COUPLES' FERTILITY DIFFERENTIALS BY EDUCATION: DO STEPCHILDREN MAKE A DIFFERENCE? [1]

Alessandra Trimarchi, Laurent Toulemon

Abstract. A growing number of studies has explored both partners' education as determinant of couples' fertility, acknowledging the fact that the decision to have a child is couple based. Still, those studies have solely focused on children born to the couple, without considering stepchildren. As a result, in studying couples' birth rates by educational pairing, previous studies did not account for the complexity of family composition, which also affects partners' decision to have a common child. In this paper, we aim at tackling family complexity and its association with education. Using Generations and Gender Surveys (GGS) data of 14 European countries, we analyse the association between educational pairing and couples' fertility based on different definitions of couples' children. Applying standard fertility analysis, overall results show a decline in childlessness among younger cohorts when stepchildren are considered, with strong educational difference. We found that among the younger cohorts, highly educated homogamous couples have less often stepchildren (born from one partner before the union) and remain less often without shared children. Stepchildren, instead, are more common among low educated couples, and among the heterogamous couples. We also found diversity among heterogamous couples: there are fewer stepchildren when one partner is highly educated, stepchildren more often come from the woman, especially when she is low educated.

1. Introduction

The diffusion of family behaviours such as divorce and cohabitation, and ensuing constitution of single-parent families or stepfamilies represents an important societal change in Europe, taking place over the second half of the 20th century (Thomson 2014). The constitution of stepfamilies is mainly due to the diffusion of divorce and separation of couples with children, but also re-partnering, since now it is more common to partner with someone who has already children (Goldscheider *et al.* 2009). The incidence of union dissolution, re-partnering, and fertility is not equal across social strata (Perelli-Harris *et al.* 2010; Trimarchi and Van Bavel 2018). According to the "*Diverging Destinies*" thesis, the diffusion of these family

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behaviours may contribute to an increase in social inequalities because they tend to be more common among the lower strata of society (McLanahan 2004; McLanahan and Percheski 2008). The lower educated are more likely to divorce and separate, but also to have children more quickly within the union relative to the highly educated that instead tend to postpone and then eventually end their union before having children.

The way social inequality is linked to these family behaviours, however, substantially depends on fertility behaviours of those individuals who have experienced partnership disruption. This implies that the educational pairing of those who form stepfamilies also varies, and it affects the overall fertility behaviour of these couples. Recently, a growing number of studies has explored both partners' educational characteristics as potential determinants of couples' fertility behaviour, acknowledging the fact that the decision to have a(nother) child is couple based (Osiewalska 2017; Nitsche *et al.* 2018; Trimarchi and Van Bavel 2020).

Still, these studies have especially focused on children born to the couple, without considering stepchildren in their counts. As a result, previous studies do not account for the complexity and variety of family composition, which also affects partners' decision to have a common child (Toulemon 2014). This is an important gap, since considering or not stepchildren among couples' children may affect the educational gradient in couples' fertility and childlessness. We aim to fill this gap, by specifically asking to what extent a different definition of couples' fertility, which also considers the number of stepchildren present in the union, may lead to different educational gradients in fertility over two different cohort groups. We examine standard fertility indicators, i.e., mean number of children and proportion childless, using the first round of Generations and Gender Survey (GGS) data of 14 European countries.

2. Background and hypotheses

2.1. Education and stepfamilies

In many European countries, previous studies have found that in more recent cohorts, the lower educated are more likely to divorce and separate (Harkonen and Dronkers 2006; Matysiak *et al.* 2014). This change over time has been strongest among low educated women, who, in the past, were less likely to divorce. Educational and gender differentials also occur in repartnering rates (Raley and Sweeney 2020). Substantial research has shown that mothers are less likely to repartner than fathers (e.g., Di Nallo 2019), even if the fact that repartnering is more frequent among fathers does not necessarily affect gender differences in completed

cohort fertility, controlling or not for the level of education (Andersson 2023). Previous research on fertility in higher order unions focusing on a couple level analysis is still rare, while abundant research addresses women's (or men) fertility in higher order unions (e.g., Kreyenfeld *et al.* 2017; Jalovaara and Kreyenfeld 2020).

A low level of education has been associated with a faster rate of repartnering among women, which is interpreted as a way to overcome economic strains (McNamee and Raley 2011; Shafer and James 2013). Beyond the timing of repartnering, education may also affect preferences for new partners (Raley and Sweeney 2020). In Belgium, for instance, highly educated men were found more likely to be in the role of biological father rather than stepfather, which is, instead, more common among the less educated (Schnor *et al.* 2017). In sum, the constitution of stepfamilies, and the transition to "stepfamily-fertility" is the outcome of several processes (union formation, childbearing, union dissolution, and repartnering), which all depend on age and on education, at the individual level, but also at the contextual level, according to variations on the mating market (Van Bavel 2021).

2.2. Hypotheses

Differently from previous research, here we focus on a couple-approach. Hence, we formulate hypotheses distinguishing between homogamous (partners having the same level of education) and heterogamous couples (partners having a different level), focusing on two large birth cohorts. First, based on previous findings, we expect that among the younger cohorts, highly educated homogamous partners remain less often without any common child and have less often stepchildren relatively to their less-educated counterpart (*H1*). In other words, we expect that highly educated homogamous couples less often have stepchildren (born from one partner before the union), and remain less often childless relatively to other pairings, when the indicator of childlessness only considers shared children.

Regarding heterogamous couples, we expect that, among the younger cohorts, the presence of a highly educated partner (man or woman) decreases the chances of having stepchildren (*H2*). Finally, we expect that partners living in educationally heterogamous couples are more likely to have stepchildren than partners living in highly educated homogamous couples (*H3*). This is going to be especially the case for heterogamous couples formed by low educated partners, since the partner with lower education, male or female, is more likely to bring children within the new union.

3. Data and analytical strategy

To answer our research question, we used GGS data of 14 countries (Belgium, Bulgaria, Czech Republic, Estonia, France, Georgia, Hungary, Italy, Lithuania, The Netherlands, Norway, Poland, Romania, and Sweden)[2]. The countries considered are very different in terms of their fertility level, prevalence of separations, divorces and second unions. For instance, Northern and Western European countries have on average higher levels of fertility, in combination with higher prevalence of separations and second unions, relatively to Central and Eastern European countries where fertility levels are lower, and divorces and separations less common. Still, our analysis is descriptive and due to small sample sizes, we cannot analyse countries' separately.

GGS are the most recent comparable cross-country data with available information about stepchildren. In GGS data, information on both partners' education and stepchildren is available if the respondent is coresiding with the partner. Thus, we kept in our sample only respondents coresiding with a partner at the time of interview. To make country-data homogenous, we chose an age-criterion, and we selected couples where the woman at the time of interview is between 38-45 years old, or 55-65 years old. Additionally, since we are studying fertility, we only considered heterosexual couples where the woman was younger than 46 years old at the time of union formation. Since GGS surveys took place in different years for different countries, in this study we focus on the comparison of two groups of couples, making sure that each group involves cohorts including the same pool of countries. The first group, the "old", comprises couples where the woman was born between 1940-1958 (N = 18,460), aged 55-65 years old at interview. The second one, the "young", comprises couples where the woman was born between 1960-1975 (N = 17,006), aged 38-45 years old.

Our main variable characterizing the couple is educational pairing. We have grouped respondents and their partners into three levels of education (low, medium, high) collapsing categories from the International Standard Classification of Education (ISCED 1997). The first group includes those who completed primary plus lower secondary school (ISCED 0, 1, and 2). The medium category consists of respondents who completed the upper-secondary and a post-secondary level (ISCED 3 and 4). Finally, highly educated respondents are those holding a bachelor/master/PhD degree (ISCED 5 and 6). The variable of educational pairing has seven categories: three categories for homogamous unions where both partners have the same level of education (both low, both medium, both high); two categories for female hypergamy (i.e., the man is more educated that the woman) and two

[2] The data collection took place between 2002 and 2013, see country-data details in Appendix, Table A1.

categories for female hypogamy (i.e., the woman is more educated than the man). For the categories of heterogamous couples, we distinguish between couples with a highly educated partner (the other having a low or medium education) and couples with only low-medium educated partners. Table A1 and A2 in Appendix show sample size by country and educational pairings for each group of cohorts.

Our dependent variables consist in the mean number of children and the proportion of childless couples. We specify the mean number of children in: (1) mean number of *all* children in the couple, including stepchildren; (2) mean number of *common* (or *shared*) children; (3) mean number of children from previous partnerships, distinguishing in children brought from the woman (3a), and children brought from the man (3b). Next, we specify the proportion childless in: (1) couples without any children at all, i.e., also without children from previous relationships; (2) proportion of couples without any common (or shared) child.

In short, our aim is to describe the growing importance of stepchildren and the growing complexity of family links in terms of couples' lives. We describe trends in "couples' fertility", considering stepchildren, we do not analyse these trends by applying explanatory models. In the following result section, we describe the relationships between our independent variables (i.e., women's birth cohort and educational pairing), and the dependent variables (i.e., mean number of children, and proportion childless), using different definitions of children, without including any additional control variable.

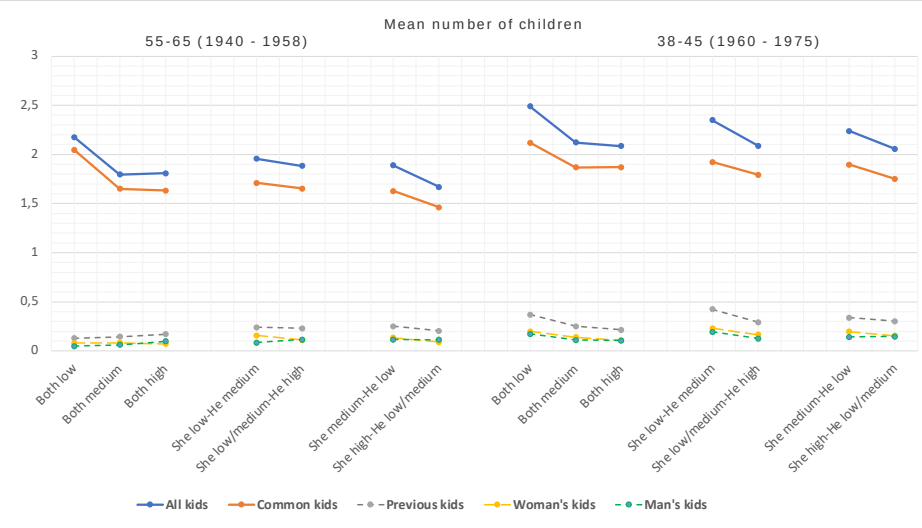
4. Results

From the older to the younger cohorts, fertility increased among all groups of couples (Figure 1, cohorts born in the 1940s and 1950s, left panel, compared to cohorts born in the 1960s and 1970s, right panel). Among homogamous couples, the low educated have more children than couples with medium or high education: 2.0 common children vs. 1.6 in the older cohorts; 2.1 vs. 1.9 in the younger cohorts. Fertility is also lower in heterogamous couples (hypergamous and hypogamous) with a partner having a high education: 1.8 vs. 1.9 in the recent cohorts. In the older cohorts, hypogamous couples had the lowest fertility: 1.6 and 1.5 common children respectively for women with a medium or high education. These patterns remain the same independently on the outcome we consider: the total number of children, including stepchildren, or counting only common children.

The mean number of stepchildren is increasing, especially for couples with low educated women, i.e., homogamous low educated couples, and hypergamous couples. For couples where the woman has a medium or a high education, higher fertility is mainly due to an increase in the number of common children.

The picture is more complex when we look at childlessness among couples (Figure 2). In the older cohorts born in the 1940s and 1950s, childlessness (having no common child) was rare among low educated homogamous couples (14%), but more frequent among medium or highly educated couples (20%), and even more among heterogamous couples. When all children are considered, the proportion of childless couples is lower: 11% among low educated couples, between 14% and 20% among other couples, hypogamous couples with a highly educated woman is the group where "complete childlessness", i.e., also accounting for children born from previous unions, was the highest (19%).

Figure 1 – *Mean number of children by women's birth cohorts and educational pairings*.



Source: Own elaborations on GGS data (weighted).

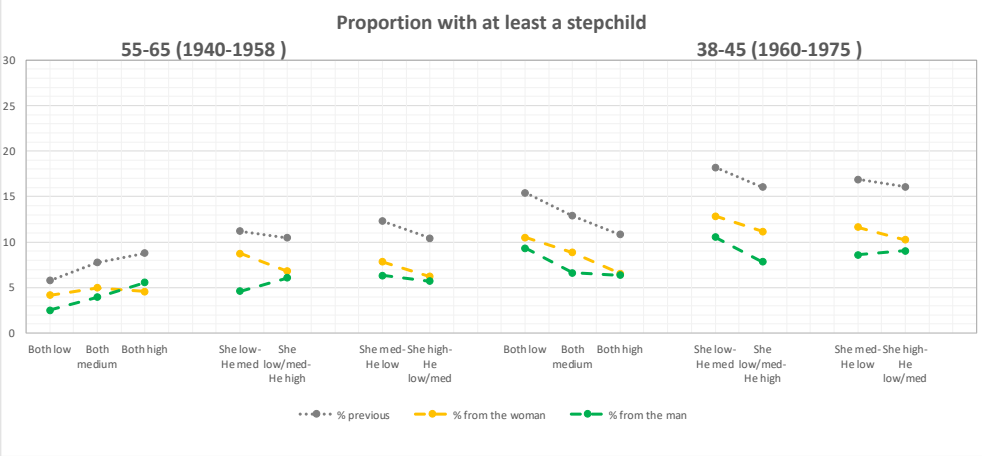
Figure 2 – *Proportion childless, by women's birth cohorts and educational pairings.*

Source: Own elaborations on GGS data (weighted).

In the younger cohorts, when all children are considered, the proportion of childless couples has become very similar (about 5%) across all educational pairings. Medium and highly educated homogamous couples more often have at least one common child, while low educated couples, as well as heterogamous couples, especially hypergamous couples, remain more often without any common child, 13%, vs. 11% of hypogamous couples, and 12% for low educated homogamous couples.

The decline in childlessness comes from two different trends. First, the proportion of couples without any common child has dramatically decreased, for all groups except for low educated homogamous couples. Childlessness was less frequent in this category of couples; in the recent cohort, the relation has reversed, and childlessness has become most frequent for low educated homogamous couples. Second, the proportion of couples with at least one stepchild (a child born to one partner, with another parent, before the current union) has increased from 10% to 15% (Figure 3). The increase is by far the largest among low educated homogamous couples: +10%. This is probably because these couples make the transition to the first child rapidly after union formation, and most union disruptions involve at least one child; second unions are thus formed with a stepchild (Figure 3). Couples declare more often a stepchild, when the child is brought by the woman, but this could be due to omissions of children born to the man, because men less often coreside with their children born from a previous union.

Figure 3 – *Proportion of couples with at least a stepchild, by women's birth cohorts and educational pairings.*



Source: Own elaborations on GGS data (weighted).

5. Discussion and conclusions

The diffusion of stepfamilies calls for new ways to define fertility behaviour and analysing educational differentials in fertility. In this study, we aimed at analysing changes over time in the association between educational pairings and couples' fertility, accounting for stepchildren. We used GGS pooled data of 14 countries and examined differences among older (women born between 1940-1958) and younger (women born between 1960-1975) cohorts in couples' mean number of children and the proportion childless. Overall, we found that couples' fertility has increased of around 0.3 children, one third of this increase being attributable to stepchildren.

In line with our first hypothesis (*H1*), according to which highly educated homogamous couples less often have stepchildren, we found that the increase in the number of stepchildren is largest among couples where the woman has a low level of education, leading to a reversal in the educational gradient in stepparenting among homogamous couples. This is because union disruptions more often involve couples with children among the low educated, given that the educational gradient of union disruptions and second unions has reversed (Matysiak *et al.* 2014).

Stepfamilies are thus becoming more common among couples, especially among couples where the partners have a low level of education, a finding in line with our second hypothesis (*H2*), which focused on differences between heterogamous couples. When looking at differences between heterogamous couples and highly educated homogamous couples, in line with our third hypothesis (*H3*), we find that

the former have more often stepchildren than the latter. We did not find major differences according to the sex of the parent who had a child before the union, the overall level of education within the couple matters the most in stepfamily formation rather than the difference between partners' education. Considering only stepchildren living with the couple (or who had lived with the couple in the past), however, we found larger gender differences: most children live with their mother after a parental disruption and, in case of a stepfamily, children are most likely to live with a stepfather than with a stepmother. A finding which is probably related to gender differences in the declaration of children born from previous unions.

The constitution of stepfamilies is the consequence of a series of events, i.e., couples formed by partners who had already lived as a couple and had a child in a previous union. Fertility among these stepfamilies is related to the will to have at least a common child (Thomson et al. 1990). The mechanisms leading to differential "stepfertility" and its impact on family size are thus complex. The increase in couples' number of children over time is mainly due to common children for women with a medium or high education, and to stepchildren for couples where the woman has a low level of education. The recent decline in fertility can be put into perspective when we consider couples' fertility and include stepchildren, who have a stepparent in addition to their biological parents. The type of stepchild – stepparent relationship may differ with duration of coresidence, with the stability of the new couple, and (step)family relationships may last or not in the long term.

The current study has important limitations since the causal chain of mechanisms leading to the formation of a stepfamily were not investigated deeply, nor country-level variation could be analysed. Still, from this exploratory study emerges the importance to consider both stepchildren and common children when studying couples' fertility differentials by education. Family relations in stepfamilies and their cross-country variation remain a relevant avenue of research for the future, which is feasible thanks to the availability of harmonized survey data including questions about full partnerships and fertility histories.

Appendix

Table A1 – *Sample description by country and educational pairings (unweighted counts), cohorts 1940-1958, age-group 55-65 (survey year in parenthesis).*

Country	Both low	Both med	Both high	She low/med-He high	She low-He med	She high-He low/med	She med-He low	Mis-sing	Total
Bulgaria (2004)	377	356	167	74	77	91	87	5	1234
Georgia (2006)	69	388	179	85	55	57	68	2	903
France (2005)	301	182	119	111	213	46	116	10	1098

Table A1 (cont.) - *Sample description by country and educational pairings (unweighted counts), cohorts 1940-1958, age-group 55-65 (survey year in parenthesis).*

Hungary (2004-2005)	280	564	146	156	293	82	63	1	1585
Italy (2003)	920	115	37	56	126	34	73	0	1361
Netherlands (2002-2004)	231	39	113	169	123	19	27	62	783
Romania (2005)	680	382	84	72	282	27	32	0	1559
Norway (2007-2008)	126	579	345	248	201	175	177	73	1924
Estonia (2004-2005)	94	186	127	86	59	117	125	0	794
Belgium (2008-2010)	260	101	185	140	106	81	69	14	956
Lithuania (2006)	169	354	101	63	37	82	106	1	913
Poland (2010-2011)	360	1577	224	190	320	146	227	19	3063
Czech Rep. (2005)	81	548	58	107	148	40	37	37	1056
Sweden (2012-2013)	56	348	221	113	82	219	142	50	1231
Total	4004	5719	2106	1670	2122	1216	1349	274	18460

Table A2 – *Sample description by country and educational pairings (unweighted counts), cohorts 1960-1975, age-group 38-45.*

Country	Both low	Both med	Both high	She low/med-He high	She low-He med	She high-He low/med	She med-He low	Missing	Total
Bulgaria	219	723	208	67	92	172	82	5	1568
Georgia	15	728	229	138	42	113	31	0	1296
France	119	339	213	87	123	125	94	10	1110
Hungary	80	639	133	70	125	115	42	0	1204
Italy	384	298	64	82	132	69	165	0	1194
Netherlands	141	144	167	141	64	63	81	59	860
Romania	154	683	111	58	204	46	40	1	1297
Norway	74	477	485	173	164	346	118	184	2021
Estonia	11	352	124	59	17	172	47	0	782
Belgium	87	166	275	74	59	130	79	23	893
Lithuania	23	592	137	83	19	138	55	3	1050
Poland	38	987	193	79	80	211	71	16	1675
Czech Rep.	27	524	77	92	60	48	33	32	893
Sweden	9	355	282	116	32	265	48	56	1163
Total	1381	7007	2698	1319	1213	2013	986	389	17006

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Alessandra TRIMARCHI, University of Messina, alessandra.trimarchi@unime.it
Laurent TOULEMON, Institut National d'Études Démographiques (Ined), toulemon@ined.fr