for or against having a third child. Moreover, the VOC approach explicitly refers to birth order by assuming differences in the aspired utilities depending on the number of children. The utility of children in creating additional social relationships and stabilizing existing ones might increase births at higher parities (Nauck 2007), but is not expected to increase linearly with the number of children (Nauck 2014). With regard to the emotional utility of having children, Nauck (2007) argues that one or two children can provide as much psychological satisfaction as four or more children. The results reveal that the higher the emotional utility of children for their parents (affect utility), the lower the third births rate

(Nauck 2007, 2014). Since the previous research is predominantly based on fertility biographies and intentions, little is known about the effect of socio-cultural factors on the actual transition to the third child.

The following crucial theoretical argument for understanding the motivation to have a third child are social norms. Certainly, social norms partly reflect norms regarding family size at the macro-level, such as the existing two-child norm (Sobotka & Beaujouan, 2014). However, this study focusses on the deviant of this macro-level norm at the individual level. Therefore, the subjectively perceived expectation of relevant others as introduced in this paper is much more individual and specific, and depends on peers, relatives and other social environments that are considered 'relevant'. It is precisely this specific normative shaping at the individual level that can make the difference when it comes to transitioning to higher parities and deviating from the societal two-child norm. In this sense, Balbo and Mills (2011) found cross-national differences in the impact of social pressure on the intention to have a second or third child.

Social norms can be distinguished between injunctive and descriptive normative beliefs (Fishbein & Ajzen, 2011). Injunctive normative beliefs, as they are modelled in the TPB approach and measured in the Generations and Gender Survey (GGS) (Vikat et al., 2007), emerge when we are told or infer what significant others expect of us. In contrast, descriptive norms such a number of siblings are usually grounded in the observed or inferred actions of these social referents. Injunctive norms refer to the perceived expectations of important reference persons or groups to perform or not to perform a particular behaviour in connection with the motivation to comply with these relevant ones (Ajzen, 1991; Fishbein & Ajzen, 2011). This perceived expectation is also accompanied by an expected support in case of following this norm. In this paper, using the wording of the TPB we simplistically refer to these normative beliefs and the motivation to comply as *perceived social pressure*. This is less about direct pressure in the sense of a demand for acceptable behaviour than about a positively connoted perceived social expectation and the associated expected support from relevant persons and vice versa. It is about the perception that relevant persons approve or disapprove the decision to have another child and the associated availability or lack of social support.

While most studies of TPB rely on injunctive norms, descriptive norms, such as the number of siblings (Axinn et al., 1994), can also play an important role in fertility decisions. Descriptive norms are transmitted by socialisation experiences in the family of origin (Elder 1994; Elder et al. 2003). Both parents' preferences for their own behaviour and parents' preferences for their child's family size preferences may have substantial effects on children's fertility behaviour (Axinn et al. 1994). Through this descriptive norm, which we call *intergenerational transmission* in line with current research, children may consciously or unconsciously (Min et al. 2012) adopt or reject fertility-related preferences, values, and norms of their parents (Beaujouan & Solaz, 2019; Bernardi, 2003; Fasang, 2015; Liefbroer & Elzinga, 2012; Murphy & Knudsen, 2002).

With regard to the transition to the third child, both – the unconscious socialisation in a certain family structure and the conscious transmission of social norms via social pressure – appear plausible: Thus, people who are socialised in a large family can aspire to a large family themselves and opt for a third child (Baykara-Krumme & Milewski, 2017; Berrington & Pattaro, 2014; Gray et al., 2010). The latter paper analyses the transition to a third child only for women, meaning that there is no evidence for the importance of the number of siblings for men. Conversely, it seems plausible that persons who grew up as an only child later consciously strive for a large family. This link between a small family of origin and a large number of children can also arise as a result of psychological characteristics of the parent-child relationship, e.g., with regard to the accumulation of parental expectations, which are perceived as burdensome but also the possible burden of having to care for needy parents alone at some point.

Overall, it can be stated that in addition to the opportunity costs, socio-cultural factors such as the value of children and subjective norms are promising to shed light on the decision for the third child. Against this background we hypothesize that parents who perceive high opportunity costs in the case of further childbearing are less likely to have a third child than parents who assume low costs (H1). Following the VOC approach, we hypothesize that parents perceiving high social esteem utility in further childbearing are more likely to have a third child compared to those perceiving low esteem utility (H2). Following the TPB, perceived social pressure is expected to have an effect on the decision to have a third child. We assume that persons who perceive strong social pressure to have another child, more often have a third child than those reporting low social pressure (H3). Following the argument of intergenerational transmission, we expect persons who have grown up with two or more siblings to be more likely to have a third child than persons with one sibling (H4).

2.3 Gender differences

Because most of the studies on the VOC only consider women, we have no evidence for the effect of children's benefits on men. At the same time, gender-specific differences in the effect of the VOC on the third birth can be assumed due to gender-specific opportunity structures (Goldscheider et al., 2015). With regard to predominant traditional gender roles in the societies observed here (Panova & Buber-Ennser, 2016), it is to be expected that men and women have partly different priorities regarding such socio-cultural factors and opportunity costs when deciding on a third child. In the majority of the studied societies women are confronted with higher opportunity costs of childrearing and are more dependent on support from the social network (Keim et al., 2013) and thus may be more affected by perceived social pressure than men. Moreover, women develop stronger emotional ties through intensive interaction with their children (Bernardi 2003). In this respect, there is empirical evidence that for women the "intrinsic" attitudes towards children are more decisive, while for men the effect of "extrinsic" expectations and general perspectives is stronger (Spéder & Kamarás, 2008). Based on the assumption that women are the main caregiver and thus invest more time in raising children than men, we hypothesise opportunity costs to be more relevant for women than for men (H5) and that the benefit of children for social relationships and emotional well-being is more relevant for women than for men (H6). To capture possible gender-specific effect associations, we analyse men and women separately in the multivariate models.

2.4 Life course-related factors and partnership context

Life course-related factors (Elder, 1994) and partnership context are decisive for understanding the (missing) transition to a third child and have to be taken into account when modelling it. The literature provides empirical evidence for a negative association between women's age at first birth and the probability of progression to a third child (Berrington & Pattaro, 2014; Bremhorst et al., 2016; Gray et al., 2010). Existing research on the sex composition of the previous children reveals diverging results (Andersson et al., 2006; Gray et al., 2010). Specific family constellations like separation and repartnering are also relevant for the decision to have a third child (Jefferies et al., 2000). Although intended family sizes might be similar in early adulthood across educational groups (Berrington & Pattaro, 2014), various studies have shown that low education is associated with a higher share of third births among women (Baykara-Krumme & Milewski, 2017; Callens & Croux, 2005). Finally, generative decisions are usually made by both partners. Therefore, it takes two to have a third child, so the partner's expectations about further childbearing and socialization experience as well as the partner's characteristics are relevant factors in the transition to the third child (Brehm & Schneider, 2019; Testa et al., 2014).

3. Data and methods

3.1 Data

This study is based on the first and second wave of the GGS in seven European countries (Austria, Bulgaria, France, Georgia, Hungary, Poland and Russia), carried out between 2004 and 2011 as well as 2009 and 2015 (Vikat et al., 2007). See [Table A1](#) for information about the time periods when the two surveys were conducted in each country.

We select 8,285 men and women of reproductive age (18 to 45) living together with a partner and having two children at wave one. We exclude individuals stating that they or their partner were (no longer) able to have another child (655 cases), expecting a child at wave one (120 cases) and separating from their partner between wave 1 and wave 2 (368 cases). Moreover, we exclude cases with missing information on one of our main explanatory variables — opportunity costs and socio-cultural factors — which are described in the next section (335 cases with missing indicator "opportunity costs", further 18 with missing "affect and social esteem", further 172 with missing "social pressure" und further 11 with no information on siblings). These selection criteria amount to an analytical sample of 6,606 individuals (2,533 men and 4,073 women) with two children at wave one.

3.2 Variables

Our main dependent variable is the birth of a third child between the two survey waves. Pregnancies at wave two are also regarded as a transition to a higher parity.

Our key explanatory variables capture perceived opportunity costs and socio-cultural factors: value of children, perceived social pressure as well as intergenerational transmission of fertility, measured by the number of siblings². Values and norms regarding the birth of a (third) child comprise various dimensions and are measured in the GGS via the perceived consequences of another birth. The exact wording of the question is: “*If you were to have another child during the next three years, would it be better or worse for...*”. Answers refer to various aspects, namely “(1) the possibility to do what you want, (2) your employment opportunities, (3) your financial situation, (4) your sexual life, (5) what people around you think of you, (6) the joy and satisfaction you get from life, (7) the closeness between you and your partner/spouse, (8) the closeness between you and your parents, (9) the care and security you may get in old age.” Possible answers range from (1) much better to (5) much worse.

A further main explanatory variable comprises perceived social pressure, based on the following question: “*Although you may feel that the decision to have a/another child is yours (and your partner’s/spouse’s) alone, it is likely that others have opinions about what you should do. I’m going to read out some statements about what other people might think about you having a/another child during the next three years. Please tell me to what extent you agree or disagree with these statements. (1) Most of your friends think that you should have a/another child; (2) Your parents think that you should have a/another child; (3) Most of your relatives think that you should have a/another child.*” Answers range from (1) strongly agree to (5) strongly disagree.

We followed the approach of scholars studying with the GGS fertility in the framework of the Theory of Planned Behaviour and applied factor analysis to reduce the set of observed variables. We applied principal-components factoring including the twelve items mentioned above, used the rotation varimax, which produces orthogonal factors and identified three factors: factor 1 explains 18.3% of the total variance, factor 2 explains 22.0% and factor 3 explains 23.1%. Cumulatively, the three factors account for 63.4% of the total variance. We named – in line with the VOC and TPB approach – the factors “opportunity costs” (items 1–3 on attitudes and norms), “affect and social esteem utility” (items 4–9 on attitudes and norms) and “perceived social pressure” (the three items on perceived social pressure). The results of our factor analyses (see Table A2) are in line with those of previous studies based on GGS data (e.g., Billari et al., 2009; Buber-Ennsner & Fliegenschnee, 2013; Dommermuth et al., 2011). For the answers to the single items we refer to Tables A3–A5.

We generated for each individual a score for “opportunity costs”, “affect and social esteem” and “perceived social pressure”, respectively. The scores are the means of the items included in the different factors (i.e., factor “opportunity costs” is the mean of three single items; factor “affect and social esteem” is the mean of six single items; factor “perceived social pressure” is the mean of three single factors; see Table A2 for the factor loadings). These scores were used in descriptive analyses on the one hand, and were included as main explanatory variables in our regressions.

In order to allow an intuitive interpretation of affect and social esteem utility, we rescaled the factor so that value 1 represents “much worse” and value 5 “much better”. Therefore, high values for affect and social esteem can be interpreted as higher utility. We also rescaled the ordering for perceived social pressure so that value 1 represents “strongly disagree” and value 5 “strongly agree”. In this way, higher values indicate a higher perceived social pressure. Descriptive results for the three socio-cultural factors are based on rounded integer means.

Non-response was non-negligible for the various values and norm items. Almost two out of ten respondents had at least one missing value in the twelve underlying variables (Table A1). In order to exclude as few respondents as possible, we chose the following strategy: if a factor was generated from three items and one was missing, we calculated the factor using the two coded items only, and if two items were missing, the remaining factor was used. In this way, 251 scores for “opportunity costs”, 829 for “affect and social esteem” and 566 for “perceived social pressure” were constructed using a non-exhaustive list of variables (Table A6).

2 The GGS does not differentiate between siblings and half-siblings. The “number of siblings” is defined as the total number of brothers and sisters that the respondent has ever had. So the definition is up to the respondent and it may include any kinds of siblings (also step-siblings).

Our fourth main explanatory variable is the respondent's number of siblings, categorised into no sibling, one sibling, two siblings as well as three and more siblings.

We included the following control variables which were derived from the life course approach and literature on partnership context: terciles for respondent's age at first birth³, age of youngest child (0-2; 3-5; 6-10; 11-15; 16 years and more), sex ratio of the two shared children at wave one (two boys; a boy and a girl; two girls), existence of twins (yes; no) and migration background (born in country of interview; born abroad) comprise socio-demographic factors which potentially influence the relationship between socio-cultural factors and the decision for a third child. We controlled for individuals' and their partner's socio-economic situation by including their combined educational level (both low educated (i.e. ISCED 0-2); at least one with medium level of education (i.e. ISCED 3-4); at least one with high education (i.e. ISCED 5-6)), employment status of the woman ((self)employed; looking after home or family; unemployed; other), employment status of the man ((self)employed; unemployed; other) and the respondents' subjective financial situation measured via making ends meet (with (great) difficulty; with some difficulty; fairly easily; (very) easily). We included information on the partner context, namely the existence of pre-union children (no pre-union child; at least one pre-union child of either the respondent or the partner) and thoughts at wave one about breaking up in the near future (not thinking of breaking up; thinking of breaking up; partner present at interview; no answer). We controlled for these variables because they could influence the relationship between social esteem and transition to a third child. Finally, we embodied in the models country of residence as well as number of months elapsed between the two interviews for each respondent (as the time elapsed between the two GGS waves differs not only by country but also within each country). All variables – except for time between the interviews – refer to wave one. The sample sizes for the various countries range between 240 (Austrian men) and 930 (Bulgarian women) (Table 1). Half of the respondents had one boy and one girl, one quarter had two girls and one quarter had two boys. Men (either respondents or partners of female respondents) were (self-)employed to a large extent (86%), whereas women (either respondents or partner of male respondents) were less often actively participating in the labour market (around 60%), with a substantial share looking after home/family (about 25%). For further sample characteristics see Table 1.

3.3 Methods

The transition to a third child is studied in a multivariate context. The dependent variable is the birth of a third child or pregnancy at wave two. In binomial logistic regressions we estimate average marginal effects (AME). They represent the average effect of a variable on the probability of having a third child between the two waves and have the advantage of being comparable across models (in our case between models for women and for men) (cf. Best & Wolf, 2012). Positive coefficients indicate that the corresponding group more often had a third child, negative coefficients indicate that the group less often reported transition to a third child. As mentioned above, opportunity costs and socio-cultural factors are the main explanatory variables and various life-course factors, socio-economic factors and the country context are included as control variables.

Models are run separately for women and men to highlight possible gender differences. We applied weights for the male and the female sample to ensure that each country is represented by the same weighted sample size and to avoid countries with large sample sizes to unduly affect the results.

For robustness check, we aggregated the factors into a Likert scale and included opportunity costs and socio-cultural factors as ordinal variables rather than continuous variables. In addition, we provide analyses for single items. We therefore ran regressions including one item only as well as regressions including all twelve items referring to subjective costs and affect and social esteem. For the latter, the sample was restricted to those without any missing value for the twelve items (3,302 women and 1,931 men).

3 Women: 1st tercile: below 21 years, 2nd tercile: 21-24 years, 3rd tercile: above 24 years; men: 1st tercile: below 24 years, 2nd tercile: 24-27 years, 3rd tercile: above 27 years.

Table 1: Sample characteristics

	Women (N)	Men (N)	Women (%)	Men (%)
Respondent's age at first birth				
First tercile	1,319	827	32%	33%
Second tercile	1,553	948	38%	37%
Third tercile	1,201	758	29%	30%
Age of youngest child				
0-2 years	813	603	20%	24%
3-5 years	665	446	16%	18%
6-10 years	979	701	24%	28%
11-15 years	898	798	22%	20%
16 years and more	648	250	16%	10%
Missing age	70	35	1%	1%
Sex composition of children				
Two boys	1,005	627	25%	25%
One boy, one girl	2,088	1,293	51%	51%
Two girls	980	613	24%	24%
Twins				
No	4,027	2,492	99%	98%
Yes	46	41	1%	2%
Education of couple				
Both low education	210	156	5%	6%
At least one with medium level of education	2,488	1,579	61%	62%
At least one with high level of education	1,365	793	34%	31%
Missing information	10	5	0%	0%
Employment status of man				
(Self-)Employed	3,490	2,188	86%	86%
Unemployed	424	265	10%	10%
Other or missing	159	80	4%	3%
Employment status of woman				
(Self-)Employed	2,546	1,495	63%	59%
Looking after home/family	1,004	690	25%	27%
Unemployed	445	297	11%	12%
Other or missing	78	51	2%	2%
Making ends meet				
With (great) difficulties	1,406	930	35%	37%
With some difficulties	1,317	805	32%	32%
Fairly easily	926	552	23%	22%
(Very) easily	408	234	10%	9%
N.a.	16	12	0%	0%
Stepfamily context				
No pre-union children	3,723	2,379	91%	94%
At least one pre-union child	350	154	9%	6%
Thinking of breaking up				
Not thinking of breaking up	3,625	2,186	89%	86%
Thinking of breaking up	269	73	7%	3%
Not asked, partner present at interview	68	88	2%	3%
No answer	111	186	3%	7%
Migration background				
Born in country of interview	3,902	2,448	96%	97%
Born abroad	171	88	4%	3%
Time elapsed between the two interviews				
Mean number of months	39	39		
Country				
Austria	452	240	11%	9%
Bulgaria	930	520	23%	21%
France	324	264	8%	10%
Georgia	623	442	15%	17%
Hungary	607	392	15%	15%
Poland	691	421	17%	17%
Russia	446	254	11%	10%
Total	4,073	2,533	100%	100%

Source: GGS, wave one. The number of months elapsed between the two interviews refers to wave one and wave two. Unweighted numbers.

3.4 Descriptive statistics

In our sample, three out of four female respondents perceived rather high opportunity costs at wave one in case of a new child in the near future, whereas the remaining one quarter had a neutral position, with neither a better nor worse situation. Among men, the perception of high opportunity costs was also frequent (51%), although substantially less pronounced than among women. The majority (roughly 80%) perceived affect and social esteem in case of a new child as neutral. Nevertheless, about one in ten mentioned higher affect and social esteem if they had another child in the near future. Perceived social pressure to have another child turns out to be low, only a small group (7%-9%) mentioned a social pressure in their social network. Regarding intergenerational transmission, about half of the respondents had grown up in families with three or more children: 26%-27% had two siblings and further 25%-27% had three and more siblings (Table A7).⁴

Regarding the single items included in our factors, especially financial concerns are related with higher opportunity costs for both sexes. Self-fulfilment and employment opportunities strongly determine costs of women, and are to a lower extent related with costs of men. Gender differences are most pronounced when it comes to perceived employment opportunities (Table A3). Care and security that one can get in old age as well as joy and satisfaction with life are increasingly related to higher affect and social esteem (Table A4), and regarding social pressure, respondents perceived in a similar way pressure from friends, parents and relatives (Table A5).

Overall, few respondents reported the birth of a third child at wave two (5.4%). Considering pregnancies at wave two increases the share of persons experiencing the transition to a third child in the observed time frame to 6.3% (Table 2).

Table 2: Transition to a third child between wave one and wave two

	Women	Men	All
Child born between wave 1 and wave 2	4.9%	6.2%	5.4%
No child born between waves, but expecting a child at wave 2	0.9%	1.0%	0.9%
No transition to a third child	94.3%	92.8%	93.7%

Source: GGS, waves one and two.

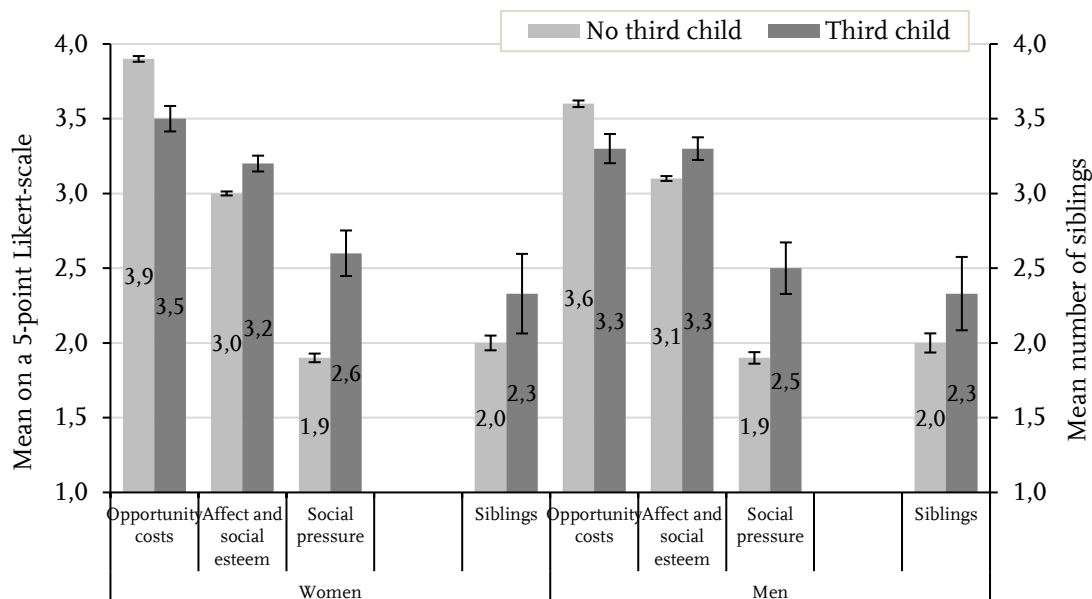
Women and men who experienced the birth of a third child differed significantly in terms of socio-cultural factors from those reporting no further birth (Figure 1). Mean values for opportunity costs are lower and means for affect and esteem utility perceived at wave one are higher among parents who had a third child at wave two (costs: 3.5 versus 3.9 (women) and 3.3 versus 3.6 (men), higher values indicate higher costs; affect and esteem utility: 3.2 versus 3.0 (women) and 3.3 versus 3.1 (men), higher values indicate higher utility).

Regarding perceived social pressure, the differences are pronounced and individuals who had a shared third child at wave two were more likely to perceive pressure from friends/parents/neighbours (2.6 versus 1.9 (women) and 2.5 versus 1.9 (men), higher values indicate higher social pressure). Transition to a third child is also significantly associated with a higher number of siblings (2.3 versus 2.0 for both sexes).

In addition to the means, the distribution of socio-cultural factors confirms that the analysed factors varied substantially among individuals experiencing the birth of a third child and those reporting no further childbearing at wave two (Figures A1, A2, A3).

4 Tables for the distribution of opportunity costs and socio-cultural factors at the country levels are available on request.

Figure 1: Opportunity costs and socio-cultural factors among persons with two children by transition to a third child, means and 95%-confidence intervals



Note: GGS, waves one and two. Weighted numbers.

4. The transition to a third child – empirical results

4.1 Opportunity costs and socio-cultural factors

According to our regression models, opportunity costs, socio-cultural factors and the number of siblings are associated with having a third child (Table 3). The AME for costs is -0.02^{***} in the female and -0.02^{+} in the male sample, indicating that the probability of experiencing transition to a third child significantly decreases with increasing opportunity costs, which confirms H1. As the estimated coefficients do not differ in size and only slightly by statistical significance, we reject H5 and find no remarkable gender differences regarding costs. Parents reporting a higher perceived social pressure for enlarging their family more often had (or expected) a third child by the time of the second interview (AME 0.02^{***} for both sexes), in line with H3. Results for intergenerational transmission show that men growing up in large families more often had a third child than those with one sibling, which confirms H4. The AME for female respondents without siblings is 0.03^{+} , indicating that women growing up without a sibling were also more likely to have a third child than those with one sibling.

For sensitivity analyses, we included the factors opportunity costs and socio-cultural factors in a Likert-scale. The results show that respondents expecting high opportunity costs less often had a third child (Table A8). The estimated coefficient for those expecting a worse situation if they had another child in the near future was -0.03^{***} for women and -0.03^{**} for men. Especially women expecting very high opportunity costs (i.e., expecting a much worse situation) less often had a third child at wave 2 (coefficient -0.04^{**}). Turning to affect and social esteem, we find that women and men who expected that having another child would be better for various domains (e.g., joy and satisfaction they get from life, closeness with partner) more often experienced the transition to a third child (coefficient was 0.003^{***} in the female and 0.05^{***} in male sample). Regarding perceived social pressure, we find that transition to a third child was less frequent among women and men perceiving not at all a social pressure to have a further child.

Table 3: Transition to a third child (average marginal effects)

	Women	Men
Opportunity costs	-0.02***	-0.02+
Socio-cultural factors		
Affect and social esteem	0.02*	0.03+
Perceived social pressure	0.02***	0.02***
Number of siblings (ref.=One)		
None	0.03+	0.01
Two	-0.01	0.03*
Three and more	0.01	0.03*
Age at first birth (ref.=First tercile)		
Second tercile	-0.02	-0.00
Third tercile	-0.03**	-0.02
Age of youngest child (ref.=0-2 years)		
3-5 years	-0.04***	-0.03*
6-10 years	-0.06***	-0.06***
11-15 years	-0.13***	-0.10***
16 years and more	-0.21***	-0.16**
Missing age	-0.11*	0.02
Sex composition of children (ref.=One boy, one girl)		
Two boys	0.00	-0.02
Two girls	0.03**	0.01
Twins		
No twins (ref.)	0	0
Twins	-0.06	-0.05
Migration background (ref.=Born in country of interview)		
Born abroad	0.00	-0.01
Education of couple (ref.=Both low education)		
At least one medium level	-0.03+	0.02
At least one highly educated	-0.02	0.02
Missing education	—	0.19**
Employment status of man (ref.=(Self-)employed)		
Unemployed	-0.02	0.03+
Other	-0.00	0.04
Employment status of woman (ref.=(Self-)employed)		
Looking after home/family	0.01	0.03*
Unemployed	0.01	-0.01
Other	0.00	0.02
Making ends meet (ref.=Fairly easily)		
With (great) difficulties	0.05***	0.01
With some difficulties	0.02	0.01
(Very) easily	0.02	0.06***
Missing	—	—
Thinking of breaking up (ref.=Not thinking of breaking up)		
Thinking of breaking up	0.03**	-0.10+
Partner present at interview	0.02	0.01
No answer	-0.04	0.03
Existence of pre-union children (ref.=No)		
Yes	-0.00	0.05**
Time elapsed between the two interviews (in months)	-0.00	-0.00
Country (ref.=Austria)		
Bulgaria	-0.08	-0.03
France	0.01	0.01
Georgia	-0.03	-0.02
Hungary	0.03+	0.05*
Poland	0.01	0.04+
Russia	-0.11**	-0.06
Cragg Uhler R²	0.2739	0.2045
N	4,047	2,521

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.

Source: GGS, waves one and two.

Remarks: Some groups (e.g., “missing” for age of youngest child in the female sample) predict transition perfectly. STATA dropped these observations, resulting in a lower number of observations. These groups are indicated via “—”.

Regressions depicting the association of each single item with the transition to a third child reveal that a worsening in the possibility to do what to want as well as a worsening financial situation were associated with a substantially lower probability to have another child (Table A9). For women, a worsening of the employment situation was also crucial for not enlarging the family. Also joy and satisfaction as well as closeness with the partner were correlated with transition to a third child, whereas it does not seem to play a role what people around you think of you. The estimated coefficient for sexual life turned out to be statistically significant (although at the 10-percent-level), indicating that women and men expecting a worsening of their sexual life in case of another child less often had a third child at wave two. Further, perceived social pressure from friends, parents as well as relatives were associated with further childbearing in the same way as the estimated coefficients were the same in size and statistical significance, both among women and among men (Tables A9).

Finally, we included all twelve single items referring to subjective costs as well as affect and social esteem in a regression. Therein, the joy and satisfaction one gets from life turned out to be the most important aspect for the transition to a third child (Table A10).

4.2 Robustness check on gender differences

The marginal effects for affect and social esteem are 0.02* in the female and 0.03+ in the male sample). To explore if the differences in size and statistical significance could be an artefact produced by a considerable difference in the size of the female and the male sample, we rerun the models in Table 3 with a reduced sample size of women. Therefore, we randomly selected 62% of cases of the original female sample (thus leading to an equal size of females and males) and repeated the random selection various times (Table 4). This robustness check revealed that in some of these reduced female samples affect and social esteem lost statistical significance. According to these sensitivity analyses we have to reject H2, as well as H6, as we find neither a consistent significant association between affect and social esteem utility in multivariate analyses, nor gender differences. Notably, the estimated coefficients for opportunity costs, perceived social pressure and siblings remained significant in our sensitivity analyses (Table 4).

Table 4: Transition to a third child among women based on randomly reduced samples (average marginal effects)

	Model 1s	Model 2s	Model 3s	Model 4s
Opportunity costs	-0.03***	-0.02**	-0.02*	-0.02**
Socio-cultural factors				
Affect and social esteem	0.03+	0.03+	0.03**	0.02+
Perceived social pressure	0.02***	0.02***	0.02***	0.02***
Number of siblings (ref.=One)				
None	0.04*	0.04*	0.03+	0.04*
Two	0.01	-0.02	-0.01	0.00
Three and more	0.02+	-0.01	-0.00	0.02
N	2,093	2,125	2,532	2,486

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.

Source: GGS, waves one and two.

Note: Controlling for age at first birth, age of youngest child, sex composition of children, twins, migration background, education of couple, employment status of man and woman, making ends meet, thinking of breaking up, existence of pre-union children, time elapsed between the two interviews, and country.

In addition, we rerun the regressions without respondents with pre-union children, as there are additional motivations for childbearing after re-partnering, like the desire for a shared child, regardless of the actual number of children (Thomson et al., 2002). In this reduced sample, findings on the association between opportunity costs, socio-cultural factors and the number of siblings on the one hand and transition to a third child on the other, remain robust (Table A12).

We conclude that in line with our main assumption, logistic regressions show that the birth of a third child within the observed period of time is significantly associated with opportunity costs and perceived social pressure for both sexes. Affect and social esteem play to a lower extent a role for further childbearing:

Although descriptive analyses reveal significant differences among parents reporting a third child at wave two and those not transiting to parity three at wave two, opportunity costs and perceived social pressure turn out to be more dominant in the multivariate context than affect and social esteem. Further, the number of siblings is more important for men than for women: whereas men with two and siblings experienced the transition to a third child significantly more often than those with one sibling, such an effect is not observed among women. Contrary, women growing up without a sibling more often reported a newborn child or a new pregnancy.

4.3 *Life course-related factors, partnership and social context*

We briefly refer to our control variables (Table 3). Women who had their first child at a comparable late age were less likely to have a third child. The probability of having a child decreases with increasing age of the youngest child and a preference for a boy becomes evident. An unfavourable economic situation (low education level; difficulties with making ends meet; unemployment of man) on the one hand and a highly favourable economic situation (making ends meet (very) easily) on the other are associated with a higher probability for transition to a third child. We are aware that education, employment status and financial constraints are linked. To add, partnership quality is relevant for women. Respondents in Hungary and male respondents in Poland significantly more often reported transition to a third child. Remarkably, Hungary has an explicit policy for raising third child births. However, we did not analyse policy effects (Spéder et al., 2020), this is only a hint for possible associations.⁵

The time elapsed between the two waves differs in the various countries (see Table A1) which might affect our results. Apart from including the time interval between the two interviews as control variable, we restricted in further analyses the selection to respondents with at least 30 months between the two interviews and defined transitions to a third child as births as well as pregnancies up to 39 months after the first interview. Results (available on request) for main explanatory variables and control variables remained stable.

5. Discussion and conclusions

This paper investigated the role of socio-cultural factors and perceived opportunity costs on the transition to a third child based on GGS panel data for seven European countries. Combining theoretical arguments from the VOC approach (Hoffman & Hoffman, 1973), the Life-course approach (Bernardi, 2003; Fasang, 2015), the TPB (Fishbein & Ajzen, 2011) and the economic theory of fertility (Becker, 1981; Mincer, 1963), we analysed socio-cultural factors in addition to the commonly studied socio-economic and demographic factors which were dominant in previous research on higher parity transitions. We show that socio-cultural factors and perceived opportunity costs are relevant mechanisms behind the birth of a third child which complements existing knowledge on demographic and economic factors. The positive association of expected higher social esteem and lower perceived opportunity costs for the transition to a third child turned out to be robust even after controlling for socio-economic and life-course factors. Further, we contribute to the literature by revealing that opportunity costs and perceived social pressure are equally important for both sexes and that no gender-specific differences prevail regarding the affect and social esteem.

By contrast, the effect of intergenerational transmission is different for men and women. While men who originate from large families are more likely to choose to have a third child, women without siblings are more likely to have a third child. This confirms our suggestion that between one's number of siblings and fertility both – a positive and a negative relationship can exist. We could not analyse this gender difference in detail in our paper because an analysis of family relationships and family history goes beyond

5 Alternatively, we start with a model including the country as single explanatory variable, then add costs and socio-cultural factors before including individual-level covariates (Table A11). Results reveals that the country effects somewhat change. For example, the negative coefficient for Bulgaria loses statistical significance – mainly due to the inclusion of time elapsed between the two interviews. Contrary, the crude country effect for Hungary indicated no difference from the reference country (i.e. Austria), but turned statistically significant in the final model, indicating that the control covariates somewhat explained variation in third-birth risks between countries.

the scope of this study. Nevertheless, it is plausible that women who grew up as an only child suffer more than men from the absence of siblings in their life and due this socialisation experience consciously strive for a large family. Women in the studied societies may have to take care of the aging parents at some point (Naldini et al., 2016). If there are no other siblings in the family, this burden cannot be shared and may be particularly burdensome for women. These findings make an important contribution to the underexamined fertility of men.

The strong association of the socio-cultural factors with the transition to a third child provides reasons why some individuals have a third child – despite the common and since the baby boom generations increasing persistent two-child norm in Europe (Sobotka & Beaujouan, 2014; Van Bavel et al., 2018). The discrepancy from this norm towards higher order fertility is influenced by socio-cultural factors. These enhance previously dominant approaches which focus on demographic, socioeconomic and life course-related factors. By showing how relevant socio-cultural factors are for higher order parities, our study complements previous findings highlighting uncertainty (Comolli, 2017), opportunity costs (Schröder et al., 2016) and education (Wood et al., 2014) as well as structural factors such as family policies (Kalwij, 2010).

The robust result for perceived social pressure supports the part of the TPB (Fishbein & Ajzen, 2011), which highlights the anticipation of norms and others' beliefs as crucial in the decision-making process (Liefbroer & Billari, 2010). While Balbo and Mills (2011) argue that social pressure is stronger in countries where institutions are less supportive to reconciling work and family, our findings for seven countries suggest that social pressure exerts an influence also in countries with family-friendly institutions.

Various limitations should be mentioned regarding the structure of the dataset used for our analyses. First, we can only analyse the two available survey waves and observe fertility behaviour within about three years and not the entire fertility biography. However, the birth of a third child can take place in the following years, which cannot be taken into account with these data. Several survey waves and thus a longer observation period are necessary for further analyses. Second, we used a pooled sample and could not calculate the comprehensive models for each country separately due to a low number of cases for some of the countries. Therefore, country-specific conclusions cannot be the scope of our paper. Third, the selected data were collected in some countries in the early 2000s; no more recent European panel data are available. Some further limitations concern the variables and the persons. The data include socio-cultural factors of only one person involved in the decision. But fertility decisions are the result of a negotiation process among couples and not an unconditional individual decision (Testa et al., 2014). Dyadic data containing information on both partners would fill this gap. Finally, the very limited interpretation of the migration background, which cannot go beyond control in the multivariate models, must be taken into account. The composition of ethnic minorities is very different between the seven countries, and they show different generative behaviours.

Overall, this study shows that specific constellations of socio-cultural factors can make a significant contribution to explaining the transition to the third child and thus to deviating from the prevailing two-child norm. In order to better understand higher order fertility transitions, the social country context as well as the value of children, the variety of norms within personal networks on the micro and meso level should be considered in greater detail. Our findings are relevant for policies aimed to prevent low fertility: since higher order fertility is crucial to raise fertility rates, a policy strategy focussing on cultural acceptance of large families and opportunity costs for a third child, which cover not only financial transfers but also employment opportunities, are promising. We also plead for the collection of country-comparative longitudinal panel data that allow the analysis of individuals' life course, family formation and pathways to larger families.

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Data availability statement

This paper uses data from the GGS waves one and two (DOIs: 10.17026/dans-z5z-xn8g, 10.17026/dans-xm6-a262); see Gauthier et al. (2018) or visit the GGP website (<https://www.ggp-i.org/>) for methodological details.

The data that support the findings of this study are openly available in DANS, at <https://doi.org/10.17026/dans-z5z-xn8g> (GGS-Wave 1) and at <https://doi.org/10.17026/dans-xm6-a262> (GGS-Wave 2).

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Information in German

Deutscher Titel

Wie beeinflussen soziokulturelle Faktoren und Opportunitätskosten den Übergang zu einem dritten Kind?

Zusammenfassung

Fragestellung: Warum entscheiden sich Eltern, mehr als zwei Kinder zu bekommen?

Hintergrund: In dieser Studie wird untersucht, wie Opportunitätskosten und soziokulturelle Faktoren wie der Wert von Kindern, der wahrgenommene soziale Druck und die intergenerationale Fertilitätstransmission den Übergang zu höherer Fertilität in sieben europäischen Ländern beeinflussen.

Methode: Anhand von Paneldaten für Österreich, Bulgarien, Frankreich, Georgien, Ungarn, Polen und Russland, die aus dem Generations and Gender Survey (GGS) stammen, untersuchen wir die treibenden Mechanismen hinter der Geburt eines dritten Kindes und lenken die Aufmerksamkeit auf soziokulturelle Faktoren und Opportunitätskosten. Wir schätzen durchschnittliche marginale Effekte in binomialen logistischen Regressionen.

Ergebnisse: Die multivariaten Analysen zeigen, dass niedrigere Opportunitätskosten und wahrgenommener sozialer Druck den Übergang zum dritten Kind positiv beeinflussen - für beide Geschlechter. Im Gegensatz dazu sind emotionale und soziale Werte von Kindern nicht relevant, und die intergenerationale Transmission ist für Männer und Frauen unterschiedlich mit der Geburt des dritten Kindes assoziiert. Es zeigt sich, dass der wahrgenommene soziale Druck in allen Ländern eine Rolle spielt, obwohl die sozialen Gruppen, die häufiger große Familien haben, sich von Land zu Land unterscheiden.

Schlussfolgerung: Insgesamt bietet diese Studie Einblicke in den Zusammenhang zwischen soziokulturellen Faktoren, wahrgenommenen Kosten und der Gründung von kinderreichen Familien im Lebensverlauf und zeigt die Gründe auf, warum Frauen und Männer von der weit verbreiteten Zwei-Kind-Norm abweichen können. Sie liefert daher neue Erkenntnisse über die Motivation für ein drittes Kind.

Schlagwörter: Fertilität, Geburt des dritten Kindes, sozialer Druck, Wert von Kindern, Opportunitätskosten, Generations and Gender Survey

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