#### **ORIGINAL RESEARCH**



# Stratified Fertility: Age Norms, Ideals, Behaviors, and the Role of National Contexts

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#### Abstract

A growing body of research shows that demographic attitudes and behaviors across the life course are socially stratified. Building on this and focusing on the transition to parenthood, we hypothesize that (i) parental socioeconomic status is associated with multiple dimensions of the transition to parenthood, including fertility norms (perceived lower age limit at first birth), ideals (ideal age at first birth), and behaviors (age at first birth), and that (ii) this association varies across national contexts, as national contexts determine the opportunities and constraints that guide young adults' life course attitudes and behaviors. Drawing on the European Social Survey 2006 and 2018 data, we analyze early fertility norms and ideals and later fertility behaviors of a pseudo-panel of individuals born between 1976 and 1988. We show that (i) parental socioeconomic status is positively associated with later fertility norms, later fertility ideals, and later childbearing, even when controlling for respondents' own socioeconomic status, and that (ii) national contexts partially moderate these associations. We conclude by discussing implications for theories of fertility and highlighting avenues for future research.

**Keywords** Social stratification  $\cdot$  Transition to parenthood  $\cdot$  Second Demographic Transition  $\cdot$  Age norms  $\cdot$  Cross-national fertility comparison

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## 1 Introduction

Demographic behaviors across the life course are socially stratified, with young adults from higher socioeconomic status backgrounds entering cohabitation, marriage, and parenthood later than those from lower socioeconomic status backgrounds (Billari et al., 2019; McLanahan, 2004). The timing of these demographic behaviors is influenced by several life course, family, cultural, genetic, and contextual factors (Balbo et al., 2013; Billari & Liefbroer, 2010; Guzzo & Hayford, 2020; Johnson-Hanks et al., 2011; Mills & Tropf, 2015; Sear et al., 2016). Although much research has focused on the role of individuals' own socioeconomic status, an important stream of research highlights the role of parental socioeconomic background (Bernardi & Ballarino, 2016; Brons, Liefbroer, and Ganzeboom 2017; Liefbroer & Zoutewelle-Terovan, 2021a; McLanahan, 2004). In particular, parental socioeconomic status influences their children's values and attitudes (stratified socialization), their ability to realize costly transitions and achieve their aspirations (stratified agency), and the structural opportunities and constraints they are exposed to (stratified opportunity) (Billari et al., 2019).

This paper focuses on the transition to parenthood, a central component of the transition to adulthood (Guzzo & Hayford, 2020; Modell et al., 1976). Previous research on the role of parental socioeconomic status has focused on the intergenerational transmission of fertility preferences and behaviors (Barber, 2001; Bernardi, 2013; Keijer et al., 2018; Kolk, 2014; Kotte & Ludwig, 2012) and socioeconomic differences in adolescent childbearing and nonmarital fertility (Edin & Kefalas, 2011; England, 2016; Furstenberg, 2003). However, there is limited research on the pathways linking parental socioeconomic status to their children's transition to parenthood and whether and how this association varies cross-nationally. Thus, we examine whether parental socioeconomic background is associated with fertility norms (perceived lower age limit at first birth), ideals (ideal age at first birth), and behaviors (age at first birth) and whether the strength of this relationship varies across countries. In other words, our interest is in the "total" association between parental socioeconomic status and fertility outcomes. However, one can wonder to what extent this "total" association results from the intergenerational transmission of educational attainment. To examine this issue, we also explore whether this association remains if one includes young people's own educational attainment as a mediator in our models.

In this paper, we analyze the association between parental socioeconomic status and multiple dimensions of the transition to parenthood across 21 European countries using data from the European Social Surveys (ESS) Round 3 (2006) and Round 9 (2018). First, we show that parental socioeconomic status is associated with fertility norms, ideals, and behaviors. Second, we provide evidence that national contexts moderate the association between parental background and fertility age norms, ideals, and behaviors. Drawing from previous literature concerning contextual influences on fertility, we operationalize national contexts by using



four macro-level ideational, institutional, and economic indicators: a Second Demographic Transition index, the proportion of young adults neither in education nor employment (youth NEET rate), the public expenditure on families and children, and the Gender Inequality Index.

We adopt an innovative design, following a synthetic cohort of individuals born between 1976 and 1988 across their life courses using a 2-step meta-analytical approach. We first analyze fertility norms and ideals of individuals in the selected cohort using ESS data collected in 2006, when respondents were between 18 and 30 years old. Therefore, fertility norms and ideals are examined relatively early in the life course. We then analyze the fertility behaviors of the cohort of interest using ESS data collected in 2018, when respondents were between 30 and 42. Our approach follows the established literature on fertility attitudes and behaviors from a life course perspective, in which fertility preferences are measured early in the reproductive career and fertility realizations at a later period for a cohort of individuals (see, e.g., Berrington & Pattaro, 2014; Hayford, 2009; Morgan & Rackin, 2010).

## 2 Theoretical Background

#### 2.1 Social Stratification and Life Course Transitions

Life course transitions and broader family changes have been extensively analyzed under an "individual choice" paradigm, according to which demographic behaviors such as becoming a parent are the outcome of individual preferences and choices (Liefbroer & Zoutewelle-Terovan, 2021a). For example, according to the Second Demographic Transition (SDT) theory, the postponement of parenthood is rooted in the shift toward postmodern attitudes and norms, with individualistic values seen as the principal determinants of fertility and family choices (Lesthaeghe, 2010, 2020; Zaidi and Morgan 2017). However, Zaidi and Morgan (2017, p. 486) note that "the SDT silence on inequality and its emphasis on ideology suggests that all individuals have the agency and power to exercise individual freedom, achieve self-actualization, and shape their life course."

Several other paradigms put more emphasis on the role of social structure. For instance, the "unequal choice" paradigm stresses the stratification of life course transitions, including the transition to parenthood (Badolato, 2023; Billari et al., 2019; Liefbroer & Zoutewelle-Terovan, 2021a). The "diverging destinies" perspective emphasizes the role of parental resources in their children's life course trajectories, as families materially and emotionally support their children across the transition to adulthood (McLanahan, 2004; McLanahan & Jacobsen, 2015; Settersten & Ray, 2010). The Theory of Conjunctural Action states that fertility goals and behaviors are strongly influenced by social class and the broader social structure (Bachrach and Morgan 2013; Johnson-Hanks et al., 2011).



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### 2.2 Parental Socioeconomic Status and the Transition to Parenthood

There are many factors linking parental socioeconomic status and the timing of first birth, including shared biological and genetic factors and socialization processes across the life course. Studies centered around a biodemography perspective have shown that many aspects of human reproductive behaviors have a biological and genetic basis (Barban et al., 2016; Miller et al., 2010; Mills & Tropf, 2015; Sear et al., 2016). As reviewed by Mills and Tropf (2015), heritability is up to 40% for age at first birth and number of children ever born, and biological predispositions are likely to interact with socio-environmental factors to influence reproduction decision-making and life course planning.

Studies centered on socialization processes distinguished three potentially reinforcing mechanisms: *stratified socialization*, *stratified agency*, and *stratified opportunity* (Billari et al., 2019). First, parents influence their children's values, ideals, and intentions via socialization and social control processes (*stratified socialization*). Parents' attitudes toward premarital sex, cohabitation, marriage, and childbearing strongly shape their children's attitudes toward family formation and childbearing (Axinn & Thornton, 1996; Berrington & Pattaro, 2014; Keijer et al., 2018) and serve as role models (Keijer et al., 2018). For instance, several studies show a strong intergenerational transmission of fertility preferences, including the age at first birth (Barber, 2001; Bernardi, 2013; Keijer et al., 2018; Kolk, 2014; Kotte & Ludwig, 2012).

Second, parental socioeconomic status influences children's ability to realize their behavioral intentions and to avoid unintended behaviors (*stratified agency*). Families with an advantaged socioeconomic status are equipped with more economic resources and social capital to guide and help their children realize complex and costly transitions (Axinn & Thornton, 1992; England, 2016; Hitlin & Elder, 2006). Individuals from lower socioeconomic status trajectories, expecting fewer future economic resources, more limited support from their parents, and additional health constraints, have fewer gains in postponing parenthood than individuals from higher socioeconomic status (Berg et al., 2020; Fishman, 2020).

Third, children from low- and high-socioeconomic backgrounds are exposed to different opportunities and constraints that lead to a faster or slower transition to parenthood (*stratified opportunity*). Structural elements related to low parental socioeconomic status and subsequent early childbearing include high unemployment rates, scarce career options, and limited access to effective contraception (Billari et al., 2019; Dribe et al., 2014). For instance, parents with lower socioeconomic backgrounds are more likely to live in disadvantaged neighborhoods, which is linked to family life courses typified by early childbearing regardless of relationship status (Buyukkececi, 2023).



## 2.3 Multiple Dimensions of Fertility Attitudes and Behaviors

Following previous research that advocates analyzing multiple dimensions of fertility attitudes and behaviors (e.g., Guzzo et al., 2019; Johnson-Hanks et al., 2011; Kost & Zolna, 2019), we analyze the association between parental socioeconomic status and three age-related fertility dimensions: age norms, ideals, and behaviors.

Age norms represent prescriptions and proscriptions for behaviors and are enforced through various mechanisms of social control, including social sanctions for having children too early or too late (Billari et al., 2021; Johfre & Saperstein, 2023; Settersten & Hagestad, 1996). Fertility ideals provide individuals with a "mental map of the life course" that guides their decisions (Elder, 1998; Settersten & Hagestad, 1996). Age ideals are precursors of fertility goals and provide people with practical instruments to evaluate their progress in the life course (Lazzari, Compans, and Beaujouan 2024). Although related, fertility age norms and ideals as operationalized in this paper are different constructs: The former measures the perceived lower age limit for parenthood, while the latter measures what individuals perceive as optimal in their life courses. Finally, given our focus on the transition to parenthood, we measure fertility behaviors as the age at first birth.

We expect that the three socialization mechanisms that link parental socioeconomic status to the transition to parenthood, *stratified socialization*, *agency*, and *opportunity*, reinforce each other to stratify fertility norms, ideals, and behaviors. This leads to our first hypothesis: Parental socioeconomic status stratifies fertility age norms, ideals, and behaviors. In particular, across European societies, individuals from higher socioeconomic backgrounds perceive later age limits to become a parent, report higher ideal ages at parenthood, and experience the transition to parenthood later than individuals from lower socioeconomic backgrounds (H1).

## 2.4 The Moderating Role of the National Contexts

The link between parental socioeconomic status and fertility norms, ideals, and behaviors is expected to vary across societal contexts. For instance, the "contexts of opportunity hypothesis" suggests that contexts that offer young adults opportunities to improve their availability of economic, social, and personal resources weaken the links between parental socioeconomic status and life course decisions (Liefbroer & Zoutewelle-Terovan, 2021a).

We draw on several theoretical frameworks to identify macro-level factors that buffer or moderate the link between parental socioeconomic status and their children's fertility decisions. Ideational factors are emphasized in the SDT (Lesthaeghe, 2010, 2020), economic factors are emphasized in the globalization framework (Blossfeld et al. 2006; Mills & Blossfeld, 2013), and institutional factors

<sup>&</sup>lt;sup>1</sup> In the fertility preferences literature, ideals, especially family size ideals, have been seen as reflecting societal norms as well (see Sobotka and Beaujouan 2014). To avoid confusion among our measures, we use the term *age norms* when referring to the perceived lower age limit at first birth and the more specific term *ideals* when referring to the ideal age at first birth. In our sample, as operationalized below, the correlation between respondents' age norms and ideals is 0.35.



are emphasized in welfare regimes and gender revolution frameworks (Esping-Andersen, 1990; Esping-Andersen & Billari, 2015; Goldscheider et al., 2015). Although different frameworks prioritize different factors, ideational, economic, and institutional factors are expected to be correlated at the country level. For instance, high-opportunity contexts could be defined as contexts that provide an ideational environment open to many types of transitions to parenthood, supportive family policies and institutions, stable economic opportunities for young individuals entering the labor market, and higher gender equality. Thus, as an overarching hypothesis, we expect that cross-national differences in ideational, economic, and institutional contexts of childbearing moderate the link between parental socioeconomic background and fertility norms, ideals, and behaviors (H2). However, although ideational, economic, and institutional factors are often correlated, it is important to examine why each of them could be important in moderating the association between parental socioeconomic background and fertility outcomes. Therefore, we discuss each of them in turn.

## 2.5 Ideational Factors and the Transition to Parenthood

Ideational explanations of fertility attitudes and behaviors are mostly connected to the SDT (Lesthaeghe, 2010, 2020). Countries vary in the extent to which SDT-like values have spread within the population, and these values are positively related to the onset of fertility postponement and mean age at first birth and negatively related to fertility rates below age 25 (Sobotka, 2008b). Ideational values associated with the SDT are expected to moderate the association between parental socioeconomic status and fertility through several mechanisms. In a more individualistic environment, adult children may be less inclined to adhere to parental norms and preferences, but parents themselves may also more strongly feel that children have to decide by themselves whether and when to take major life course decisions, thus leading to a lower level of stratified socialization. This suggests that countries with strong approval of ideational values associated with the SDT show a weaker link between parental socioeconomic status and fertility age norms, ideals, and behaviors than countries with weak approval of ideational values associated with the SDT (H2a). For instance, Brons, Liefbroer, and Ganzeboom (2017) found that the link between parental socioeconomic status and union formation timing—another aspect of the timing of family formation—was weaker in European countries that were far advanced in the SDT.

#### 2.6 Economic Factors and the Transition to Parenthood

The globalization framework emphasizes the role of macroeconomic conditions (Blossfeld et al. 2006; Mills & Blossfeld, 2013). Labor market instability and high and persistent unemployment rates increase uncertainty and affect fertility goals (Vignoli et al., 2020). In contexts of economic uncertainty, parents with higher



socioeconomic status provide a stronger safety net to their children. In addition, parents with higher socioeconomic status also benefit from a longer and healthier lifespan, influencing their ability to support their adult children (Billari et al., 2019). We hypothesize that countries characterized by economic stability show a weaker link between parental socioeconomic status and fertility age norms, ideals, and behaviors than countries characterized by economic instability (**H2b**).

#### 2.7 Institutional Factors and the Transition to Parenthood

Institutional factors could also moderate the relationship between parental socioeconomic status and the transition to parenthood. Institutions that foster economic and emotional independence and remove barriers allow young people to make independent decisions on family formation. Often, a typological approach is used to examine the role of institutions (Esping-Andersen's, 1990), and such typologies view welfare regimes as packages of specific combinations of policies (Matysiak & Vignoli, 2008), which could lead to complex typologies and make it hard to distinguish the importance of specific policy areas. Therefore, we decided to focus on two institutional factors that we feel are particularly important in influencing the link between parental socioeconomic background and fertility: family policies and gender policies.

Family policies aim to compensate the direct costs of childrearing, support early childhood development, reduce child poverty, foster employment, and improve gender equity (Gauthier, 2007; Thévenon, 2011). In response to low-fertility levels, most European countries have implemented family policies (Harknett et al., 2014), but there is substantial heterogeneity in the spending amount and target (Billingsley & Ferrarini, 2014; Thévenon, 2011). Nordic countries are characterized by allocating substantial resources to combine work and family for parents with young children. Anglo-Saxon countries mainly target low-income families, single parents, and households with preschool children. Southern European countries are characterized by limited assistance. Central and Eastern European countries occupy an intermediate position and are relatively heterogeneous in the type of implemented policies. Family policies that reduce the costs of childbearing and enhance the compatibility of parenthood and paid employment are thought to increase young adults' agency and increase their opportunities. We expect that if such policies are in place, it becomes easier for all young adults—irrespective of social background—to realize their positive fertility intentions. Therefore, we hypothesize that countries with favorable family policies show a weaker link between parental socioeconomic status and fertility age norms, ideals, and behaviors than countries with less favorable family policies (H2c).

Gender systems and gender equality have also been associated with fertility goals and behaviors (McDonald, 2013; Neyer et al., 2013). The unfolding gender revolution has been proposed to explain changes in the family domain in low-fertility countries (Esping-Andersen & Billari, 2015; Goldscheider et al., 2015). A fertility turnaround and a reversal toward a "more family" scenario are found among countries advanced in the gender revolution, where female labor force participation



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is higher and men are more involved in the private domains of home and family. We argue that in countries where gender equality is a priority, women from low socioeconomic strata have more possibilities to achieve higher education, enter the labor market, and rely less on parental resources. In such societies, young adults are less likely to adhere to strict gender-based role expectations. As a result, the link between parental socioeconomic status and the transition to parenthood is expected to be weaker in more gender-equal societies. Thus, we hypothesize that countries characterized by more gender equality show a weaker link between parental socioeconomic status and fertility age norms, ideals, and behaviors than countries characterized by less gender equality (**H2d**).

#### 2.8 Further Extensions

The intergenerational transmission of educational attainment from parents to children has been proposed as one of the key mechanisms linking parental socioeconomic background and the transition to parenthood. For example, Berrington and Pattaro (2014) show that parental socioeconomic status and parental expectations for their children's education influence young adults' educational attainment, which mediates the relationship between socioeconomic background and fertility behaviors. The literature on social origin and destination, originated by the status attainment approach of Blau and Duncan (1967), distinguishes the total effect of the socioeconomic background of an individual through an effect which is mediated through the individual's education (dependent on social origin) and a direct effect of social origin. The total effect is both meaningful and easier to measure than, e.g., the direct effect of individuals' education which is endogenously determined (Bernardi & Ballarino, 2016).

Although our focus is on the total association between parental socioeconomic background and fertility outcomes, one could wonder to what extent this total association is mediated by young adults' own educational attainment. To shed light on this issue, we examine models in which young adults' socioeconomic status is included in exploratory analyses (cf. Brons et al., 2017).

Additionally, one could wonder to what extent these processes are gendered. Is the association between parental background and fertility outcomes the same for men and women? And are national contexts moderating this association for both men and women? Again, we will perform exploratory analyses to shed light on this issue.

#### 3 Data and Methods

#### 3.1 Individual-Level Data

Individual-level data are taken from the European Social Survey (ESS) Round 3 (2006) and Round 9 (2018). The ESS is a repeated cross-sectional survey conducted across Europe since 2002 to measure attitudes, beliefs, and behaviors across a range



of socioeconomic domains. Two rotating modules on specific topics are included in each round. Round 3 (2006) and Round 9 (2018) include the "Timing of Life" module, which collects data about values and beliefs on the timing of life course transitions (Billari et al., 2021). We restrict our analyses to the 21 European countries that participated in both rounds: Austria, Belgium, Bulgaria, Cyprus, Germany, Denmark, Estonia, Finland, France, Hungary, Ireland, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the UK.

We analyze the link between parental socioeconomic status and age norms, ideals, and behaviors in the transition to parenthood by applying a pseudo-panel approach. Harknett and Hartnett (2014) and Harknett et al. (2014) used the ESS Round 2 and Round 4 data to create a pseudo-panel of men and women to examine the correspondence between fertility preferences and realization across European countries. Harknett and Hartnett (2014) show that the ESS data are suitable for analyzing a synthetic cohort of individuals from a life course perspective. This approach allows us to examine how the relationship between parental education and fertility ideals, norms, and behaviors varies across countries for a cohort of respondents. Our pseudo-cohort consists of ESS respondents born between 1976 and 1988. We study the link between parental education and fertility age norms and ideals using Round 3 data when individuals are between 18 and 30. Then, we study the link between parental education and actual fertility behaviors using Round 9 data when individuals are between 30 and 42.

We measure parental socioeconomic background as the highest educational level attained by either the respondent's mother or father. ESS data on parental education are coded using the ISCED discrete scale. We recoded parental education using the International Standard Level of Education (ISLED) coding system, a continuous comparative education measure proposed by Schröder and Ganzeboom (2014). Similarly, respondents' education is recoded using the ISLED scale as well. The ISLED scale ranges from 0 to 100 and was developed to quantify the relative value of individual country-specific education categories in the ESS and provide a comparative measurement for cross-national designs using ESS data (Schröder, 2014). For example, tertiary education scores 76.03 in the UK and 86.89 in Spain, where tertiary education provides relatively higher returns.

Age norms and ideals are measured using a split ballot design: Respondents are randomly asked about men or women. Age norms are measured as subjective lower age limits for first birth. Specifically, ESS respondents are asked: "Before what age would you say a woman/man is generally too young to become a mother/father?" We exclude from the analyses of norms individuals who provided a numerical answer higher than 50 (0.1%) or lower than 16 (4.9%) years, those who reported no lower age limits (0.8%), and missing values (5.1%). Ideals are measured as the ideal age to become parents. ESS respondents are asked: "In your opinion, what is



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the ideal age for a woman/man to become a mother/father?" We exclude from the analyses of ideals individuals who reported no ideal age (9.4%) and missing values (4.2%).<sup>2</sup> Finally, to measure fertility behaviors, we dichotomized the age at parenthood according to whether respondents had a child by age 30 for women and 32 for men. We used different cutoff ages for women and men given gender differences in the timing of first birth. Since we restrict our sample to analyze fertility behaviors to individuals aged 30 to 42, dichotomizing the dependent variable avoids right censoring and makes the estimates easily interpretable. In Appendix, we report the results using an alternative cutoff age, 27 for women and 29 for men, as a robustness check.

In all the following analyses, we control for the split ballot assignment, which indicates whether individuals responded about men or women. We also control for the gender of the respondents and their age, which allow us to control for the different fertility age norms, ideals, and behaviors levels of men and women.

#### 3.2 Macro-Level Data

Macro-level data about ideational, economic, and institutional national contexts are taken from different sources. We include four contextual variables: the Second Demographic Transition Index, the youth NEET rate, the public expenditure on families and children as a percentage of GDP, and the Gender Inequality Index (GII). As reported in Table 2, these indicators were measured both in 2006 (2005 for the GII) and 2018.

Following a similar approach proposed by Sobotka (2008a), we use data from the ESS Round 3 (2006) and Round 9 (2018) to construct a Second Demographic Transition index based on four measures: approval of voluntary childlessness, approval of unmarried cohabitation, approval of children in cohabitation, and approval of divorce with young children.<sup>3</sup> We average these four measures at the country level (post-stratification weights have been applied for country-level comparison) to obtain an overall Second Demographic Transition indicator that ranges from 1 to 5. The higher the indicator, the higher the acceptance of the demographic behaviors associated with the SDT.

The NEET rate measures the percentage of young adults aged 15–29 who are not employed and not involved in further education or training. Compared to other indicators such as the unemployment rate, the NEET rate is more broad and relatively

<sup>&</sup>lt;sup>3</sup> In particular, ESS respondents are asked the following questions: "How much do you approve or disapprove if a woman/man..." (i) "Chooses never to have children?", (ii) "Lives with a partner without being married?", (iii) "Has a child with a partner she/he lives with but is not married to?", and (iv) "Gets divorced while she/he has children aged under 12?", with answers ranging from 1 (strongly disapprove) to 5 (strongly approve).



<sup>&</sup>lt;sup>2</sup> The variation across countries in the share of respondents who report no lower age limits is low (standard deviation 0.6), while the variation in the share of respondents who report no ideal age is higher (standard deviation 6.9) and ranges from less than 1% in France to 27.4% in Austria. We examined whether the country-level variation among respondents reporting no ideal age moderates the association between parental education and ideal age at parenthood by including the proportion of "no ideal age" responses as a predictor in the second-step regressions (see Methods and Results sections); we conclude that it does not moderate the association (coefficient 0.000, p value 0.95).

more stable across years. It captures periods of social isolation that have long-lasting negative effects on future employment and, more generally, on several indicators such as poverty and health-related problems (OECD, 2007). The NEET rates are taken from Eurostat.<sup>4</sup>

Our proxy for family policies is the public expenditure on families and children as a percentage of GDP taken from Eurostat.<sup>5</sup> It is a broad indicator that includes cash benefits such as birth grants, parental leave benefits, family or child allowances, material benefits such as shelter and board provided to preschool children, and goods and services provided to children at home. Although it is a rather crude measure, it has the advantage that it is available for all countries in our sample.

The Gender Inequality Index (GII) is taken from the United Nations Development Programme<sup>6</sup> and reflects gender-based disadvantage in three dimensions: health, empowerment (measured through educational attainment and female representation in the political setting), and labor market. The GII ranges from 0 to 1, with higher values associated with greater inequality.

## 4 Methods

Given the goals of our research—(i) estimating the association between parental socioeconomic status on fertility norms, ideals, and behaviors and (ii) analyzing whether contextual ideational, economic, and institutional factors moderate social stratification—we adopt a 2-step meta-analytic approach (Liefbroer & Zoutewelle-Terovan, 2021b).

A 2-step meta-analytical approach is a stepwise method that includes meta-analysis and meta-regression tools. In the first step, we fit separate regression models for each country and save the estimated coefficients of parental education and their standard errors. In particular, we estimate a linear regression model for fertility age norms and ideals and a logistic regression for the dichotomized fertility behavior variable, which takes value 1 if the respondent experienced parenthood by 30 (as an alternative, not reported here, linear probability models yield equivalent conclusions). We include ESS survey weights in all regressions. In the second step, we compute a random-effect meta-analysis, which provides an overall estimate of the link between parental socioeconomic status and fertility norms, ideals, and behaviors for the pooled sample of countries, and a formal test of whether the estimated relation varies across countries. In particular, we compute the overall DL (DerSimonian–Laird) estimate, which assumes a random-effect model, and the I² value, and its associated significance test. As a rule of thumb, heterogeneity can be considered "low" if I² is between 0.25 and 0.50, "moderate" if it is between 0.50 and 0.75 and

<sup>&</sup>lt;sup>6</sup> United Nations Development Programme: Gender Inequality Index. https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII



<sup>&</sup>lt;sup>4</sup> Eurostat: NEET rate. https://ec.europa.eu/eurostat/databrowser/view/edat\_lfse\_28/default/table?lang=en

<sup>&</sup>lt;sup>5</sup> Eurostat: Public expenditure on families and children. https://ec.europa.eu/eurostat/databrowser/view/GOV\_10A\_EXP\_\_custom\_1198160/default/table?lang=en%20%202006

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"high" if it is above 0.75 (Higgins et al., 2003). Finally, meta-regressions are estimated by regressing the country-level effects (regression coefficients estimated in the first step) on the country-level predictors. In this final step, meta-regression estimates are weighted by the first-step standard errors (for further details on the 2-step meta-analytical approach, see Liefbroer & Zoutewelle-Terovan, 2021b.)

We estimate separate meta-regressions for each macro-level indicator to analyze whether ideational, economic, and institutional factors moderate the association between parental education and our three fertility measures. The country-level ideational, economic, and institutional indicators are highly correlated, as reported in Table S1. For example, the correlation between the SDT index and the youth NEET rate, the GII, and the public expenditure on families and children in 2006 is -0.73, -0.75, and 0.63, respectively. Therefore, given the limited sample size, including multiple indicators in the meta-regressions is unsuitable. The discussion section elaborates on the interrelation between ideational values, economy, and institutions to represent national contexts.

An alternative approach would be to estimate a multilevel regression with cross-level interactions and random intercept and slope. However, given the limited number of level-2 units (21 countries), results from multilevel models are expected to lead to biased estimates and inaccurate standard errors (Mood, 2010). Furthermore, a meta-analytic approach allows for a precise and easily interpretable estimation of the variation across countries—graphically represented by a forest plot—and the moderation effects of macro-level variables.

Two additional sets of analyses were performed to examine (a) whether the association between parental education and fertility behavior depends on the cutoff age of the behavioral variable (Figures S1 and S2) and (b) whether results differ between men and women (Figure S3 and Tables S4 and S5). Full results of these additional analyses are presented in Online Supplementary Material.

#### 5 Results

#### 5.1 Micro- and Macro-Level Descriptive Statistics

In Table 1, we report the sample size for each country and survey year, summary statistics for the three fertility dimensions, and the share of childless individuals in the 2006 sample.

Across the 21 European countries, the mean perceived lower age limit at first birth ranges from 19.3 in Norway to 21.1 in Hungary, while the mean ideal age at first birth ranges from 25.0 in Bulgaria to 28.2 in Spain. The difference in ideal age between Bulgaria and Spain is also reflected in the share of individuals having a child by age 30: In Bulgaria, 56.4% of respondents born between 1976 and 1988 have become a parent by 30 (women) or 32 (men), in sharp contrast with the 34.3% in Spain. Importantly, although the average mean ideal age at first birth across European countries is 26.6, only 48.3% experienced parenthood by 30 (women) or 32 (men).



aţ Table 1 Summary statistics: sample size, share of childless respondents (2006), fertility norms (Mean perceived lower age limit at first birth), ideals (Mean ideal age

| 2006         2018         Full sample (age 18–22)         Restricted sample (age 18–22)         Illutt at titis birtin (age 18–22)           501         453         87.4         94.5         19.8           340         325         81.5         90.6         20.2           222         292         64.0         75.6         20.1           183         149         84.0         91.1         20.6           198         247         82.0         91.7         20.7           310         371         77.9         84.5         19.7           308         344         78.3         86.4         20.2           482         36         87.5         20.2           237         285         75.6         84.5         20.5           237         285         77.1         84.7         20.5           247         28.4         86.4         10.3         20.1           247         28.4         86.4         20.5         20.1           248         38.8         92.9         20.1         20.1           249         17.3         86.4         20.3         20.3           341         173         77.5         <  | Country                | N Respondents | idents | Share of childless respondents (2006) | spondents (2006)              | Mean perceived lower age | Mean ideal age at | Share of individuals having a child by |
|--|------------------------|---------------|--------|---------------------------------------|-------------------------------|--------------------------|-------------------|--|
| 501 453 874 94.5 19.8  340 325 81.5 90.6 20.2  222 292 64.0 75.6 20.1  183 149 84.0 91.1 20.6  198 247 82.0 91.7 20.7  310 371 78.0 84.5 19.7  344 78.3 86.4 20.2  237 285 75.6 84.2 21.1  237 285 75.6 84.2 21.1  327 450 77.1 84.7 21.0  ids 259 78.4 86.4 19.3  427 324 73.9 83.2 20.0  ids 31 265 81.6 90.4 20.3  id 235 311 86.3 91.1 20.3  id 235 311 86.3 94.3 20.3  id 381 428 75.6 84.2 20.0  id 235 311 86.3 94.3 20.3  id 381 428 75.6 87.9 91.1 20.3  id 381 428 75.6 87.9 91.1  |                        | 2006          | 2018   | Full sample (age<br>18–30)            | Restricted sample (age 18–22) | iimit at first birth     | nrst birth        | 50 (women) and 52 (men)                |
| 340     325     81.5     90.6     20.2       222     292     64.0     75.6     20.1       183     149     84.0     91.1     20.6       198     247     82.0     91.7     20.7       310     371     78.0     85.9     19.9       347     320     77.9     84.5     19.7       482     363     83.7     80.4     20.2       482     363     83.7     80.4     20.5       327     285     75.6     84.2     21.1       427     283     83.8     92.9     20.1       427     324     73.9     86.3     19.4       427     324     73.9     86.3     19.4       443     173     77.5     87.1     20.3       nd     255     81.6     90.4     20.9       nd     235     31     86.9     91.1     20.3       nd     235     31     86.3     94.3     20.5       nd     235     31     86.3     94.3     20.3       nd     235     31     86.3     94.3     20.3       nd     235     31     86.3     94.3     20.3 <t< td=""><td>Austria</td><td>501</td><td>453</td><td>87.4</td><td>94.5</td><td>19.8</td><td>27.0</td><td>50.4</td></t<>   | Austria                | 501           | 453    | 87.4                                  | 94.5                          | 19.8                     | 27.0              | 50.4                                   |
| 183 149 840 756 20.1  183 149 840 91.1 20.6  198 247 82.0 91.7 20.7  310 371 78.0 85.9 19.9  347 320 77.9 84.5 19.7  482 363 83.7 89.4 20.2  237 285 75.6 84.2 21.1  327 450 77.1 84.7 21.0  427 283 83.8 92.9 20.1  327 450 77.1 84.7 21.0  427 283 83.8 92.9 20.1  330 259 78.4 86.4 19.3  427 324 73.9 83.2 20.0  355 181 77.1 86.3 90.4 20.3  and 235 311 86.3 94.3 20.3   | Belgium                | 340           | 325    | 81.5                                  | 9.06                          | 20.2                     | 26.7              | 54.5                                   |
| 183 149 84.0 91.1 20.6  198 247 82.0 91.7 20.7  310 371 78.0 85.9 19.9  347 320 77.9 84.5 19.7  482 363 83.7 89.4 20.2  237 285 75.6 84.2 20.2  327 450 77.1 84.7 20.3  427 324 73.9 83.2 20.0  330 259 78.4 86.4 19.3  427 324 73.9 83.2 20.0  341 324 77.5 86.3 19.4  443 173 77.5 86.3 20.3  and 235 311 86.3 94.3 20.3  and 235 311 86.3 94.3 20.3  and 235 311 86.3 87.8 20.9  and 235 311 86.3 87.8 20.3  and 235 311 86.3 87.8 20.3  and 235 311 86.3 87.8 20.3   | Bulgaria               | 222           | 292    | 64.0                                  | 75.6                          | 20.1                     | 25.0              | 56.4                                   |
| 198 247 82.0 91.7 20.7 310 371 78.0 85.9 19.9 308 344 78.3 86.4 19.7 308 344 78.3 86.4 19.7 482 363 83.7 89.4 20.2 337 285 75.6 84.2 21.1 340 259 78.4 86.4 19.3 427 283 83.8 92.9 20.1 427 324 73.9 83.2 20.0 355 181 77.1 86.3 19.4 43 173 77.5 87.1 20.3 and 235 311 86.3 94.3 20.3 and 235 311 86.3 94.3 20.3 and 235 311 86.3 84.3 20.3 and 235 311 86.3 87.8 20.3  | Cyprus                 | 183           | 149    | 84.0                                  | 91.1                          | 20.6                     | 28.0              | 50.0                                   |
| 48. 320 77.9 84.5 19.9  308 344 78.3 86.4 19.7  482 363 83.7 86.4 20.2  482 363 83.7 89.4 20.2  327 285 75.6 84.2 21.1  487 283 83.8 92.9 20.1  427 283 83.8 92.9 20.1  427 324 73.9 83.2 20.0  355 181 77.1 86.3 19.4  443 173 77.5 87.1 20.3  and 235 311 86.3 94.3 20.3  and 235 311 86.3 94.3 20.3  and 235 311 86.3 87.8  and 235 311 86.3 87.8  and 236 311 86.3 87.8  and 237 248 75.6 82.9 19.5  | Denmark                | 198           | 247    | 82.0                                  | 91.7                          | 20.7                     | 27.0              | 51.3                                   |
| 482 363 84.5 19.7  482 363 83.7 86.4 20.2  482 363 83.7 89.4 20.5  237 285 75.6 84.2 21.1  327 283 83.8 92.9 20.1  427 283 83.8 92.9 20.1  427 324 73.9 83.2 20.0  330 259 78.4 86.4 19.3  427 324 73.9 83.2 20.0  341 77.1 86.3 19.4  555 81.6 90.4 20.9  and 235 311 86.3 94.3 20.3  and 235 311 86.3 94.3 20.3  and 235 311 86.3 84.9 20.5  and 235 311 86.3 84.9 20.5  and 235 311 86.3 84.9 20.3  | Estonia                | 310           | 371    | 78.0                                  | 85.9                          | 19.9                     | 25.2              | 65.5                                   |
| 482 363 83.7 89.4 20.2 482 363 83.7 89.4 20.5 482 363 83.7 89.4 20.5  237 285 75.6 84.2 21.1  48.7 21.0  68. 44.2 21.0  69. 47. 21.0  69. 47. 21.0  69. 49. 20.1  69. 43. 20.3  69. 49.3  69. 40.3 | Finland                | 347           | 320    | 9.77                                  | 84.5                          | 19.7                     | 25.4              | 46.6                                   |
| 482 363 83.7 89.4 20.5  237 285 75.6 84.2 21.1  ds 277 283 83.8 92.9 20.1  427 283 83.8 92.9 20.1  427 324 73.9 83.2 20.0  427 324 77.1 86.3 19.4  443 173 77.1 86.3 19.4  443 173 77.5 87.1 20.3  nd 235 311 86.3 94.3 20.3  nd 235 311 86.3 94.3 20.3  nd 235 311 86.3 87.8 20.3  nd 235 311 86.3 87.8 20.3  | France                 | 308           | 344    | 78.3                                  | 86.4                          | 20.2                     | 26.3              | 52.0                                   |
| ds 27 285 75.6 84.2 21.1  ds 277 283 83.8 22.9 20.1  330 259 78.4 86.4 19.3  427 324 73.9 83.2 20.0  355 181 77.1 86.3 19.4  443 173 77.5 87.1 20.3  and 255 81.6 90.4 20.9  and 255 311 86.3 94.3 20.3  and 255 311 86.3 94.3 20.3  and 256 81.6 82.9 19.1  and 257 268 81.6 89.9 20.5  and 258 311 86.3 84.3 20.3  and 258 311 86.3 84.3 20.3  | Germany                | 482           | 363    | 83.7                                  | 89.4                          | 20.5                     | 27.0              | 38.4                                   |
| ands 277 450 77.1 84.7 21.0  ands 277 283 83.8 92.9 20.1  427 283 83.8 92.9 20.1  1 355 181 77.1 86.3 19.4  a 443 173 77.5 87.1 20.3  a 301 265 81.6 90.4 20.3  a 303 245 81.3 86.9 91.1 20.3  and 373 245 81.3 89.9 20.5  and 373 245 81.3 86.9 91.1 20.3  and 374 375 82.9 19.5  and 375 371 86.3 94.3 20.3  and 375 375 875 878 20.3  | Hungary                | 237           | 285    | 75.6                                  | 84.2                          | 21.1                     | 26.9              | 46.4                                   |
| ands 277 283 83.8 92.9 20.1  4 27 259 78.4 86.4 19.3  1 355 181 77.1 86.3 19.4  a 443 173 77.5 87.1 20.3  a 301 265 81.6 90.4 20.9  1 373 245 81.3 89.9 20.5  land 235 311 86.3 94.3 20.3  a 501 301 301 301 301 301 301 301 301 301 3   | Ireland                | 327           | 450    | 77.1                                  | 84.7                          | 21.0                     | 27.0              | 42.0                                   |
| a 427 324 73.9 86.4 19.3  1 355 181 77.1 86.3 20.0  a 443 173 77.5 87.1 20.3  a 301 265 81.6 90.4 20.9  1 373 245 81.3 89.9 20.5  land 235 311 86.3 94.3 20.3  strict weighted) - 79.6 87.8 20.7   | Netherlands            | 277           | 283    | 83.8                                  | 92.9                          | 20.1                     | 27.8              | 47.9                                   |
| a 427 324 739 83.2 20.0  a 443 173 77.1 86.3 19.4  a 301 265 81.6 90.4 20.9  1 373 245 81.3 89.9 20.5  land 235 311 86.3 94.3 20.3  strict weighted) - 79.6 87.8 20.9  | Norway                 | 330           | 259    | 78.4                                  | 86.4                          | 19.3                     | 26.4              | 43.7                                   |
| al 355 181 77.1 86.3 19.4  iia 443 173 77.5 87.1 20.3  iia 301 265 81.6 90.4 20.9  In 373 245 81.3 89.9 20.5  rland 235 311 86.3 94.3 20.3  rland 428 75.6 82.9 19.5   | Poland                 | 427           | 324    | 73.9                                  | 83.2                          | 20.0                     | 25.5              | 61.8                                   |
| ia 443 175 77.5 87.1 20.3  ia 301 265 81.6 90.4 20.9  n 373 245 81.3 89.9 20.5  rland 235 311 86.3 94.3 20.3  re front weighted) 25 75.6 82.9 19.5   | Portugal               | 355           | 181    | 77.1                                  | 86.3                          | 19.4                     | 25.9              | 47.4                                   |
| ia 301 265 81.6 90.4 20.9  n 413 318 86.9 91.1 20.3  rland 373 245 81.3 89.9 20.5  rland 235 311 86.3 94.3 20.3  381 428 75.6 82.9 19.5  | Slovakia               | 443           | 173    | 77.5                                  | 87.1                          | 20.3                     | 26.2              | 55.4                                   |
| n 373 245 81.3 89.9 20.5 arland 235 311 86.3 94.3 20.3 arland 235 311 86.3 94.3 20.3 arland 235 311 86.3 94.3 20.3 arland 2428 75.6 82.9 19.5 20.3   | Slovenia               | 301           | 265    | 81.6                                  | 90.4                          | 20.9                     | 27.1              | 51.0                                   |
| 373     245     81.3     89.9     20.5       235     311     86.3     94.3     20.3       381     428     75.6     82.9     19.5       -     -     76.6     87.8     20.3  | Spain                  | 413           | 318    | 6.98                                  | 91.1                          | 20.3                     | 28.2              | 34.3                                   |
| 235     311     86.3     94.3     20.3       381     428     75.6     82.9     19.5       -     -     79.6     87.8     20.3   | Sweden                 | 373           | 245    | 81.3                                  | 6.68                          | 20.5                     | 26.7              | 46.2                                   |
| 381 428 75.6 82.9 19.5<br>79.6 87.8 20.7   | Switzerland            | 235           | 311    | 86.3                                  | 94.3                          | 20.3                     | 27.8              | 35.1                                   |
| - 796 878 202  | UK                     | 381           | 428    | 75.6                                  | 82.9                          | 19.5                     | 25.6              | 45.1                                   |
| 7:07   | Average (not weighted) | ı             | ı      | 9.62                                  | 87.8                          | 20.2                     | 26.6              | 48.3                                   |

European Social Survey (ESS) respondents born between 1976 and 1988. Fertility age norms, ideals, and share of childless respondents are measured using the ESS Round 3 (2006) data (respondents between 18 and 30); fertility behaviors are measured using the ESS Round 9 (2018) data (respondents between 30 and 42)



**Table 2** Country-level summary statistics: Second Demographic Transition Index, Youth NEET rate, Public expenditure on families and children, and Gender Inequality Index

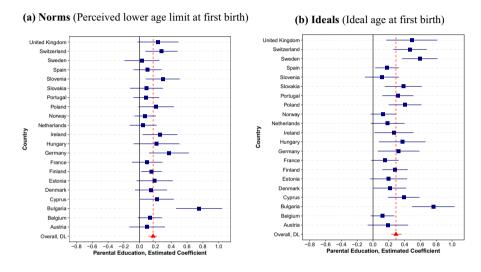
| Country                | Second Demographic Transition Index |      | Youth NEET rate |       | Public expendi-<br>ture on families<br>and children |      | Gender Inequality Index |      |
|------------------------|-------------------------------------|------|-----------------|-------|---|------|-------------------------|------|
|                        | 2006                                | 2018 | 2006            | 2018  | 2005  | 2018 | 2006                    | 2018 |
| Austria                | 3.08                                | 3.59 | 9.60            | 8.40  | 2.60  | 2.10 | 0.12                    | 0.07 |
| Belgium                | 3.53                                | 4.03 | 12.90           | 12.00 | 2.00  | 2.20 | 0.10                    | 0.05 |
| Bulgaria               | 2.50                                | 3.03 | 23.90           | 18.10 | 1.00  | 1.90 | 0.25                    | 0.27 |
| Cyprus                 | 2.77                                | 3.48 | 11.90           | 14.90 | 2.10  | 2.80 | 0.14                    | 0.09 |
| Denmark                | 4.26                                | 4.63 | 4.70            | 9.60  | 5.00  | 4.30 | 0.06                    | 0.04 |
| Estonia                | 2.56                                | 3.06 | 10.80           | 11.70 | 1.60  | 2.70 | 0.21                    | 0.12 |
| Finland                | 3.63                                | 4.23 | 9.40            | 10.10 | 2.90  | 3.00 | 0.09                    | 0.06 |
| France                 | 3.18                                | 3.76 | 13.20           | 13.60 | 2.40  | 2.30 | 0.16                    | 0.08 |
| Germany                | 2.94                                | 3.18 | 12.70           | 7.90  | 1.40  | 1.70 | 0.12                    | 0.07 |
| Hungary                | 2.93                                | 3.00 | 16.50           | 12.90 | 2.20  | 2.10 | 0.26                    | 0.26 |
| Ireland                | 2.95                                | 3.60 | 11.10           | 11.60 | 1.50  | 1.40 | 0.19                    | 0.11 |
| Netherlands            | 3.69                                | 4.26 | 6.20            | 5.70  | 1.10  | 1.40 | 0.08                    | 0.04 |
| Norway                 | 3.92                                | 4.37 | 6.00            | 6.50  | 3.00  | 3.30 | 0.09                    | 0.05 |
| Poland                 | 2.85                                | 3.59 | 16.60           | 12.10 | 1.30  | 2.60 | 0.16                    | 0.13 |
| Portugal               | 3.22                                | 3.77 | 12.00           | 9.60  | 1.20  | 1.10 | 0.18                    | 0.09 |
| Slovakia               | 2.62                                | 3.27 | 18.10           | 14.60 | 1.10  | 1.00 | 0.19                    | 0.18 |
| Slovenia               | 3.18                                | 3.79 | 9.70            | 8.80  | 1.90  | 1.80 | 0.14                    | 0.05 |
| Spain                  | 3.26                                | 3.85 | 12.90           | 15.30 | 0.60  | 0.80 | 0.12                    | 0.08 |
| Sweden                 | 3.56                                | 4.13 | 9.60            | 6.90  | 2.50  | 2.50 | 0.05                    | 0.04 |
| Switzerland            | 3.09                                | 3.56 | 8.00            | 6.60  | 0.40  | 0.60 | 0.07                    | 0.04 |
| UK                     | 3.04                                | 3.59 | 8.90            | 11.70 | 2.60  | 1.30 | 0.21                    | 0.12 |
| Average (not weighted) | 3.18                                | 3.70 | 11.70           | 10.89 | 0.14  | 0.10 | 1.90                    | 2.00 |

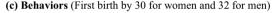
Second Demographic Transition Index (European Social Survey Round 3 (2006) and Round 9 (2018) data); Youth NEET rate (Eurostat); Gender Inequality Index (United Nations Development Programme); and Public expenditure on families and children (Eurostat)

In Table 2, we report the country-level summary statistics of ideational, economic, and institutional indicators. The SDT index shows substantial crossnational variation: Northern European countries report higher values than Southern and Eastern European countries. The SDT index ranges from 2.56 (Estonia) to 4.26 (Denmark) in 2006 and from 3.00 (Hungary) to 4.63 (Denmark) in 2018. In all 21 European countries included in the analysis, the SDT index increased between 2006 and 2018, suggesting that voluntary childlessness, cohabitation, and divorce are becoming more accepted. The youth NEET rate also varies strongly across countries from 4.7% in Denmark to 23.9% in Bulgaria in 2006 and from 5.7% in the Netherlands to 22.1% in Bulgaria in 2018. While the overall European average slightly decreased between 2006 and 2018 (from 11.7% to 10.9%), the impact of the economic crises on the youth NEET rates has been



heterogeneous. Indeed, the indicator remained stable (e.g., Belgium and France) or even decreased (e.g., Germany and Sweden) in some countries and increased (e.g., Denmark and Spain) in others. The public expenditure on families and children as a percentage of GDP ranged from 5.0% to 0.4% in 2006 (in Denmark and Switzerland, respectively) and from 4.3% to 0.6% in 2018 (again, in Denmark and Switzerland). With few exceptions, such as Poland and the UK, this indicator is relatively stable between 2006 and 2018. Finally, the highest gender equality is





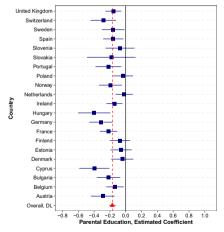


Fig. 1 Random-effect meta-analysis estimates with 95% confidence intervals of the total association between parental socioeconomic status and fertility norms (perceived lower age limit at first birth) (Panel a), ideals (ideal age at first birth) (Panel b), and behaviors (first birth by 30 for women and 32 for men) (Panel c). *Note* Random-effect meta-analysis estimates with 95% confidence intervals. Norms: overall, DL, 0.17 ( $I^2 = 34.6\%$ , p = 0.061). Ideals: overall, DL, 0.29 ( $I^2 = 58.9\%$ , p = 0.000). Behaviors: overall, DL, -0.17 (I.2 = 51.5%, p = 0.004)



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found among Northern European countries and the lowest among Eastern European countries. Gender inequality has decreased in all countries from 2005 to 2018. Table S1 in Online Supplementary Material shows the correlation between the four macro-level indicators in 2006 and 2018, confirming that the correlation between these four factors is generally quite high. We will return to the implications of this in the discussion section.

## 5.2 Two-Step Meta-Analytic Regressions

The random-effect meta-analysis estimates of the "total" association between parental socioeconomic status and fertility are reported in Fig. 1. For interpretability purposes, parental education—coded using the ISLED system, is divided by 10. The estimates, therefore, have to be interpreted as the variation in the dependent variable as the parental socioeconomic status increases by 10 ISLED points (on a 0–100 scale). An increase of 40 ISLED points, for instance, corresponds on average across European countries to the difference between parents with lower secondary education and a Bachelor's degree (Schröder, 2014).

Parental socioeconomic status is associated with perceived age norms (Fig. 1, panel a). Individuals from advantaged socioeconomic backgrounds perceived stricter lower age limits at first birth than those from disadvantaged backgrounds. The overall effect is 0.17, indicating that a difference of 10 ISLED points in parental education is associated with about a two-month difference in the perceived lower age limits. The  $I^2$ , which measures the level of heterogeneity between countries, is 34.6% (p value 0.06), suggesting that the link between parental education and fertility norms marginally varies across European countries.

Parental socioeconomic status is also associated with the ideal age at first birth (Fig. 1, panel b). Young adults from advantaged backgrounds report higher ideal ages for parenthood. The estimates are statistically significant in most European countries, and the overall effect is 0.29. An increase in parental education of 10 ISLED points is associated with an increase in a bit more than three months in the ideal age at parenthood. The random-effect meta-analysis estimates report substantial heterogeneity across European countries in the link between parental socioeconomic status and fertility ideal ages; the  $I^2$  is 58.9% and statistically significant.

In Table 2, we report the share of childless individuals in the analytical sample used for analyzing age norms and ideals. A high proportion of parents could potentially bias our estimates since individuals could revise social norms and ideals after their childbearing experiences (post-rationalization). The majority of respondents, around 80%, are childless. As a robustness check, we computed the same analyses by restricting the sample to respondents aged 27 or less, reducing our sample by 1654 respondents (26.5%). Among the restricted sample, 87.8% are childless, and the results are robust to this alternative specification, as reported in Appendix, Fig. S1.

Finally, the probability of experiencing parenthood by 30 for women and 32 for men is related to parental socioeconomic status (Fig. 1, panel c). Young adults with higher educated parents are less likely to experience parenthood by 30; the overall



effect is -0.17. Thus, a 10-point increase in parental ISLED-score is related to a 16% (=1-exp(-0.17)) decrease in the odds ratio of having a child at age 30 for women and 32 for men. The link between parental socioeconomic status and fertility behaviors varies across European countries. The  $I^2$  is 51.5% and statistically significant. These results are robust to using the alternative cutoff age of 27 for women and 29 for men, as reported in Appendix, Fig. S2.

Parental socioeconomic status is associated with all three fertility dimensions, and individuals with more educated parents perceive stricter age limits for first birth, higher ideal ages, and are less likely to experience parenthood by 30 for women and 32 for men. Furthermore, the relevance of socioeconomic background varies significantly across European countries. Two countries, The Netherlands and Estonia, report no significant association between socioeconomic background and fertility age norms, ideals, and behaviors. A few countries, including Norway, France, Belgium, and Austria, report a significant association for behaviors but not for norms and ideals. Some countries deviate significantly from the overall association: Bulgaria for age norms, Bulgaria and Sweden for ideals, and Hungary and Germany for behaviors. (Results are robust when removing these countries from the analyses.)

In Table 3, we report the meta-regression estimates of the association between national contexts and the relevance of parental socioeconomic background. For each model, the intercept of the association and its slope is provided. For instance, for the moderating effect of the SDT index on the association between parental education and age norms, the intercept is 0.61 and the slope is -0.14. The empirical variation in the SDT index is somewhere between 2.5 and 4.0. Thus, in countries with a low value of 2.5 on the SDT index, the strength of the association between parental ISLED and age norms is 0.61+(2.5\*-0.14)=0.27, whereas it is 0.61+(4.0\*-0.14)=0.07 in countries with a high value of 4.0 on that same index. Thus,

**Table 3** Meta-regressions estimates of the association between ideational, economic, and institutional factors and the relevance of parental socioeconomic background (total association) (N=21)

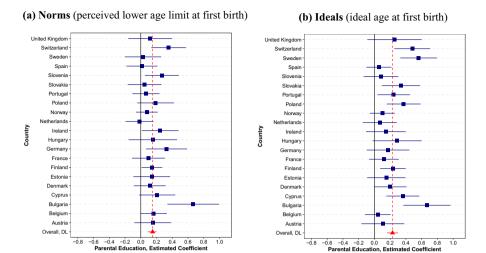
| Country-level indicator                | Norms (Pe<br>lower age<br>birth) | erceived<br>limit at first | Ideals (Ideal age at first birth) |                   | Behaviors (First birth by 30) |                    |
|--|----------------------------------|----------------------------|-----------------------------------|-------------------|-------------------------------|--------------------|
|  | Slope                            | Int                        | Slope                             | Int               | Slope                         | Int                |
| Second Demographic<br>Transition Index | -0.14*<br>(0.05)                 | 0.61**<br>(0.18)           | -0.16*<br>(0.07)                  | 0.81**<br>(0.24)  | 0.12*<br>(0.05)               | -0.61**<br>(0.18)  |
| Youth NEET rate                        | 0.01*<br>(0.01)                  | -0.02 (0.07)               | 0.02*<br>(0.01)                   | 0.08<br>(0.11)    | -0.01 (0.01)                  | -0.11 (0.08)       |
| Public expenditure                     | -0.03 (0.03)                     | 0.22**<br>(0.06)           | -0.04 (0.04)                      | 0.37***<br>(0.08) | 0.03<br>(0.03)                | -0.22***<br>(0.06) |
| Gender Inequality Index                | 0.97†<br>(0.47)                  | 0.03<br>(0.07)             | 0.82<br>(0.63)                    | 0.18<br>(0.09)    | -0.47 (0.39)                  | -0.13**<br>(0.04)  |

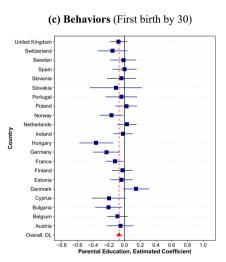
Separate regressions are estimated. Numbers in parentheses are standard errors. Data are from authors' calculations using the European Social Survey 2006 and 2018 data, Eurostat (Youth NEET rate and public expenditure on families and children), and United Nations Development Programme (Gender Inequality Index)



 $<sup>^{\</sup>dagger}$  p < 0.10, \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

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**Fig. 2** Random-effect meta-analysis estimates with 95% confidence intervals of the direct association between parental socioeconomic status and fertility norms (perceived lower age limit at first birth) (Panel a), ideals (ideal age at first birth) (Panel b), and behaviors (first birth by 30) (Panel c) mediated by respondents' education. *Note* Random-effect meta-analysis estimates with 95% CI. Norms: overall, DL, 0.15 ( $I^2$ =23.1%, p=0.166). Ideals: overall, DL, 0.23 ( $I^2$ =53.5%, p=0.002). Behaviors: overall, DL, -0.07 (I.<sup>2</sup>=35.4%, p=0.056)

fertility age norms are much less stratified by social background in countries that are further advanced in the SDT.

The slope effects of the SDT index presented in Table 3 are statistically significant for all three age fertility dimensions. Thus, ideational contexts, measured using the Second Demographic Transition index, are associated with the relevance of the link between socioeconomic status and fertility age norms, ideals, and behaviors.



**Table 4** Meta-regressions estimates of the association between ideational, economic, and institutional factors and the relevance of parental socioeconomic background (N=21) (direct association controlling for respondents' education in first-stage regressions)

| Country-level indicator                | ,              | Norms (Perceived lower age limit at first birth) |                 | Ideals (Ideal age at first birth) |                  | Behaviors (First birth by 30) |  |
|--|----------------|--|-----------------|-----------------------------------|------------------|-------------------------------|--|
|  | Slope          | Int  | Slope           | Int                               | Slope            | Int                           |  |
| Second Demographic<br>Transition Index | -0.11† (0.05)  | 0.50*<br>(0.18)                                  | -0.13<br>(0.08) | 0.64*<br>(0.25)                   | 0.13**<br>(0.04) | -0.54**<br>(0.16)             |  |
| Youth NEET rate                        | 0.01<br>(0.01) | 0.02<br>(0.07)                                   | 0.02†<br>(0.01) | 0.05<br>(0.10)                    | -0.01 (0.01)     | 0.01<br>(0.08)                |  |
| Public expenditure                     | -0.02 (0.03)   | 0.18**<br>(0.06)                                 | -0.02 (0.04)    | 0.27**<br>(0.08)                  | 0.02<br>(0.03)   | -0.11† (0.06)                 |  |
| Gender Inequality Index                | 0.58<br>(0.49) | 0.07<br>(0.07)                                   | 0.49<br>(0.66)  | 0.16<br>(0.10)                    | -0.79*<br>(0.35) | -0.001 (0.04)                 |  |

Separate regressions are estimated. Numbers in parentheses are standard errors. Data are from authors' calculations using the European Social Survey 2006 and 2018 data, Eurostat (Youth NEET rate and public expenditure on families and children), and United Nations Development Programme (Gender Inequality Index)

Across European countries, a higher Second Demographic Transition index is associated with a weaker relevance of parental socioeconomic status.

The link between parental socioeconomic status and fertility age norms and age ideals also varies by the youth NEET rate. Thus, the link between parental socioeconomic status and fertility age norms and ideals is stronger in countries with higher NEET rates. Although the slope effect of the NEET rate on the association between parental socioeconomic status and having a child at age 30 is in the expected direction, the estimate is not statistically significant.

The moderation by country-level public expenditures for families and children, although in the expected direction, fails to reach statistical significance.

Finally, the level of gender inequality moderates the association between parental education and fertility age norms and (at the p < 0.10 level) behaviors when considering a cutoff age of 27 for women and 29 for men. The association between parental education and fertility ideals is not moderated by the Gender Inequality Index.

"Direct" rather than "total" associations between parental education and fertility outcomes are examined by "controlling" for the pathway via respondents' own education (see Fig. 2 and Table 4). Tables S2 and S3 in Online Supplementary Appendix provide information about the mean and correlation of respondents' education and parental education across countries.

Effect sizes attenuate for all three outcome variables, but remain statistically significant for fertility ideals and age at parenthood. The same is observed for the moderating role of the national context. It remains statistically significant for SDT values (for age norms and age at parenthood) and for Youth NEET (for age ideals).

Finally, separate analyses for men and women were performed (see Figure S3 and Tables S4 and S5). The link between parental education and behavior is statistically significant for women, but not for men, whereas the opposite is true for the



 $<sup>^{\</sup>dagger}$  p < 0.10, \*p < 0.05, \*\* <math>p < 0.01, \*\*\* p < 0.001

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link between parental education and age norms. Furthermore, aspects of the national context (and in particular SDT values) seem to moderate the links between parental education and fertility outcomes more strongly for women than for men.

#### 6 Discussion

In this paper, we analyzed the link between parental socioeconomic status and the transition to parenthood in a cross-national perspective. In our theoretical framework, *stratified socialization*, *stratified agency*, and *stratified opportunity* affect three dimensions of the transition to parenthood, fertility norms (perceived lower age limits at first birth), ideals (ideal age at first birth), and behaviors (first birth by 30 for women and 32 for men). We argued that the link between parental socioeconomic background and fertility varies across national contexts, as national contexts shape the opportunities and constraints that influence young adults' life course preferences and choices, including those related to fertility (Liefbroer & Zoutewelle-Terovan, 2021a).

In line with H1, we observe a clear association between parental socioeconomic status and fertility norms, ideals, and behavior. Parental socioeconomic status is positively associated with later fertility norms, later fertility ideals, and later childbearing. Although we cannot test the pathways involved, it suggests that stratification operates both via socialization—in influencing the link between parental socioeconomic status and norms and ideals—and via agency and opportunity—in influencing the link between parental socioeconomic status and fertility behavior.

In line with H2, we find that national differences in ideational, economic, and institutional factors partially moderate the strength of the link between parental socioeconomic background and fertility outcomes. In particular, the strength of this link is weaker in countries that are further advanced in the SDT, supporting H2a. This is true for norms, ideals, and behavior. In line with H2b, the link between parental socioeconomic background and fertility norms and ideals is weaker in countries with lower youth NEET rates. Contrary to expectation, we did not observe a moderating effect of youth NEET rates on the link between parental socioeconomic background and first birth by age 30 for women and 32 for men. No support was obtained for H2c. Although norms, ideals, and behavior regarding the timing of parenthood are earlier in countries with generous expenditures on family policies, these expenditures do not seem to influence the strength of the link between parental socioeconomic background and fertility outcomes. This is in line with studies showing that family policies have a relatively weak effect on fertility outcomes (Gauthier, 2007; Harknett et al., 2014). At the same time, our measure of family policies is very general, which might make it harder to observe meaningful effects. Finally, only marginal support for H2d, on the role played by gender inequality, is observed. In countries where gender equality has progressed, the link between parental socioeconomic background and fertility age norms is weaker. The same is true for first birth by 27 for women and 29 for men (see Figure S2).



We also examined to what extent the association between parental background and fertility outcomes could be explained by the intergenerational transmission of educational attainment. This turned out to be an important pathway, as the association was weaker, albeit often still statistically significant after controlling for own educational attainment. This suggests that the role of parental socioeconomic background is not limited to processes of intergenerational transmission, but that other pathways are important as well. Future research could focus on the specific pathways involved.

In additional analyses, we examined the processes separately for men and women. Although sample sizes were small, parental background seemed to matter for both men and women, but the national context moderated the link between parental background and fertility outcomes more strongly for women than men. This might suggest that women profit from the heightened opportunities to craft their own family-life decisions in more gender-equal and individualistic societies. However, given the small sample sizes involved, this issue warrants further research.

#### 6.1 Limitations and Directions for Future Research

While this study provides key insights into the association between parental socioeconomic background and the transition to parenthood across contexts, it has limitations that future research should address. First, it is important to note that ideational values, macroeconomic conditions, and institutions are highly interrelated (as is true in this study—see Table S1), and it is not straightforward to distinguish them in empirical analyses. Economic conditions correlate with societal values and welfare state provisions have an ideational basis (Guiso et al., 2006; Tabellini, 2010). Countries with generous family-friendly policies also tend to have a supportive labor market and promote greater gender equality (Harknett et al., 2014). Future research could analyze their interdependency.

Second, we used a synthetic cohort approach to examine the link between parental socioeconomic background and fertility outcomes, examining this link at an early age for age norms and age ideals and at a late age for actual fertility. This is in line with the idea that norms and ideals are formed earlier during the life course than the actual behavior. A drawback of this approach is that the two time points used (2006 and 2018) are far apart in time and that Europe was hit by the Great Recession in between. The economic crisis could, for instance, have strengthened the link between parental socioeconomic background and fertility behavior compared to what young people expected at an early age. To examine this in more detail, a longitudinal analysis comparing actual cohorts would be useful.

Third, our analyses focus on country-level indicators. However, examining the role of regional, municipal, or even neighborhood-level opportunities and constraints might be relevant. Indeed, although institutional indicators such as family policies and labor market structures are regulated at national levels, there exists economic



and ideational within-country variation as well. For example, intergenerational income mobility varies at the neighborhood level: Neighborhoods with less residential segregation, less income inequality, better primary schools, greater social capital, and greater family stability report higher social mobility (Chetty et al., 2014). Thus, the relationship between parental background and life course norms, attitudes, and behaviors could be weaker in areas characterized by high social mobility.

Fourth, we mainly focused on the role of socialization processes, but as underlined in the theoretical background, there is a growing body of research on biodemography showing that age at first birth and fertility motivations have a biological and genetic basis. In particular, as reviewed by Mills and Tropf (2015), in contexts of higher opportunities and less normative constraints, such as countries where values associated with the SDT are more approved, genetic influences on age at first birth may be more relevant.

#### 7 Conclusion

By analyzing the association between parental socioeconomic status and the transition to parenthood across national contexts, this study offers valuable insights into the theoretical frameworks discussed. First, these findings show that fertility is clearly stratified along the lines suggested by the "diverging destinies" perspective (McLanahan and Jacobson 2015). In line with the "context of opportunities" hypothesis (Liefbroer and Zoutewelle-Terovan 2021a), the extent of stratification is found to vary, though, across contexts. The stratification of fertility is lower in ideational, economic, and institutional contexts that offer better opportunities for young people to relax their reliance on their family of origin. In line with the SDT thesis (Lesthaeghe, 2010, 2020), the ideational country context matters considerably. Fertility is less stratified in countries that are further advanced in the SDT. Thus, although the SDT is relatively silent on stratification, its implication that stratification of fertility will be important in high SDT settings is clearly borne out by the data. Economic factors that are central in globalization theory and related approaches (Blossfeld et al. 2006) also moderate the link between parental socioeconomic background and fertility outcomes. However, it was surprising that moderation was found for age norms and age ideals rather than for actual fertility, suggesting that country-level economic prospects may operate particularly via the norms and ideals that young people have about fertility (Vignoli et al., 2020) rather than directly on behavior. However, an alternative explanation could be that other aspects of economic uncertainty, like the proportion of young people on temporary contracts, or the proportion of young people not able to have affordable housing would be a better indicator (Van Wijk, 2024). Unfortunately, these were not available for this study. We also found marginal indications for the role of family and gender policies, albeit relatively weak and mainly on behavior, suggesting that these policies could have some influence on young people's ability to exert agency and thus translate their preferences into behavior. In summary, our results point to the complementarity of different theoretical perspectives rather than suggesting that they are mutually exclusive.



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#### Declarations

**Conflict of interest** The authors have no relevant financial or non-financial interests to disclose.

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