# Couples' Fertility Differentials by Education: Do Stepchildren Make a Difference? 

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## Introduction and background

The diffusion of family behaviors 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 $20^{\text {th }}$ century. According to the "Diverging Destinies" theoretical framework, the diffusion of these family behaviors 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). However, empirical evidence linking divorce and union dissolution to social inequality tend to be mixed, mostly because of contextual differences (Bernardi and Boertien 2016).

The way social inequality is linked to these family behaviors substantially depends from fertility behaviors of those individuals who have experienced partnership disruption. Recently, a growing number of studies has explored both partners’ educational characteristics as potential determinants of couples' fertility behavior, acknowledging the fact that the decision to have a(nother) child is couple-based (Nitsche et al. 2018; Osiewalska 2017; Trimarchi and Van Bavel 2018). Still, these studies have especially focused on children born to the couple, without considering stepchildren in their counts. As a result, in studying couples' birth rates by educational pairing, previous studies do not account for the complexity and variety of family composition, which also affect partners’ decision to have a common child. As suggested by Toulemon (2014), who analyzed the French context, the educational pairing of the couple has differential effects on the likelihood of having shared children or stepchildren. Thus considering or not stepchildren among couples’ children makes a large difference in the analysis of couples' fertility and childlessness.

Differently from previous studies, in this paper, we want to emphasize family complexity, its association with human capital and possible ways to analyze it in a comparative way. We specifically ask to what extent a different definition of couples’ fertility, which also considers

[^0]the number of stepchildren present in the union, may lead to different educational gradients in fertility. We adapt typical fertility indicators (i.e. mean number of children, proportion childless, and mean age at childbearing) to the study of step-fertility across 15 European countries, using Generations and Gender Survey (GGS) data.

The way diverse family structures are associated with the educational pairing is inherently linked to the reproduction of inequalities in societies. The educational gradients in fertility, union and dissolution behaviors are changing across European countries, and we aim to explore this variation. This is a necessary first step to analyze the consequences of these dynamics for the reproduction of inequalities in societies.

## Research question and hypotheses

We ask whether including stepchildren in the count of couples’ fertility has consequences on the association between educational pairing and fertility. Higher dissolution rates among the less educated may increase the likelihood that a low educated partner, either a man or a woman, has a child from a previous relationship. Thus, with regard to the role of educational pairing for couples' fertility, we expect that partners living in educationally heterogamous couples are more likely to live with stepchildren than partners living in homogamous couples. This is going to be especially the case of heterogamous couples formed by low educated partners. We also expect that, among heterogamous couples, the partner with the lower education, male or female, is more likely to bring children within the new union. In line with this argument, we finally 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.

## Analytical strategy

To answer our research question and test our hypotheses we used GGS data of 15 European countries, which 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 co-residing with the partner. Thus, we kept in our sample only respondents co-residing with a partner at the time of interview. In order to compare all countries, we chose an age criterion and we selected couples where the woman at the time of interview is between 30 and 70 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. Overall, our sample totalled 81,843 unions, where the woman is born in cohorts 1935-1980, depending of the country survey date.

Our main independent variable is educational assortative mating. 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 (at least 8 years of schooling, 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 got a bachelor/master/PhD degree (ISCED 5 and 6). The variable of educational assortative mating will have 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, where the man is more educated that the woman and two categories for female hypogamy, where the woman is more educated than the man.

As dependent variables, we consider (1) mean number of all children, including stepchildren; (2) mean number of common children; (3) mean number of children born to the woman; (4) mean number of children born to the man; (5) proportion of childless couples; (6) proportion of couples without any common child. We will then apply regressions and decomposition methods to investigate age and country differences. Figure 1 and 2 show a description of our outcome variables in the whole sample by education pairing.

Figure 1. Mean number of children by woman's age at interview (all children considered) by level of education of both partners (all countries together).

Left: homogamous couples.


Right: heterogamous couples


The mean number of couples' children is much larger when all couples' children are considered: 2.2, instead of 1.9 children per couple where the woman is aged 40-45; couples with one or two partners with a low education have more children, with a constant differences at all ages among homogamous couples, and increasing differences among heterogamous
couples. Similarly, less couples are childless when stepchildren are considered. 12\% of couples of the same age have no common child, with low-educated couples remaining more often childless among respondents aged $35-44$. This proportion is reduced to $5 \%$ when the definition is restricted to couples with no child at all, with almost no differences between groups of couples among couples where the woman is aged 35-44. The data will thus allow us to present and discuss detailed results by country and cohort.

Figure 2 Proportion (percent) of childless couples by woman' age at interview, with different definitions of childless couples, by level of education of both partners (all countries together).

Left: Couples with no shared children


Right: couples with no children at all


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