Economic Circumstances of Children Living in Higher and Lower-Educated Families and the Contribution of Household Structure: A Cross-Country Comparison with a Child's Perspective

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Abstract

We study the contribution of household structure – such as the number of adults and children in the household – to the income gap between higher and lower-educated families. We extend our perspective and unit of analysis from the adults to the children living in households and study differences in children's economic circumstances between higher and lower-educated families. More specifically, we ask: 1) To what extent are the differences in the economic circumstances of children living in higher and lower-educated households due to differences in household structure? 2) Does this vary between European countries? We study these questions using cross-nationally comparable data from the Generations and Gender Survey (GGS) and apply the Blinder-Oaxaca decomposition technique to show what the income gap would be if all education groups had the same household structure. In each country studied, children living in highly educated households have better economic circumstances. Children living in highly educated households also live more often in two-adult families, have fewer siblings living with them, and their parents are older when entering parenthood compared to others. Overall, our results show that the extent to which household structure explains income disparities varies in relative terms, but is surprisingly similar across countries in absolute terms. Despite the highly heterogeneous country sample, the results suggest that household composition contributes to a relatively limited extent overall to differences in children's economic circumstances by parental education level. This suggests that family policies have a relatively limited impact in equalising economic disparities among children.

Keywords: socioeconomic inequality, educational disparities, household income, household structure, cross-country comparison.

Introduction

In post-industrial societies, a higher education level is generally expected to lead to higher earnings (e.g., Carrieri et al., 2023; Rodríguez-Pose & Tselios, 2012; Saar & Unt, 2011). According to human capital theory, higher levels of education increase one's human capital, leading to higher productivity in the labour market, which can then be observed as higher earnings (Becker, 1964). For instance, Montenegro and Patrinos (2023) estimated the global average education returns at nearly 10%, meaning that the average income increases this much for each additional school year, but there is a large variation across contexts (e.g., Robert et al., 2020).

In OECD countries, the median wealth in households with tertiary-educated adults is around twice that of households without tertiary-educated adults (OECD, 2020). Therefore, children's living environments vary substantially across parental education groups. However, the association between high parental education and high household income is not only due to different returns to education but also because of education group differences in family formation and household structure (e.g. Bernardi et al., 2019; Härkönen, 2017). In other words, childhood family composition and household structure have important implications for children's diverging economic circumstances.

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This study explores the relationships between parental education, household structure and children's economic circumstances across 11 European countries. We revisit the discussion surrounding income disparities between education groups, assessing the extent to which household structure can explain the education group income gap. We ask how much are the differences in the economic circumstances of children living in higher and lower-educated households due to differences in household structure? And does this vary between European countries? We compare 11 European countries, representing both Eastern and Western Europe (though with a notable lack of representation from Southern Europe), that differ substantially in social policies, demographic processes and returns to education.

In terms of parental higher education, we refer to families where at least one adult has completed a tertiary-level degree. Regarding household structure, we consider factors contributing to economic circumstances presented in previous studies, namely whether the child is living with one or two adults, the number of children in the household, and the timing of parenthood. All of these factors are expected to vary across education groups and countries and have important implications for parental income.

Previous research has mainly focused on households or parents as the unit of interest, even when studying children and their living environment. In this study, we construct a child population of the households and focus on children's economic circumstances. We argue that this approach will produce more accurate estimates if one is interested in children's economic circumstances, since the traditional approach may, to some extent, obscure the effects of family circumstances on children.

We apply the cross-nationally comparable Generations and Gender Survey (GGS-I) to study these questions. Our unit of analysis is a child, as the main focus is on the economic circumstances of children living in higher and lower-educated households, and our results are based on approximately 65,000 children. We aim to distinguish the contribution of household structure to the education group income gap and study whether there is geographical variation in how much the household structure explains this gap.

Historically, the research is situated at the intersection of three decisive societal transformations: the large-scale educational expansion during the 20th century, which was been expected to bring about greater equality (Breen, 2010); the resurgence in income inequality observed in both Europe and the US (Alvaredo et al., 2013; Hoffmann et al., 2020; Keeley, 2015); and the second demographic transition, which has shaken up conventional family structures through declining marriage and fertility rates and increasing rates of cohabitation and divorce (Lesthaeghe, 2010) mostly in a socially stratified way leading to 'diverging destinies' for children (McLanahan, 2004). Building on this background, we first review previous findings on the relationships between education, household structure and household income, followed by an overview of the research design and a presentation of the results.

Household structure and educational background

Despite the sweeping changes in household structures brought about by the second demographic transition (Lesthaeghe, 2010), significant heterogeneity persists in family formation patterns across countries. In Southern Europe, marked by a Catholic culture and traditional family norms, family formation typically occurs later, and partnerships tend to be more stable compared to many other European countries (Andersson et al., 2017). Similarly, in post-communist countries, the timing of family formation has been delayed compared to earlier cohorts, but partnerships are more susceptible to divorce and separation (Andersson et al., 2017). In Nordic countries, which are characterised by a liberal Protestant culture, cohabitation and union dissolution are more prevalent (Perelli-Harris & Lyons-Amos, 2016). Notably, cohabitation tends to be less stable than marriage (Jalovaara & Andersson, 2023).

Changes in family formation are partly attributed to the rise in the level of education among women,

which has increased their labour market participation and financial independence (Lesthaeghe, 2010). Indeed, the proportion of highly educated women has grown in most countries, while the share of women with low education has declined (Perelli-Harris & Lyons-Amos, 2016). In addition, traditional gender roles within marital relationships, where the man is the primary breadwinner and the woman is the caretaker, have become less pronounced, with responsibilities and income generation becoming more egalitarian (Perelli-Harris & Lyons-Amos, 2016).

Researchers have shown increasing interest in the diverse family formation patterns among education groups, often concentrating on Nordic countries, where the availability of full population registers has provided a fertile ground for investigation. For instance, Jalovaara and Andersson (2023) recently observed that a decline in marriage rates and an increase in cohabitation and union instability have become particularly pronounced among the least educated groups in Finland. The authors suggest this trend may be linked to the more generalised labour market marginalisation of individuals with basic education, an aspect which also affects their partnership opportunities.

The education gradient of family-related behaviours, including divorce, also evolves over time. Härkönen and Dronkers (2006) illustrate how divorce, initially mainly practised by higher-educated individuals due to its high social and economic costs, became more common among less educated individuals when its incidence increased.

However, Perelli-Harris and Lyons-Amos (2016), who studied women's partnership patterns across 15 countries, argue that country context matters more than education level in partnership patterns. They suggest that education level primarily affects the timing of marriage or union formation, with higher education groups tending to marry later and lower education groups marrying earlier on average. Additionally, while cohabitation is increasingly common across cohorts and countries, among higher education groups, it often serves as a transition stage before marriage, which tends to happen after the completion of studies (Perelli-Harris & Lyons-Amos, 2016).

Furthermore, household size appears to be related to education level and socioeconomic status. Interestingly, although most children are born within co-residential unions (Nitsche et al., 2018), the research literature tends to focus on women (instead of couples) when discussing the number of children. Brzozowska et al. (2022) found that the decline in the number of children associated with the second demographic transition initially began among highly educated women, as motherhood represented greater opportunity costs for them. However, over time, the relationship between education and household size became more complex.

Evidence from several countries suggests a fertility polarisation between and within education groups. This is particularly notable among the less educated, where both childlessness and large household sizes (3+) have become increasingly common (Brzozowska et al., 2022; Jalovaara et al., 2019), albeit with variation across countries. Notably, women with lower levels of education tend to be younger at first birth compared to women with a university degree (Brzozowska et al., 2022). A low education level has also become an increasingly common characteristic of single parents (Härkönen et al., 2023). The high number of children among the less educated has been associated with a greater incidence of unintended fertility, partnership instability, and having multiple partners (Härkönen & Dronkers, 2006; Jalovaara et al., 2022; Wood et al., 2014). Some authors have explained the higher incidence of partnership dissolution with lower conflict-solving skills among less educated individuals (Kreidl et al., 2017). Furthermore, the weaker labour market position of people with lower education levels is associated with multiple partnerships, while it also increases their risk of financial difficulties and stress and possibly less dedicated parenting (Jalovaara et al., 2022).

Within the higher education group, childlessness was prevalent across Europe before the 1960s (Wood et al., 2014). However, Brzozowska et al. (2022) note that in the subsequent period, characterised by a decline in the two-child model and an increased variation in household size, childlessness became more common among women with lower education levels compared to those with higher education. Conversely, the one-child family model became more prevalent in the latter group. The authors attribute this trend to the necessity for higher-educated women to balance work and family life (Brzozowska et al., 2022). In Nordic countries, higher-educated

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women tend to have slightly larger families. Still, as forerunners in the second demographic transition (Jalovaara & Andersson, 2023), with "above-average family-friendly and gender-equal" policies (Brzozowska et al., 2022), these nations may display unique family formation patterns compared to others.

As women's average education level has risen, the traditional hypergamous partnership, where a woman marries upward, has become less prevalent (Nitsche et al., 2018). This observation prompted Nitsche et al. (2018) to investigate how the combined education of both partners relates to family size using data from 25 European countries. Their findings indicate that highly educated homogamous couples are most likely to have two or more children, although these couples tend to enter parenthood later than couples with different education combinations. The authors interpret this as support for Oppenheimer's perspective (1994, 1997), which suggests that women's higher education and the eventual dual-earner household model with shared income provide greater economic stability and encourage childbearing. The results of Nitsche et al. (2018) challenge the ideas of Becker (1993) and the traditional familial perspective, which argues that a clear division of labour between male breadwinners and female caretakers is the most conducive to childbearing, reducing the opportunity costs of parenthood for women.

Equivalised income and household structure

Research on income differences is typically based on data calculated from the total household income divided by the number of household members, taking into account economies of scale. Hence, the resulting individual income hinges on the household composition (e.g., Förster & d'Ercole, n.d.). However, more factors related to household composition, other than just the number of members, affect household income.

A stable dual-earner marriage or partnership with shared income is generally advantageous. It supports a higher standard of living for all household members, particularly when both parties are high earners (Perelli-Harris & Lyons-Amos, 2016).

Assortative mating; that is, the greater propensity for partnerships between individuals with similar levels of education, has been identified as a potential driver of increased socioeconomic inequalities (Erola & Kilpi-Jakonen, 2022). However, women's educational expansion has resulted in a greater occurrence of hypogamous couples, where women mate with men with a lower education level than themselves. Subsequently, an increasing number of women have come to earn more than their male partners (Nitsche et al., 2018). In essence, the household's main breadwinner tends to be the spouse with a higher level of education, irrespective of gender (Esteve et al., 2016). Nevertheless, more than assortative mating, the number of adults within a household may be more important for differences between families (Erola & Kilpi-Jakonen, 2022). Therefore, in the present study, we focus on whether at least one adult has completed a tertiary-level degree and control for the number of adults living in the household.

Generally, empirical research appears to support the idea that a higher shared income contributes to relationship stability (Perelli-Harris & Lyons-Amos, 2016), whereas financial difficulties and employment instability or unemployment relate to increased conflicts in the relationship and a heightened risk of couples ending in separation (Kessler et al., 2023; Lyngstad & Jalovaara, 2010; Maitoza, 2019).

Moreover, the income levels of households of very young parents tend to be compromised by their early parenthood and an incomplete education path. Women's earnings usually decline rapidly when they become mothers (McLanahan & Percheski, 2008; Miller, 2011), with the first birth exerting the strongest negative effect (De Hoon et al., 2017). Therefore, the timing of motherhood matters for earnings, and delaying the first birth tends to be financially beneficial (McLanahan & Percheski, 2008). For instance, Miller (2011) shows that in the US, for each year of delay in motherhood, the cumulative early career earnings of a woman increase on average by 9%, and for university graduates, the increase is even higher. Similarly, Johansen et al. (2020) show that young

adults in Denmark who became parents before the age of 21 had not fully caught up with their non-young parent coevals by the age of 35 in terms of education, employment or earnings. However, the authors point out that early parenthood is relatively more common among individuals whose own parents were low-educated, young parents and/or foreign-born, factors which moderate the relationship between early parenthood and education.

Due to variations in welfare policies, the effects of family composition factors on child outcomes may differ substantially across countries. In 2021, spending in EU Member States on family/child benefits ranged from 3.6% of GDP in Germany to 0.9% in Malta (Eurostat, 2024). Bostic (2023) examined childhood poverty among single- and two-parent families in 25 affluent democracies and found that countries with an adequate level of public spending on family allowances could significantly reduce child poverty rates, regardless of household composition, with the strongest effects among children in single-parent households.

Despite national differences, broad patterns persist – Nordic countries are typically associated with the most generous welfare regimes and high social spending; Central European countries with more employment-based, conservative systems; the UK and Ireland with relatively limited state involvement; and Southern European countries with more fragmented provisions (e.g. Esping-Andersen, 1990; Leibrecht et al., 2011). During the socialist era, the former Soviet countries in Eastern and Central Europe used to have relatively effective social protection systems, but many of those were dismantled after the regime change. Today, those that are EU members typically tie, for example, child benefits to below-average income thresholds. Conversely, their non-EU counterparts tend to provide child benefits as part of social assistance, targeting only the very poorest (Bradshaw and Hirose, 2016).

It should be noted that studies on dual-earner households rely strongly on the assumption of the pooling of income within the household, where each member gets an equivalised share (Erola & Kilpi-Jakonen, 2022). Often, however, this is not a realistic assumption. As shown by Bennett (2013), there is a large variation of intrahousehold systems dealing with the sharing of earnings, including independent management systems, where both partners manage and decide upon their own monies, as well as house-keeping allowance systems, where only a set value is contributed for shared household expenses, while the rest is kept by the earner. In addition, even in the pooled model, subtle power dynamics, gender norms, hierarchies between male and female earnings, etc., often establish several limitations to women's equal access to household income (Bennett, 2013; Kulic, 2021). Nonetheless, for the time being, there are no good solutions for a more accurate way of measuring the individual level of income of those who live in households led by two adults.

In the context of the present study, we use the equivalised income as the outcome variable. However, we interpret the results while considering the caveats related to the assumption of equal income distribution.

During the second demographic transition, education, employment and income have gained importance for the selection into partnership for both men and women, which explains why a low level of education, unemployment and low income increasingly often lead to singlehood (Erola & Kilpi-Jakonen, 2022). According to Eurostat Household composition statistics, approximately 13% of families with children in the EU region were headed by a single parent in 2022. However, families with a single adult with or without children represent the fastest-growing household type in the EU for the past 15 years (Eurostat, 2023). As the relative share of less educated individuals among single parents has grown, the employment gap between single and partnered parents has widened, and the risk of poverty in single-headed households has increased even in Nordic countries (Härkönen et al., 2023; Alm et al., 2020).

To calculate equivalised household income, the number of children in the household has to be taken into account. Theoretically, the resource dilution model establishes that parental resources, including time, emotional, physical, and financial resources, are limited and gradually diminished by each additional child in the household (Downey, 1995; Steelman et al., 2002). According to Downey (1995), however, the rate of dilution depends on the children's age and varies by the type of resource; savings and monetary resources are usually divided equally between the children,

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while material resources (such as access to a computer) are only diluted after a certain threshold (e.g. 3–4 children). In practice, there are several possible formulas for considering the resource dilution within a household when calculating equivalised income (Förster & d'Ercole, n.d.). Our approach is square root equivalence scaling. This often-used approach does not make a difference between adults and children.

Overall, based on the theoretical and empirical premises presented in the previous two sections, we expect to find household structure to partly mediate the relationship between parental education and children's economic circumstances, explaining a substantial part of the variation in economic outcomes between children in higher and lower-educated households. More specifically, we expect that children with higher-educated parents are more likely than those with lower-educated parents to grow up in two-adult households — often with both of these adults participating in the labour market. In addition, children with higher-educated parents are also more likely to have fewer siblings, and their parents are more likely to have entered parenthood at a later age. These factors are expected to contribute to the better economic circumstances of these children.

Moreover, drawing on differences in welfare state regimes and family and social policy provisions, we expect that the extent to which household structure explains diverging economic circumstances between children from higher and lower-educated households to vary between European countries.

Research design

Data and sample

To study these questions, we used the first wave of the first round of the cross-nationally comparable Generations and Gender Survey (GGS-I), which was collected in 19 countries between the years 2002 and 2013. The survey has responses from around 200,000 adults aged 18 to 79, including questions on, for example, family and family formation, household, relationships, and work life. It is designed as panel data, and in this study, we use wave 1 of the first round of the survey (GGS-I). A detailed description of the data can be found in Gauthier et al. (2018).

Out of the 19 countries of the survey, our sample includes 11, representing both Eastern and Western Europe (though with a notable lack of representation from Southern Europe): Belgium, Bulgaria, Czechia, France, Georgia, Lithuania, the Netherlands, Norway, Poland, Romania, and Russia. Nine countries (Australia, Austria, Estonia, Germany, Hungary, Italy, Japan, and Sweden) were dropped due to inadequate income information, such as missing overall income data, no information on partner's income, or income reported only in bands. In sum, 126,384 respondents from 11 countries are included (Table 1). In this study, we apply the child perspective; therefore, our analysis unit is the child (for a similar approach, see e.g., Kennedy & Thomson, 2010; Kalmijn & Leopold, 2021). Even though only adults have responded to the survey, GGS has a household roster covering basic information on all household members. We built the child's perspective by multiplying each respondent by the number of children under the age of 18 living in the household. This approach includes all children living in the household but does not separate the relationship between the respondent and the child, thus focusing more on the economic circumstances in the household rather than on the biological link between children and adults. There are altogether 39,619 respondents who have at least one child under 18 years old living with them across 11 countries. In total, there are 65,393 children living in these households. Table 1 presents the number of respondents, the number of respondents/households with children (under the age of 18), and lastly, the number of children living in these households.

Table 1. Sample statistics across 11 countries

	N (Respondents)	N (Households with children)	N (Child perspective)
Belgium	7163	2211	3903
Bulgaria	12 837	4635	6983
Czechia	10 006	2427	3889
France	10 079	3153	5787
Georgia	10 000	3441	5864
Lithuania	10 036	2915	4364
Netherlands	8157	2624	4963
Norway	14 880	5287	9809
Poland	19 979	5571	9082
Romania	11 986	3595	5560
Russia	11 261	3760	5189
Total	126 384	39 619	65 393

Source: GGS Wave 1

Variables

As we are interested in education group differences in economic circumstances, our dependent variable is the country-specific income rank based on equivalence-scaled household income. This income variable is constructed by summing all income types from the respondent and the respondent's possible co-residential partner. Respondents were asked about different income types and how often they received these during the last 12 months, as well as their net amount.[1] We multiplied the net amount received by the frequency of these payments during the last 12 months to get the annual net income, including all income types ranging from earnings to unemployment benefits, among others.[2] If respondents did not provide an exact number for payment, they were asked which income range or band it would fall in. In these cases, we replaced missing income information with the information received from these income bands. We calculated the median income for each band in each country (using information from those who did provide the exact number) and used that as a replacement. These steps were also applied to the respondent's possible partner to calculate their annual net income. We then summed the respondents' and partners' incomes to get the annual net household income. This household income was further equivalence scaled by dividing the household income by the square root of the number of people living in the household, which thus represents the individual share of family income. Further, this equivalence-scaled household income was converted into country-specific percentiles ranging from 0 to 100 in each country in order to take into account the variation between countries in average income levels.

Our main independent variable is a binary variable for whether either of the adults in the household (the respondent or the partner) has obtained a higher education degree (ISCED 5 or higher) or not. In the text, we occasionally refer to this as parental education for the sake of text fluency, but it should be noted that the respondent or the partner is not necessarily the child's (biological) parent. Our other key independent variables include whether the respondent is living with a partner, the number of children in the household and the age of the respondent when their first child was born. The first of these is a binary variable measuring whether the child is living with one or two

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1   For Norway, all the income information comes from administrative registers linked to the survey data. As an additional exception, Norway has information on gross income.

2   Poland and Norway reported summed annual income for respondents and partners.

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adults in the household. The number of children in the household is a continuous variable ranging from 1 to 11 (overall unweighted mean 2.2 and standard deviation 1.1). The age when the first child was born is also a continuous variable ranging from 13 to 58 (overall unweighted mean 25.4 and standard deviation 5.0), and it is centred on its country-specific mean for the analysis. In addition to these variables, we control for the sex and the age of the respondent in the models (centred on its country-specific mean).

Missing data on respondents' own income (19%), partner's income (27%), and age of the respondent when their first child was born (2%) were addressed using multiple imputation using chained equations (MICE). The missingness was assumed to be missing at random (MAR), and twenty imputed datasets were generated separately for each country. The variables with missing values (own income, partner's income, and age of entering parenthood) were imputed using chained equations, in which each variable is imputed conditionally on all others in the model. In addition, all the other variables used in the analyses were included as predictors. After imputation, analyses were performed on each dataset separately, and results were combined using Rubin's rules to obtain pooled estimates and standard errors.

Analytical steps and methods

We start by displaying the share of highly educated households across countries, after which we continue with descriptive analyses. We present the raw education group income gap and study the relationships between (parental) education and household structural factors. We analyse weighted data throughout the study to correct for a biased non-response.

We study mean outcome differences between the groups using the Blinder-Oaxaca decomposition technique (Blinder, 1973; Oaxaca, 1973). With this technique, we can show the extent to which household structural factors explain the gap in economic circumstances between children living in higher and lower-educated households, displaying a counterfactual situation of what the income gap would be if all education groups had the same household structure (including our control variables for the age and sex of the respondent). Doing this, we apply two-fold decompositions and thus divide the outcome difference into two parts: an unexplained and an explained part. We present our results from pooled regressions using the coefficients from both groups as the reference coefficients (Jann, 2008 p. 465) and include a group indicator, parental education in our case, as an additional control variable as suggested by Jann (2008, p. 458). In this study, we are mainly interested in the explained component of the decomposition and its size across countries. In other words, we study how much the education group income gap is explained by household structure. Because children are nested within households, the hierarchical structure of the data is accounted for by using cluster-robust standard errors.

In addition to figures displaying the income gap based on the income percentile, we calculate mean differences based on the decompositions in each country using absolute income measures. This approach is adopted to help understand how differences in income rank between education groups correspond to differences in absolute income. For example, in countries where education group differences in income rank percentile are large, absolute differences in income may still be relatively small, especially if the country's overall income level is low. As income levels vary substantially between countries, we present these results in relation to the country-specific median income based on our sample.

In the Appendix, we replicate our main findings using a subsample that excludes all children with single fathers (or two fathers), as well as children from highly educated households in which the father is highly educated and the mother is less educated. In this subsample, variation in parental education (lower vs higher education) can occur only among mothers, allowing us to examine whether our results are driven by differences between households with low-educated single mothers and those with highly educated fathers.

Results

Descriptive results

Table 2 presents the proportion of highly educated households by country. It should be kept in mind that all of the results are presented from the child's perspective, which is why, for example, these proportions refer to children who are living in higher or lower-educated households instead of the overall country mean of highly educated households. As can be seen from the table, countries differ substantially in the share of highly educated parents. In Romania, only 11% of children live in highly educated households, whereas in Belgium, this is the case for more than half of the children. On average, across these 11 European countries, 36% of children (weights applied) are living with at least one highly educated parent, with Eastern European countries having lower-educated parents (Romania, Czech Republic, Bulgaria, Poland, Lithuania) compared to Western European countries (France, Netherlands, Norway, Belgium). Exceptions to this are Russia, with 53%, and Georgia, with 40% of children with highly educated parents in the data. Therefore, it is worth noting that highly educated households do not necessarily represent the socioeconomic elite.

Table 2. The weighted share of highly educated households (child perspective) by country (N=65 393)

|	Parental higher education
Romania	10.8
Czechia	19.5
Bulgaria	25.8
Poland	30.6
Lithuania	32.4
Georgia	40.3
France	40.4
Netherlands	45.5
Norway	47.3
Russia	53.0
Belgium	55.8
Total	35.9

Source: GGS Wave 1

Figure 1 shows the raw parental education gap in children's economic circumstances as measured in within-country income percentiles. As can be expected, children of higher-educated parents live in families with higher equivalised household incomes compared to children of lower-educated parents. This gap varies from around 15 to 35 percentage points and is largest in Romania where the proportion of highly educated adults was significantly lower than in other countries (see Table 2). In the subsequent steps, we study whether this gap in economic circumstances between children living in higher and lower-educated families can be explained by differences in household structure among education groups or is mainly due to other reasons such as differences in returns to education.
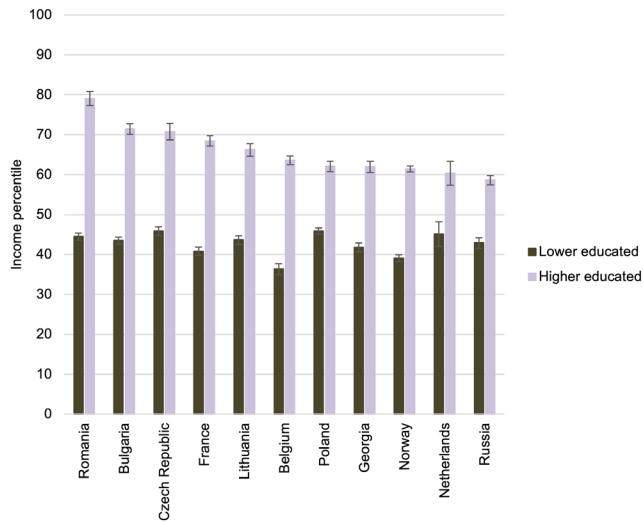
Figure 1. Weighted mean of the country-specific income percentile (based on equivalence-scaled household income) in higher and lower-educated families by country (N=65 393) with 95% confidence intervals. Child's perspective.
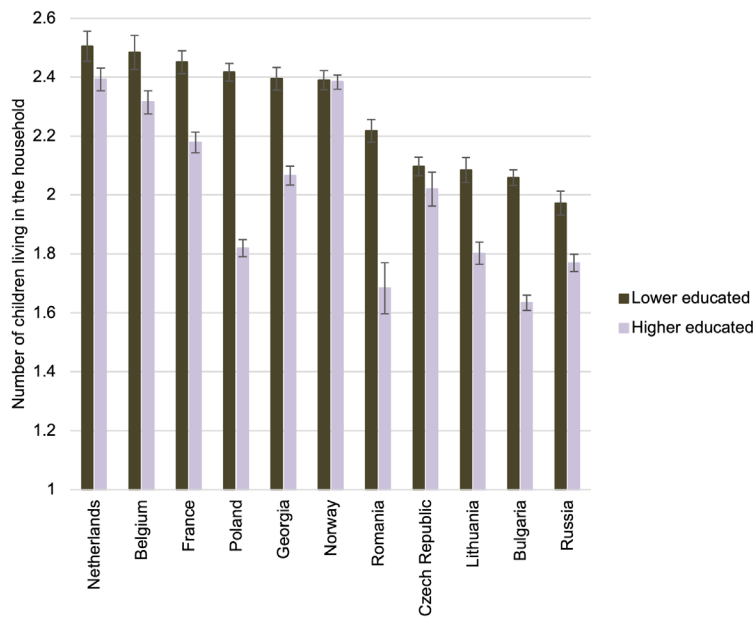
Source: GGS Wave 1

Next, we present descriptive results showing how household structures differ for children living in higher and lower-educated families across countries. As shown in Figure 2, the majority of children live with two parents or adults in the household, but children living in higher-educated households have two adults in the household more often than children living in lower-educated households. This education group difference is the largest in Belgium (10 percentage points) and the smallest in Georgia (1 percentage point).
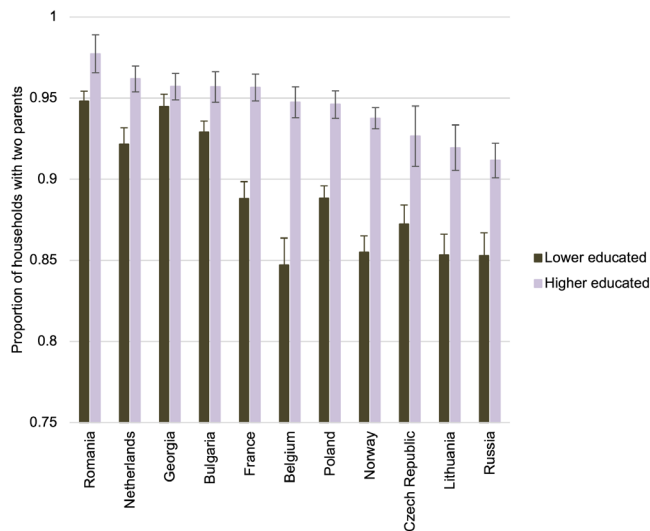
Figure 2. The weighted share of children living in households with two adults in higher and lower-educated families by country (N=65 393) with 95% confidence intervals. Child's perspective.
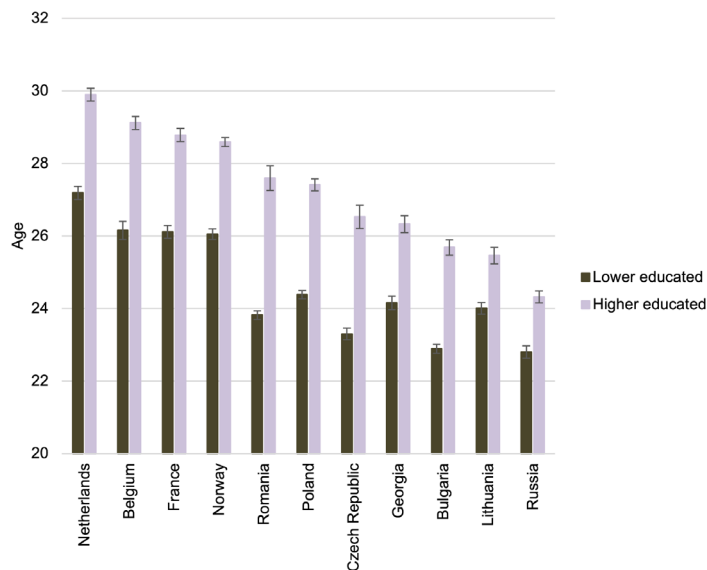
Source: GGS Wave 1

In addition to the education group differences in the share of two-adult households, children living in higher and lower-educated households also differ in the number of siblings they have living with them (results based on all children of the respondent/parent shown in Figure A1 of the Appendix). Figure 3 presents the mean number of children living in the household across parental education groups and countries. The figure shows that children living with lower-educated parents have more siblings in each country. As an exception, however, there are no statistically significant differences between education groups in Norway and Czechia. This difference in the number of children living in the household (in households with children) varies from zero in Norway to 0.6 in Poland.

Figure 3. Average number of children living in the household in higher and lower-educated families by country, weighted mean (N=65 393) with 95% confidence intervals. Child's perspective.

Source: GGS Wave 1

In addition to children with higher-educated parents having fewer siblings on average, their parents also entered parenthood at an older age. Figure 4 displays the education group difference in the parents' age when they entered parenthood. This average age varies from 22.8 years among lower-educated parents from Russia to 29.9 years among higher-educated parents in the Netherlands. In each country, higher-educated parents entered parenthood at an older age compared to lower-educated parents. This difference is smallest in Russia and Lithuania (1.5 years) and largest in Romania (3.8).

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Figure 4. Average age of the parent when the first child was born in lower- and higher-educated families by country, weighted mean (N=65 393) with 95% confidence intervals. Child's perspective.

Source: GGS Wave 1

Decomposition results

Next, we turn to decomposition results. In Figure 5, the bars on the left-side represent the income percentile gap by education group (difference), the bars in the middle represent the income percentile gap by education group if all had the same household structure (unexplained component), and the bars on the right-side represent the explained part of the income percentile gap by household factors (explained component). As seen in Figure 5, countries are surprisingly similar in how much household factors explain the mean difference in absolute terms. The explained component is around 5 percentage points in most of the countries, varying from 1 percentage point in Georgia to 6 percentage points in Romania. For example, in Romania, children with higher-educated parents end up, on average, 34.6 percentage points higher in income percentile rank compared to those with lower-educated parents. This is not only due to differences in returns to education, as this advantage for living in a higher-educated household is reduced to 28.4 percentage points using the hypothetical situation in which all households would have the same household characteristics. In relative terms, however, countries do differ: the relative proportion of the explained component compared to the overall difference ranges from 5% in Georgia to 21% in Russia. In the Appendix (Figure A2), we present a replication of these results using a subsample that excludes children living in households with only a father (or two fathers), as well as children whose fathers are highly educated but mothers have lower education levels. This restriction allows only the mother's education to vary, from lower to higher education, and thus tests whether the results are driven by differences between households with low-educated single mothers and those with highly educated fathers. These robustness analyses display results that are fully consistent with those reported above.
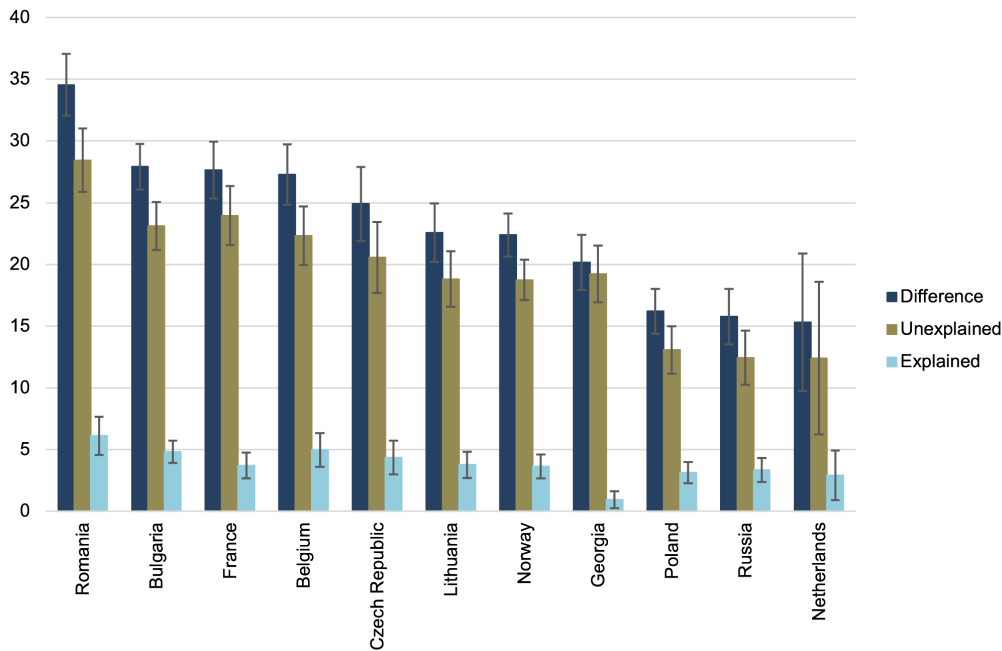
Figure 5. Blinder-Oaxaca pooled two-fold decomposition of outcome differentials (N=65 393) with 95% confidence intervals based on cluster-robust standard errors. Child's perspective. All models control for respondent's sex and age.

Note: Weights applied.

Source: GGS Wave 1

In Figure 6, the left-side bars represent the size of the income gap between education groups measured as the equivalence-scaled annual net income relative to the country-specific equivalence-scaled annual net median income.[3] The right-side bars represent how large this gap would be if all had the same household structure. For example, in Romania, the mean difference in equivalence-scaled annual net income for children living in higher compared to lower-educated households corresponds to 107% of the equivalence-scaled household annual net median income of this population and is reduced to 76% after assuming all had the same household structure. The largest differences between the mean income advantage (relative to the country-specific median income) with and without the hypothetical scenario of similar household structure are in Romania, and the smallest in Georgia, similar to the explained component in absolute terms shown in Figure 5.

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3   The baseline for calculating mean differences in absolute terms (euros): the weighted country-specific average income percentile of lower-educated.
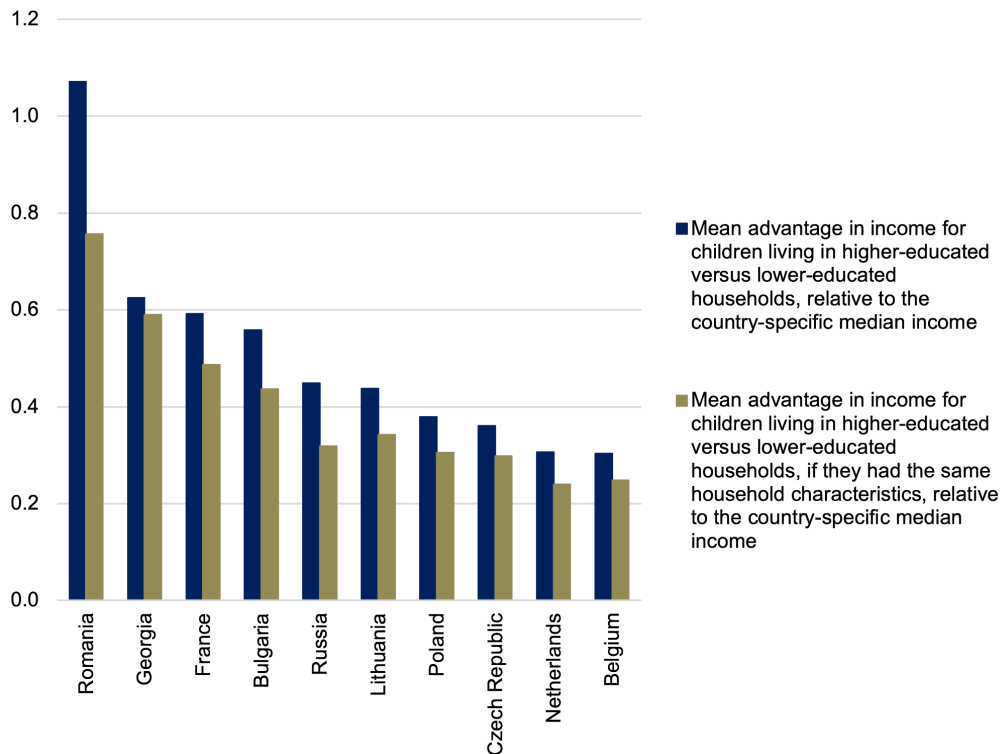
Figure 6. Income differences computed as equivalised annual net income relative to the country-specific equivalised annual net median income, based on the decomposition results in Figure 5.

Note: The baseline for calculating mean differences in absolute terms (euros): the weighted country-specific average income percentile of lower-educated. Norway was dropped from the analysis due to information only on gross income.

Source: GGS Wave 1

Conclusions

Prior studies have noted the importance of family structure on children's diverging economic circumstances. Studies have also shown that family or household structures vary across education groups. We explored how much these differences in household structures can explain the diverging economic circumstances between children living in higher and lower-educated households. Second, we studied how this varies across European countries. We applied the cross-nationally comparable Generations and Gender Survey (GGS-I), comparing 11 European countries, to study these questions. Our unit of analysis is a child, as the main focus is on the economic circumstances of children living in higher and lower-educated households.

The results of this study show that there are substantial differences in the proportions of children living in highly educated households across countries. On average, around a third of children had at least one highly educated adult living in the same household with them. There is a rather strong educational gradient in the household structure, as has been found in previous studies: children of highly educated parents more often live in two-parent households, have fewer siblings living in the household, and their parents entered parenthood at an older age.

In each country studied, children living with highly educated parents also live in better economic

circumstances compared to others. That said, it is important to consider that this study assesses economic circumstances using equivalised household income, an indicator based on the assumption that resources are distributed equally among household members. While the available data does not allow us to confirm the validity of this assumption, previous literature suggests it often does not hold – and yet, it is the most feasible approach available for researchers. The educational gap in equivalence-scaled household income varies quite substantially between countries, being the smallest in the Netherlands, Russia, and Poland and the largest in Romania.

Our decomposition results based on Blinder-Oaxaca decomposition show that part of the better economic circumstances of children living in highly educated households is due to differences in their household structure. Therefore, in most of the countries studied, the better economic circumstances of children in highly educated households are not only due to differences in parents' returns to education. However, despite the highly heterogeneous country and social policy contexts in our sample, the results suggest that household composition contributes relatively little to children's economic circumstances, irrespective of the country. While adequate social benefits may contribute to reducing poverty, as established by Bostic (2023), they do not level out education group differences in income. Ultimately, the general pattern of the role of household structure in explaining the economic circumstances of children between higher and lower-educated families in absolute terms was found to be surprisingly similar across countries, despite the institutional differences.

The finding has policy implications. In public discussions, influencing family structures through policies (e.g., increasing tax incentives for couples or making divorce more difficult) is sometimes seen as a viable way to reduce child poverty. However, the results strongly suggest that investing in the education of future or current parents has much higher potential for reducing such disparity.

An important limitation of our selection of European countries is the absence of Southern Europe, which is why our results are not representative of the whole of Europe. Since the results were rather consistent across this diverse set of countries, we consider it unlikely that including Southern European countries in the sample would significantly alter them. Moreover, our main independent variable – whether households had at least one university-educated parent – encompasses various household structures, as their prevalence differs across countries. Altogether, our study suggests that parental education plays a crucial role in shaping children's economic circumstances across a range of household structures and national contexts.

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Acknowledgements

Appendix
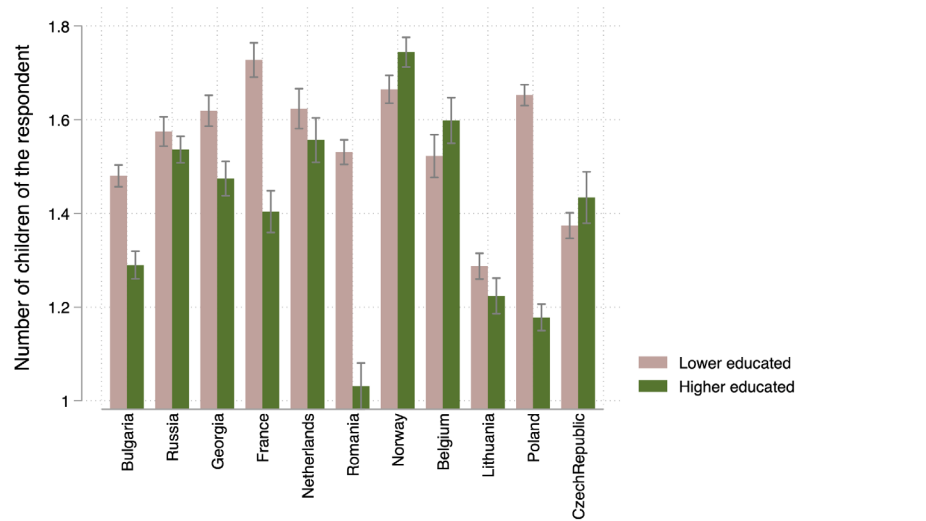
Figure A1. Number of all children for higher and lower-educated respondents by country, weighted mean (N=126 384) with 95% confidence intervals

Source: GGS Wave 1
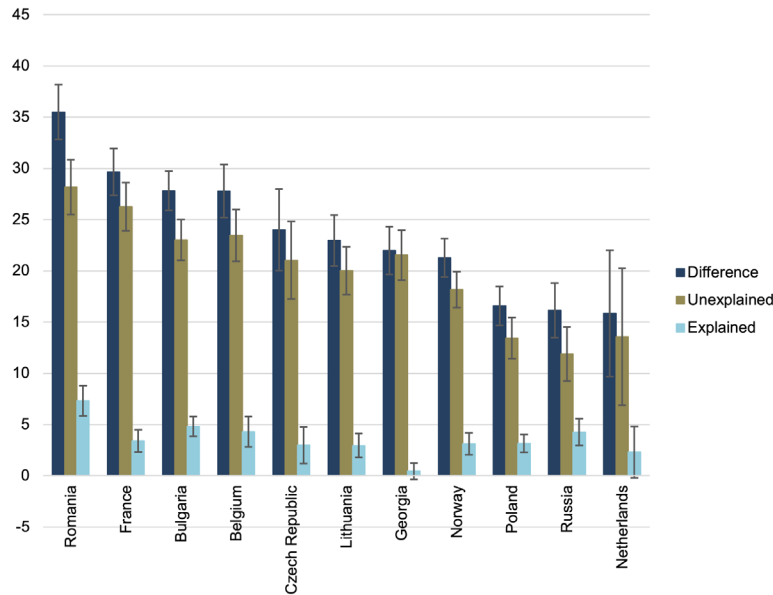
Figure A2. Blinder-Oaxaca pooled two-fold decomposition of outcome differentials, excluding households with only fathers and households in which the father is highly educated and the mother is lower-educated (N=57 253) with 95% confidence intervals based on cluster-robust standard errors. Child's perspective. All models control for respondent's sex and age.

Source: GGS Wave 1