

# Do parental resources moderate the relationship between women's income and timing of parenthood?

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## ABSTRACT

Previous research has concentrated on the associations between higher incomes and delayed entry into parenthood, disadvantaged family background and early childbirth, and the availability of public childcare and fertility. This paper examines the extent to which parental resources moderate the relationship between women's income and entry into parenthood, comparing two countries with very different levels of public family support: Finland and the United States. We use Cox regressions with data from the 1979 US National Longitudinal Survey of Youth and the Finnish Census Panel data to demonstrate both striking similarities and differences between the two countries. First, high-income women from disadvantaged backgrounds postpone entry into parenthood in both countries. Second, high parental resources are associated with postponed entry into parenthood among low-income women. However, we find differences between the two countries regarding which parental resource is most influential. While parental income is important in the US, parental education matters most in Finland.

## 1. Introduction

Western industrialized societies have undergone dramatic socio-demographic and socioeconomic changes since the mid-20th century. Among these changes are educational expansion and a postponement in childbirth (Schofer & Meyer, 2005; Sobotka & Toulemon, 2008). Women's increased economic independence has been linked to the postponement of family formation (Blossfeld & Jaenichen, 1992; Lesthaeghe, 2010). Much of the previous research has concentrated on the influence of women's educational attainment and labor market participation on the timing of childbirth (Meron, Widmer, & Shapiro, 2016). Further, more recent studies have demonstrated that women's high earnings are associated with delayed first birth (Rondinelli, Aassve, & Billari, 2010; Vikat, 2004). Another line of research has concentrated on the association between socioeconomic background and the timing of first birth, generally finding that more parental resources lead to delayed entry into parenthood (Schoen, Landale, Daniels, & Cheng, 2009; Sironi, Barban, & Impicciatore, 2015). Our study integrates these two lines of literature by studying how parental resources influence the relationship between women's labor market attainment and family formation.

This study focuses on two countries, the United States and Finland, which have experienced similar trends in increased female labor market participation and delayed childbirth (Lesthaeghe & Neidert, 2006; Martin, Hamilton, Osterman, Driscoll, & Mathews, 2017; Vikat, 2004), while having

vastly different welfare state institutions. Finland is characterized by highly regulated labor markets and universal family support, while the US has open labor markets and scarce public family support systems. Previous research has shown that social and economic institutions affect family formation; in particular, the availability of childcare has been found to have a positive effect on entry into motherhood (Rindfuss, Guilkey, Morgan, Kravdal, & Guzzo, 2007). Hence, differences in the availability and affordability of childcare – Finnish families having universal subsidized childcare and American families relying on private or informal childcare – likely influence how other external factors, such as parental resources, affect the timing of family formation. For these reasons, Finland and the United States are interesting and important comparison cases.

This study addresses two research questions: 1) To what extent do parental resources, i.e., education and income, moderate the relationship between women's income and the timing of the transition into parenthood? Although educational gradients in the entry into parenthood are large, income reflects the actual resources available to women during family formation. 2) Does the moderated relationship between women's income and the timing of first birth vary between the United States and Finland? Our cross-national comparison of two country extremes in relation to public family support enables us to better contextualize our results and understand how trends in family formation and labor market participation are shaped by socioeconomic background and institutional contexts. Further, longitudinal data, i.e., the Finnish Census Panel and the 1979 National

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Longitudinal Survey of Youth (NLSY79), are available for both countries, which facilitates a valuable small-N cross-national comparison.

Our research makes three contributions to the existing literature. First, we combine three strains of research – women’s labor market attainment and family formation, socioeconomic background and family formation, as well as social policy and family formation – to theorize the relationship between parental resources, women’s income, and entry into parenthood in different national contexts. Second, we demonstrate that parental resources do moderate the association between women’s labor market outcomes and the timing of a first birth. Specifically, higher parental resources function as a balancing factor, as they are associated with later births among low-income women, but with earlier births among high-income women. Surprisingly, high-income women from disadvantaged backgrounds delay or forgo childbirth significantly more than their advantaged counterparts do. Third, although the extent to which parental resources moderate the relationship between women’s income and age at first birth is surprisingly similar in both countries, parental income in the US is associated with postponed parenthood among low-income women, whereas in Finland, parental education moderates this relationship. Further, the results imply that welfare state arrangements, can diminish the importance of parents’ financial resources among women with low incomes.

## 2. Parental resources, women’s income and timing of parenthood

The decline in both the tempo and quantum in fertility in past decades has been a concern among scholars and policymakers alike (see Balbo, Billari, & Mills, 2013). Economists, sociologists and demographers have attributed these trends in part to an increase in women’s educational attainment and labor market participation (Brewster & Rindfuss, 2000; Kravdal & Rindfuss, 2008; Martin, 2000). Originally, research on income and family formation focused on the positive association between men’s earnings and women’s timing of first birth (e.g., Becker, 1981; Easterlin, 1975). But as women’s economic independence has increased, more recent research has investigated the role of women’s labor market participation and income potential in the timing of family formation (Bratti, 2003; Budig, 2003; Gustafsson, 2001). For example, O’Donoghue, Meredith, and O’Shea, (2011) find that in Ireland, higher female wages are associated with a decreased propensity to enter parenthood. Moreover, previous research has suggested that couples aspirations on wellbeing and career is linked with intra-generational mobility and the fertility decline (Dalla Zuanna, 2007).

Women’s increased education and labor market participation have induced changes to the factors affecting marriage markets and partner selection. Expansion of female participation in education has been found to postpone their union formation, further labor market attainment enabling them to delay or forgo childbirth (Blossfeld & Huinink, 1991; Goldin, 2006; Liefbroer & Corijn, 1999). Women with higher economic resources through educational and occupational attainment can time childbirth or forgo parenthood entirely. Moreover, welfare state arrangements, such as social and educational institutions, are found to affect the level of gender equity, which in turn impacts gender norms, women’s economic independence and freedom in family formation (Esping-Andersen & Billari, 2015; Goldscheider et al., 2015; McDonald, 2000). As a result of promoting equal access to education and employment, Finland has high levels of gender equality and social mobility. In contrast, gender inequality in the US is still higher than most other Western societies, although differences between men and women have decreased across recent decades. (UNDP, 2016).

Numerous sociological studies have concluded that higher parental resources are associated with postponed entry into parenthood and a higher probability to remain childless (Breen & Ermisch, 2017; Rijken & Liefbroer, 2009). For example, Schoen et al. (2009) find that higher maternal education is associated with later family formation transitions. Highly educated parents may invest heavily in their children’s educational attainment and advise against early parenthood to avoid the downward social mobility of the next generation. However,

different dimensions of parental resources can influence the timing of their offspring’s family formation in distinctive ways (Wiik, 2009). Parents’ economic resources, i.e., income, can be used to support children in very tangible ways, such as paying for college tuition or directly helping with the costs of childbearing. Parental education, on the other hand, supports children in less tangible albeit vital ways, such as by providing institutional knowledge on education and family services but also by transmitting the high value of education (Lareau, 2011). However, institutional arrangements affect these mechanisms. For example, in countries where institutions compensate childbearing costs, such as subsidized childcare and child allowances in Finland, the need for financial support from parents can be assumed to be lower.

## 3. Public family support in Finland and the United States

Both the United States and Finland have experienced an expansion in higher education, a tremendous delay in the timing of family formation and an increase in female labor market participation. Tertiary education graduation rates have increased in both countries, and women are now on average more educated than men (Barro & Lee, 2013; OECD, 2017). These factors have influenced family formation in both countries: the average age at first birth increased from 23 to 26 between 1985 and 2015 in the US and from 26 to over 29 in Finland (Martin et al., 2017; Statistics Finland, 2017). Further, women’s educational attainment seems to have opposite relations to family formation in these countries; in the United States, highly educated women postpone or forgo childbirth, whereas in Finland, women have rather similar levels of childlessness regardless of their level of educational attainment (Jalovaara et al., 2018; Martin, 2000).

Previous literature has demonstrated that family formation behavior and the factors influencing it are contingent on the national institutions and welfare state arrangements (Diprete, Morgan, Engelhardt, & Pacalova, 2003; Gauthier, 2007; Kalwij, 2010). Defamilizing policies and public family support, such as public childcare and well-paid parental leave, reduce gender and intergenerational dependencies and facilitate work-family balance (see Lohmann & Zagel, 2016 for a discussion). In the United, labor markets are open and unregulated, workers are relatively unprotected from labor market instability, and public family support is nearly nonexistent (Esping-Andersen, 1990; Ferrarini, 2006). On the other hand, Finland has extensive employment protection including job-secured leave policies, and strong family policies such as universal childcare and child allowances (Esping-Andersen, 1999; Ferrarini, 2006). Although labor market and family policies are regarded as the key institutions influencing family formation decisions, differences in other institutional arrangements, such as access to housing and health services, can decrease the dependency of parental resources in entering parenthood.

The lack of public family support in the United States forces parents to turn to the market or extended family members for support in family formation. Although there is some variation at the state level, the federal government only guarantees the right to 12 weeks of job-protected, albeit unpaid, maternity leave since 1993 (Ifo-Insitute, 2015). Further, there are no federal parental leave schemes. Public and affordable childcare is rare in the US, and most of the available public family support systems are targeted to low-income families. These means-tested and indirect child and family allowances are often insufficient to cover the high costs of high-quality childcare (Thévenon, 2011). Low-income mothers therefore either use neighborhood networks or extended family members to provide childcare or do not re-enter the labor market until their children enter school (Aisenbrey & Fasang, 2017). High-income mothers, on the other hand, can balance work and family life by using the childcare provided by the private sector.

In contrast to the US, public family support has a long tradition in Finland by promoting female employment, providing financial assistance, and supplying family and health services before and after childbirth (Gustafsson & Stafford, 1994; Thévenon, 2011). For example, parents obtain paid and job-protected maternal and parental leave for 11

months and universal and direct child allowances until the child is 17 years old, which can compensate both the direct costs and the opportunity cost of childbearing and decrease the pressure of obtaining high individual resources before family formation (Kalwij, 2010). Further, public childcare allows women to return to the labor market without a loss in income and human capital, diminishing the opportunity costs of having a child (Adserà, 2004). Due to the universal nature of the Finnish family and labor market policies, the welfare state acts as an equalizer and enables family formation decisions to be made independently of parental resources as well as the individuals' own resources.

#### 4. Hypotheses

Women's own educational and labour market resources, together with spousal resources, have been demonstrated to be significant factors in determining the timing of childbirth (Blossfeld & Huinink, 1991; Goldin, 2006). One of the central aims of this study is to assess whether and to what extent parental resource moderate the association between women's income and the timing of first birth. However, it is possible that parental resources only influence the timing of first birth through women's educational and labor market attainment. Further, unstable employment and labor market uncertainty may be associated with entry into parenthood regardless of parental resources. If this is the case, then we could expect a null hypothesis to apply: **parental resources have no moderating influence on the timing of first birth (H0)**.

However, the literature on socioeconomic background, women's labor market attainment, and family formation suggests that there are more complex mechanisms at work than previous research has shown. Therefore, we demonstrate how the rich theoretical traditions in the family demographic, sociological, and economic literature can lead to very different expectations. We present an overview of the possible relationships between women's income and the timing of parenthood as moderated by parental resources in Fig. 1. The results of these theoretical mechanisms are presented as hypothetical survival curves where "survival" expresses the proportion of women who have not entered parenthood. These possible relationships and are considered to apply when controlling for other potentially confounding factors such as women's own education, partner's income and employment opportunities. Because women's own resources are strong indicators of the timing of entry into parenthood, the hypothetical curves are presented separately for women with low and high incomes. In the following section, we use these possible relationships to organize our discussion and formulate our hypotheses.

The relationship between women's income, parental resources, and the timing of the transition into parenthood displayed in the upper-left corner of Fig. 1 may result from Easterlin's (1975, 1976) proposed relationship between individual consumption aspirations that are formed during childhood and the postponement of parenthood: women with high incomes from disadvantaged socioeconomic backgrounds may enter parenthood faster than women from advantaged socioeconomic backgrounds as they achieve their desired standard of living sooner. As a result, women with high parental resources need to spend long periods in post-secondary education and in the labor market to attain a high socioeconomic standing, particularly if the resources of the spouse cannot be used to meet the consumption aspirations. However, women with low parental resources whose labor market attainment is high, and thus are upwardly mobile, will be able to meet their desired consumption aspirations earlier and subsequently enter parenthood earlier. Therefore, we could expect that **among women with high incomes, those with high parental resources will delay parenthood more than those with low parental resources (H1a)**. This association can be assumed to vary between the American and Finnish welfare states due to their different labor market organization that influence how easy it is to achieve the desired consumption aspirations.

Contrary to hypothesis H1a, the upper-right panel displays the possibility that women with high incomes and low parental resources, i.e. upwardly mobile women, delay parenthood more than their counterparts with high parental resources do. It is well documented in the motherhood wage

penalty literature that childbirth is associated with opportunity costs in the form of income losses (Gustafsson, 2001; Miller, 2011). Although different opportunity costs between higher and lower educated women may influence the timing of first birth independently of parental resources (e.g., Becker, 1981), women from lower socioeconomic backgrounds may perceive higher opportunity costs of parenthood than women from advantaged backgrounds because the relative investment in education is higher for disadvantaged women. Higher perceived opportunity costs could cause women with high achieved resources, i.e., income, but with low parental resources to delay their first birth more than women with high parental resources who are affected less by these risks. Nevertheless, high parental education and incomes may also enable women with high labor market attainment to combine work and family, for example, by providing the knowledge and financial resources required to acquire adequate childcare. We therefore could expect that **among high-income women, those with low parental resources will delay parenthood more than those with high parental resources (H1b)**. Further, this can be expected to be particularly significant in societies, such as the US, where more restricted access to higher education and more unstable labor market result in higher opportunity costs among women.

The timing of parenthood may differ by socioeconomic background among women with low incomes. Numerous studies have demonstrated a link between labor market uncertainty, i.e., unemployment, and family formation (Adserà, 2004; Hofmann & Hohmeyer, 2013; Mills & Blossfeld, 2013). Unstable employment and unemployment experience has been associated with an increased delay in first birth (Blossfeld, Klijzing, Mills, & Kurz, 2005; Kreyenfeld, 2010), arguably because these women lack the financial resources required for the long-term commitment of parenthood. However, recent studies indicate that the resources of other family members can compensate for the missing resources of a person, in this case, the woman (Erola & Kilpi-Jakonen, 2017). In some cases the compensation can come from the spouse, however households may nonetheless have inadequate resources for family formation. In these cases women with low incomes may still benefit from parents with high resources who can compensate for their children's lack of financial resources, thereby enabling faster entry into parenthood. Those who lack both parental resources and their own resources are left in an even greater position of resource insufficiency and may therefore postpone parenthood even further. In conclusion, we could expect that **among low-income women, those with low parental resources delay entry into parenthood more than those with high parental resources (H2a)**. Family and employment arrangements can either strengthen or diminish this hypothesis. The comprehensive institutional compensation of the costs of childrearing and the loss of labor market income, i.e. the Finnish welfare state, can alleviate the resource insufficiency and diminish the role of parental resources in this relation.

In contrast to hypothesis H2a, the lower-right graph of Fig. 1 illustrates that low-income women with high parental resources postpone their first birth more than those with low parental resources do. The consumption aspirations hypothesis (see Hypothesis 1A) also suggests that women who have obtained low aspirations during childhood, i.e. women from low-income families, can enter parenthood earlier (Easterlin, 1975). Similarly, some research has demonstrated that women who lack opportunities in the educational system and the labor market or who come from disadvantaged backgrounds may turn to earlier parenthood as an achievable marker of adulthood (Cherlin, Cross-Barnet, Burton, & Garrett-Peters, 2008; Edin & Kefalas, 2007; Weitzman, Barber, Kusunoki, & England, 2017). On the other hand, according to relative risk aversion theory, families try to maximize the possibilities of their children to obtain at least the same social status (Breen & Goldthorpe, 1997), which can lead parents to push their children to delay parenthood to avoid the downward mobility risks involved in early parenthood. Advantaged parental background has been found to delay childbirth in both the US (see Schoen et al., 2009) and Finland (Nisén, Myrskylä, Silventoinen, & Martikainen, 2014). High parental resources can provide networks and occupational opportunities but also work as a safety net where women can look for a satisfying job until one is found (Pfeffer, 2011). Further, As a result, we could expect that **among low-income women, those**

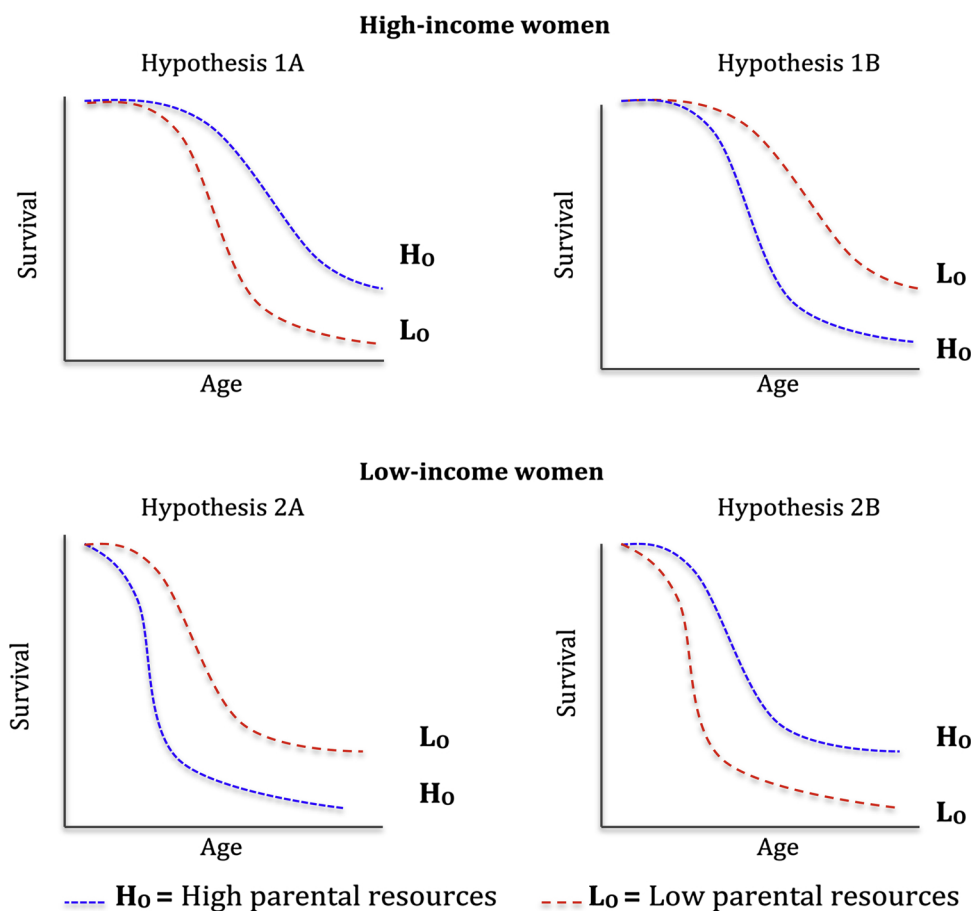


Fig. 1. An Overview of the Possible Relationships Between the Timing of the Transition into Parenthood and Parental Resources for Women with Low and High Incomes.

with high parental resources will delay parenthood more than those with low parental resources (H2b). If there is a lack of institutional safety nets, i.e. employment services and income transfers that are found in Finland but not in the US, external family is more likely to act as a residual safety net and the influence of parental resources on family formation can be assumed to be stronger.

These possible relationships between parental resources, women’s labor market outcome, i.e. income, and the timing of entering parenthood demonstrate a mixed palette of mechanisms that can be influenced by the institutional arrangements. Welfare state arrangements, particularly family policies that compensate childrearing costs, i.e. public child care, and employment policies that protect from negative impacts of childbirth, i.e. paid maternity leave, can affect how much parental resources influence the decisions on the timing of childbirth. Regardless of the mixture of the moderating mechanisms of parental resources presented above, we expect that **differences by parental resources in the relationship between women’s income and the timing of the transition into parenthood are smaller in Finland than those in the United States**, because of the strong institutional support in Finland, and scarce public support in the US.

**5. Data and methods**

**5.1. Samples**

To test our hypotheses, we use two longitudinal datasets: the 1979 National Longitudinal Survey of Youth<sup>1</sup> (NLSY79) for the United States

and the Finnish Growth Environment Panel<sup>2</sup>. Both datasets offer a detailed description of young adults’ life courses, including information on education, income, employment and family formation, as well as on the education and financial resources of their parents. The NLSY79 consists of 6282 female respondents born between 1957 and 1964 that were first interviewed in 1979 as 14- to 22-year-olds, collecting economic, sociological and demographic information annually and, as of 1994, biannually. We restrict our NLSY79 analysis sample to women born between 1959 and 1964 because we are not able to observe respondents born before 1959 in the parental home before age 20 (see discussion on parental income below). We further restrict the NLSY79 sample to women who either have given birth after 1979 or remained childless. We retain an NLSY79 analysis sample of 2789 women.

The Finnish Growth Environment Panel (FinGEP) sample consists of a 10% sample of the Finnish population in 1980, which is then extended to their children, spouses and spouses’ parents, and followed until 2014. The census data used here start in 1985 and then continue annually from 1987 onwards, resulting in a sample of 9226 women born between 1965 and 1970. Because parental information starts in 1985, the birth cohort is restricted to begin in 1965 in order to obtain measures for parental resources prior to age 20. Even though we are not able to analyze the same birth cohorts due to data limitations, this does not compromise the comparability

(footnote continued)

Statistics (2014) and conducted by the Center for Human Resource Research at The Ohio State University. Interviews are conducted by the National Opinion Research Center at the University of Chicago.

<sup>2</sup>The license to use the data has been given by Statistics of Finland for INDIRECT -project in the University of Turku. (License number Dnro: XXXXTK-53-507-12)

<sup>1</sup> The NLSY79 survey is sponsored and directed by the U.S. Bureau of Labor

of our results. First, the family policies within our study countries remained relatively stable during our study cohorts' main childbearing ages. If we could study the same US and Finnish cohorts in the 1960s, we believe the results would be largely consistent with those presented below. Second, the life courses of the women we study overlap to a large extent. These cohorts are among the first to be affected by the larger changes of the second demographic transition, making them more comparable even though they do not overlap exactly.

## 5.2. Variables

Our dependent variable is the entry into parenthood, measured as the age at first birth and, in cases of no childbirth, as the age last observed (NLSY79) or age 50 (FinGEP) in person-months. Women are restricted to over-18-year-olds to limit the cases of unplanned parenthood during teenage years and are capped at age 50, which can be considered as the age at which to measure ultimate childlessness.

Women's income is measured as the average gross earnings from employment as well as self-employment three years prior to the first birth or the year the person was last observed. To obtain a more robust measure for the women's income level prior to family formation and to address the missing information partially due to the biannual nature of the NLSY79, we have chosen to calculate the average income three years prior to childbirth. This measures the achieved income level better than the one time-point observation of annual income does, which would be more sensitive to positive and negative temporary events. We acknowledge that income will be lower for women who enter parenthood during or soon after education; nonetheless, this value represents the resources available at the time of family formation. Further, we seek to alleviate this issue by adjusting for labor market status, which includes educational enrollment, one year before birth. Women's income is reported in increments of 1000 inflation-adjusted US dollars (reference 2017) for the US sample and in increments of 1000 inflation-adjusted euros (reference 2014) for the Finnish sample. Women's education, which correlates strongly with income, is a time-constant measure of the highest grade completed one year prior to childbirth or the year the person was last observed. For example, education is measured at age 23 for a woman who gave birth at age 24, but is measured at age 50 for a childless woman who is last observed at age 50.

We include two measures of parental resources – education and income – to examine the possibility of distinctive impacts of financial and educational resources on family formation. For example, in stratification research, Bukodi and Goldthorpe (2012) found independent and distinctive effects of different measures of social origin on educational attainment, which are associated with family trajectories. By analysing parental income and parental education separately, we allow these two types of resources – material (income) and immaterial (education) – to moderate the association between women's income and age at first birth differently. For parental income, we use mean equivalized household income around the time when respondents were aged 14–20 years. Members in US households are limited to those who are related by blood or marriage and can only be observed when respondents are residing in the parental household. In Finland, parental income includes only the parents (biological or adoptive) of the respondent. Parental income is equivalized according to household size (the mean household income is divided by the square-root of the household size), top-coded at 99%, and is included in the analyses in increments of 1000 dollars or euros. Parental education is measured as the average years of total schooling among parents when respondents were between ages 15 and 20. Because this measure may average out some differences between families, a sensitivity check was run with only father's education and income, and the results did not differ significantly. By measuring parental resources during women's teenage years, we implicitly assume that resources have a lasting effect on women's family formation behavior. The parental variables also include lone parents in the US sample, but both parents that were alive in the Finnish sample, despite whether they lived with the respondent at teen or not.

Parental resources have been found to influence educational and

labor market pathways, which in turn influence the timing of first birth. This assumption may not hold if, for example, both parents die before birth and therefore cannot provide any support. We performed sensitivity analyses where we exclude individuals whose parents died before first birth (2.3% of the Finnish sample) and those without information on whether their parents were still living (64% of the US sample). The results of these analyses are generally robust to those displayed below.

We control for mean equivalized household income three years prior to childbirth in order to control income from other sources, such as spouse's income, which may influence the timing of parenthood. However, by adjusting for this we may be introducing more conservative results for the main effect of women's income. By using household income, both samples benefit from a greater amount of observations compared to using spouse's income. Nonetheless, results from additional analyses with partners' income are substantively similar to those below. Further, we control for employment status and union status one year prior to first birth or one year before last observed, race (the US only), and the year of birth of the respondents in all models (for descriptive statistics, see appendix, Table A1). Union status includes cohabitating women as a separate category from single or divorced. All continuous independent variables are centered for the analyses.

## 5.3. Methods

The relationship between parental resources, women's income and first birth is studied using event-history analysis (Blossfeld & Rohwer, 2002; Brandon & Huinink, 1990; Bo x-Steffensmeier & Jones, 2004). Women enter the risk period at age 18 and exit either at the time of first birth or at age 50 if no childbirth occurred. We use Cox proportional hazard regression models to estimate the association of women's income and parental resources on the hazard of first birth. Cox regression models allow us to estimate the association between women's income and the hazard of first birth without needing to specify a functional form for the baseline hazard. Further, we extend the Cox model by allowing certain coefficients to have time-varying effects. Specifically, we allow the main variables of interest that are the most influential in the timing first birth – women's education, women's income, parental resources, and the interaction between women's income and parental resources – to vary over the individual's age. This approach is important to ensuring that our estimates are more precise and that the proportional hazards assumption is not violated (Tian, Zucker, & Wei, 2005).

We estimate two models for both the United States and Finland: a model with an interaction between women's income and parental education adjusted for parental income, and a model with an interaction between women's income and parental income adjusted for parental education. To derive the independent effect of a distinct parental resource, the interaction effect between parents' resource and women's income is the net of the other resource since we adjust the model for the other parental resource.

## 6. Descriptive results

First, we examine how the timing of the transition into parenthood differs according to women's income and parental resources in the US and Finland. Fig. 2 shows the descriptive Kaplan-Meier survival curves of the timing of the transition into parenthood by women's income-level. In both countries, delayed first birth is more common among high-income women than low-income women. In the United States, 25% of women over 18 years old with incomes in the lowest decile have entered parenthood by the age of 20, whereas the same proportion of women with incomes in the highest decile do not enter parenthood until age 30. It is a similar situation in Finland, albeit entering parenthood occurs approximately 5 years later in both groups. The propensity to remain childless also varies by women's income: high income women seem to have a higher risk of remaining childless by the age 50, being especially high in Finland. Interestingly, women with low incomes in the US seem more likely to remain childless than those with

middle incomes. This is confounded by racial differences, where white middle-income women are more likely than black and Hispanic middle-income women to remain childless.

Fig. 3 presents the Kaplan-Meier survival curves of entering parenthood by parental resources, i.e., income and education level. High- and low-income and education groups are defined as the top and

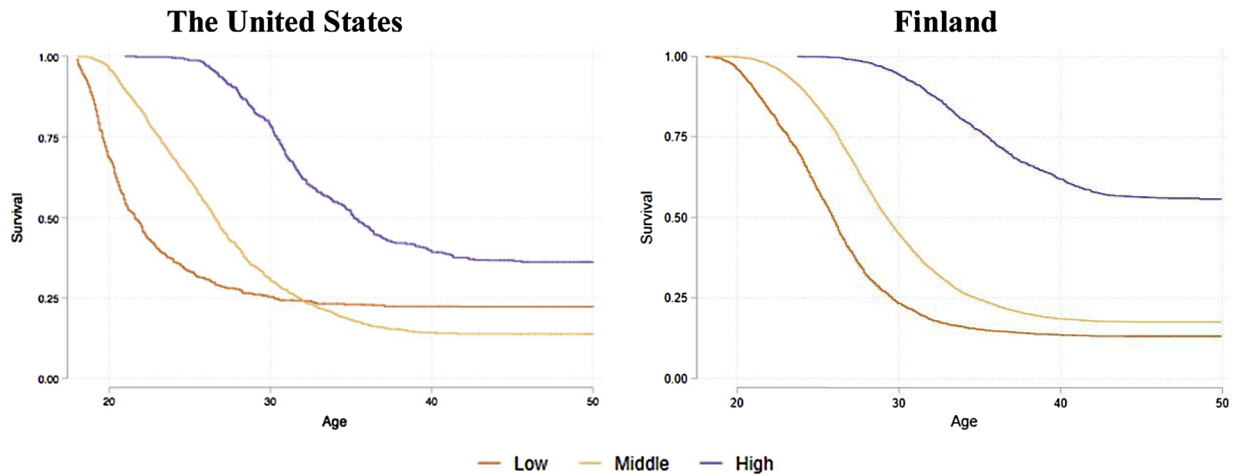


Fig. 2. Timing of the transition into parenthood by women's income in the United States and Finland. Note: Income groups generated using percentiles, low = 20% or less, middle = 20–80%, high = 80% or more. Data from the US 1979 National Longitudinal Survey of Youth, weighted.

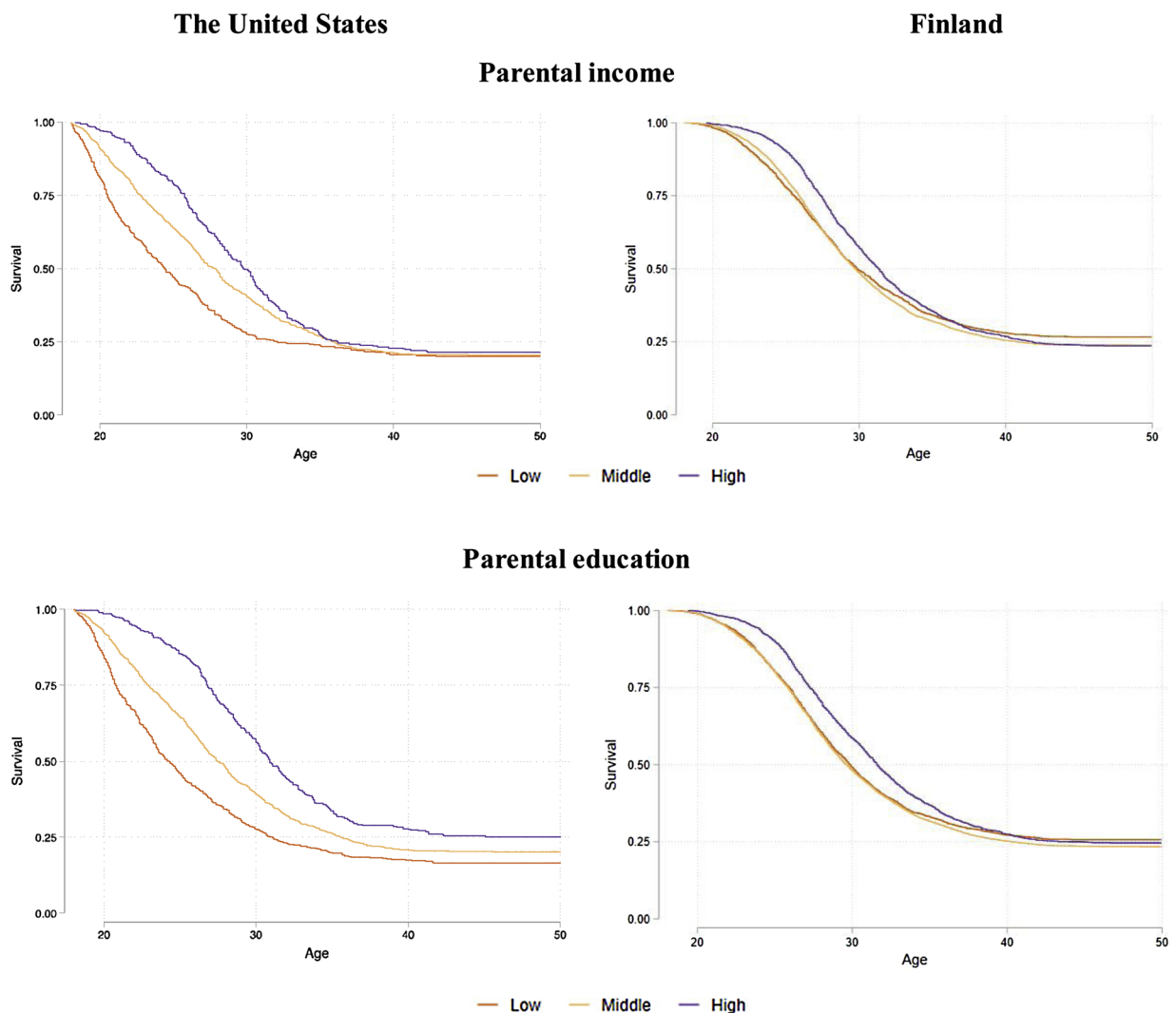


Fig. 3. Timing of the transition into parenthood by parents' income and education in the US and Finland. Note: Income and education groups generated using percentiles, low = 20% or less, middle = 20–80%, high = 80% or more. In Finland, 30% have the lowest amount of parental education (7 years) instead of 20. Data from the US 1979 National Longitudinal Survey of Youth, weighted.

bottom 20% in the income and education distributions of the parents. In the US, 50% of women over 18 years of age from low-income parental households have entered parenthood by age 24 compared to age 30 for women with high parental incomes. The story is the same when looking at parental education. In Finland, on the other hand, the results are less pronounced: high parental resources – education slightly more than income – seem to postpone motherhood by only a few years in early adulthood. Interestingly, the probability to remain childless by the age 50 does not differ according to parental resources in either country.

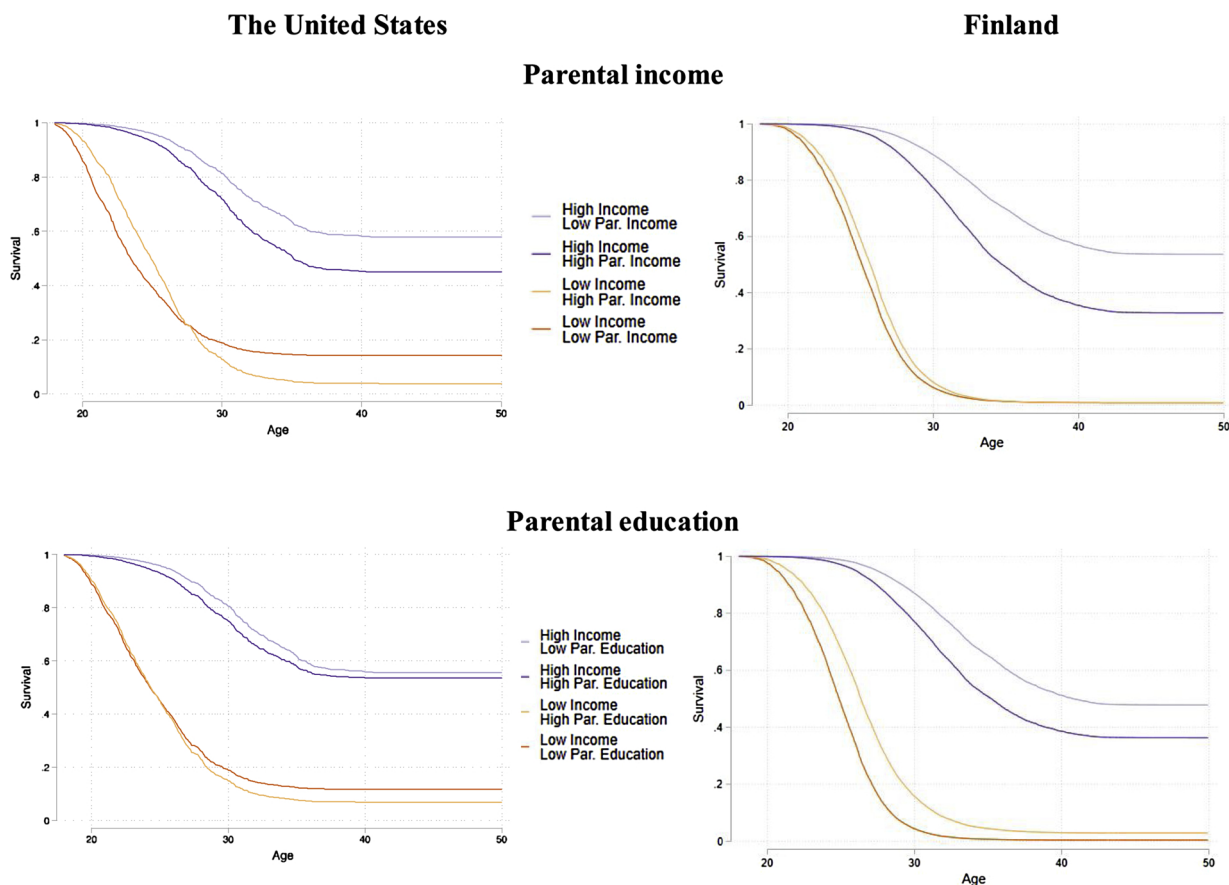
### 7. Cox regression results

The results of Cox regression models on women’s age at first birth are displayed as survival curves by the level of women’s income and parental income or education (complete results of the Cox regression models with time-varying effects are presented in Table A2 in the appendix). In both the United States and Finland, higher incomes of women are associated with delayed first birth. For example, in the United States, the hazard of entering parenthood decreases by over 10%, double that in Finland, when women’s income increases by 1000 dollars/euros for women from parental households with average incomes. Further, the interaction effects of parental resources show statistically significant moderating effects on the association between women’s income and age at first birth in both countries, even when individual-level covariates are controlled and women’s income is allowed to have time-varying effects (see Table A2 for more details).

To demonstrate the moderating effect of parental resources on the

relationship between women’s income and timing of first birth, survival hazards for the age of first birth by women’s income and parental resources, separately for the United States and Finland, are displayed in Fig. 4. To highlight the differences in the moderating effects of parental resources, women’s income is illustrated as the top and bottom 10% in the income distribution, and parental resources as the top and bottom 10% in income or education distribution. In other words, the graphs in Fig. 4 display the extremes of parental resources and women’s income to more clearly demonstrate the moderating effects, as the effects are usually the strongest at the ends of the socioeconomic stratum. Moreover, using percentiles enables us to compare women with the same socioeconomic standing within their respective country. We use bootstrapping methods to form confidence intervals for the survival curves in Fig. 4; however, these are omitted here for clarity but are included in the Appendix (Fig. A1).

As seen in Fig. 4, the associations between women’s income and age at first birth are moderated by the amount of parental resources in both countries, especially among women with high incomes. Among high income-women, low parental resources are associated with delayed first birth, which is consistent with hypothesis H1b. Parental income in particular seems to be influential among high-income women in both countries – women who have achieved high income but lack parental financial resources postpone or forego childbirth more than their counterparts who have high parental resources do. The difference in the estimated survival curves by level of parental income for high-income women is statistically significant for both the US and Finland across all age groups (see Fig. A1 in the appendix). We find no support for



**Fig. 4.** Timing of the transition into parenthood by women’s income and parental resources in the United States and Finland. Note: Figures derived from Cox regression models in Table A2. Groups display 10th and 90th deciles of women’s income (US: 455 < =p(10) and 210 > =p(90); FIN: 923 < =p(10) and 931 > =p(90)), parental income (US: 471 < =p(10) and 175 > =p(90); FIN: 923 < =p(10) and 922 > =p(90)) and parental education (US: 510 < =p(10) and 168 > =p(90); FIN: 2801 < =p(30) and 735 > =p(90)). Figures for the United States depict the estimates for a white, employed, married woman born in 1960, with mean education and household income. Figures for Finland depict the estimates for an employed, married woman born in 1968, with mean education and household income. Figures for other birth cohorts and subgroups are substantively similar to those displayed.

hypothesis H1a that among high-income women, high parental resources are associated with delayed first birth, but find strong support for H1b that women with higher perceived opportunity costs postpone family formation.

Among low-income women, high parental resources are generally associated with delayed first birth, which is in line with hypothesis H2b. This moderating effect is, however, smaller than the one among high-income women. Interestingly, the parental resource that influences the timing of first birth among low-income women differs between our two study countries. In Finland, high parental income has no significant moderating effect among low-income women, whereas the difference between women with low and high parental education is statistically significant – higher parental education is linked with later entry into parenthood among women with low incomes. In contrast, only the difference in the estimated survival curves by level of parental income, not education, for women with low incomes is statistically significant in the US. Hence, the results support the null hypothesis, that there is no moderating role, at least in respect to parental education in the US and parental income in Finland. Although high parental income is statistically linked with later entry into parenthood among women with low incomes in the US until approximately age 27, high parental income is also statistically associated with a lower probability of childlessness beginning around age 35. We find mixed support for hypothesis 3: although the differences in the relationship between women's income and age at first birth by parental resources are not smaller in Finland compared to the US, we do find interesting qualitative differences in the moderating effect among low-income women.

## 8. Discussion

We address two research questions in this article: 1) to what extent do parental resources moderate the relationship between women's income and the timing of the transition into parenthood, and 2) how does this vary between the United States and Finland. Our results using data from the Finnish Census Panel and the 1979 National Longitudinal Survey of Youth (NLSY79) demonstrate that the association between women's income and the timing of first birth is indeed moderated by parental resources. While high parental resources are associated with delayed parenthood among low-income women, high parental resources are linked with an earlier transition to parenthood among women with high incomes. Moreover, in the United States higher parental income is associated with the earlier transition into parenthood among low-income women, whereas parental education in Finland is the moderator of this relationship.

We find evidence that among women with high incomes, women with lower parental resources delay parenthood (H1b). This finding supports the notion that women from more disadvantaged socioeconomic backgrounds, who have been upwardly mobile, perceive higher opportunity costs of parenthood than women from advantaged backgrounds because of the differences in the relative investments in education required to achieve high income (e.g., Gustafsson, 2001; Miller, 2011). At the individual level, this can imply that women with lower parental resources have to do greater efforts in securing high labor market attainment, resulting in a greater delay in family formation. Surprisingly, this result is very clear in both countries, suggesting that the level of public family policy does not affect the extent to which parental resources moderate the timing of first birth if women's own financial resources are high. Even though various policies, such as paid parental leave and subsidized childcare, ought to reduce opportunity costs in Finland, the results indicate that these alone are not adequate to reduce them for high-income women from disadvantaged backgrounds.

Our results contribute to the recent discussion on changing educational gradients in family formation (see, e.g. Wood, Neels, & Kil, 2014) but underline the importance of parental resources. Women with high incomes, arguably also highly educated, enter parenthood earlier if they have high parental resources. In other words, the education gradients

seem to be decreasing in relation to entry into parenthood only for women from advantaged backgrounds. This result suggests that high parental resources can act as equalizers by promoting later childbirth, for example by providing other forms of support such as childcare. Surprisingly, the comprehensive institutional compensation of child-bearing costs with direct financial transfers in Finland does not diminish this equalizing effect. Parents at the top of social strata can also transfer more conservative family values to their offspring, despite the institutional context, and thus advance the timing of parenthood if compared to women with low parental resources.

Generally, our results indicate that among women with low incomes, high parental resources are associated with delayed entry into parenthood (H2b). This finding suggests that parents compensate for their children's lack of resources (Bernardi & Boado, 2014; Erola & Kilpi-Jakonen, 2017) and seek to protect them from life-course risks, such as early and single parenthood, to avoid downward mobility (Breen & Goldthorpe, 1997). However, as we have no information for example on how much parents are in communication with the women, this argument would require further research on the compensation mechanism. Nevertheless, there are interesting cross-national differences among low-income women. In Finland, high parental education slows the transition into parenthood among low-income women, while the level of parental income is irrelevant to the timing of a first birth. On one hand this result supports the null hypothesis as parental income has no moderating effect. On the other hand it suggests compensation by means of education diminishes differences based on parental income in a context with extensive public family support. In contrast, parental income is more strongly associated with entry into parenthood among low-income women than parental education in the United States. The delaying effect of high parental income in the US suggests that parents compensate for their daughters' lack of success in the labor market by using their financial resources, whereas educational resources are insignificant.

Even though the moderating effects of parental resources on the relationship between women's income and age of first birth are very similar in the United States and Finland, the qualitative differences suggest that welfare state arrangements play a role in family formation among low-income women. In the US, high income and educational inequality, combined with a shortage of public financial support, family services and employment protection, increase the importance of individual and parental resources in family formation, which is why these parents support later childbirth if women's own resources are low. On the other hand, in Finland, where families obtain extensive public family support, equal access to education, employment protected maternity leave and universal access to health services, women are less dependent on their own or parental financial resources because institutions compensate for low individual financial resources and equalize labor market opportunities. However, these institutions have not reduced the importance of parental education in the same extent, but high parental education continues to result in postponement of childbirth and in greater differences in the timing of childbirth by parental educational attainment among low-income women, by placing greater emphasis on the importance of educational attainment and a successful career before family formation. In conclusion, the results indicate that welfare state arrangements can alleviate socio-demographic inequalities by reducing the intergenerational dependencies.

Our empirical results that parental resources do moderate the timing of parenthood, especially among high-income women, raise interesting questions for further research. However, our study has a number of limitations that should be addressed in future research. Previous literature has pointed out the importance of the spouse's or total household income on family formation. Our results demonstrate that parental resources influence the women's own recourses and timing of childbirth, net of household income. Future research should address the relationship between parental resources, women's income, and family formation within the context of couples. Further, due to data



limitation, we do not have adequate information on respondent's family structure throughout childhood. However, we believe that our measures of parental resources capture some characteristics of the family structure. Further research should examine the interplay between childhood family structure and complex family relationships, i.e., single parenthood and high number of siblings, parental resources and women's family formation, to disentangle the factors influencing the family formation of highly educated women from disadvantaged backgrounds.

To conclude, this paper combines three lines of literature, socioeconomic attainment and family formation, socioeconomic background and family formation, and social policy and family formation, to examine the relationship between parental resources, labor market outcomes, and entry into parenthood in different national contexts. The paper contributes to the literature by analysing the impacts of intergenerational social mobility on family formation behaviour. Our small-N comparison enabled us to contextualize our results and better untangle the influences of broader welfare state arrangements on family formation (Mayer, 2005). Our study demonstrates that Finland and the US are astoundingly similar in the extent to which parental resources moderate the relationship between women's income and the timing of the transition into parenthood, which is in line with research suggesting that family policy has a limited effect on family formation (Gauthier, 2007). However, we show that the parental resource that is most influential among women with low incomes differs across our two countries: parental income in the US and parental education in Finland. This result suggests that comprehensive family policies reduce the

importance of external financial resources in family formation. Future research should concentrate not only on whether and to what extent welfare state arrangements affect the relationship between parental resources, socioeconomic attainment, and family formation, but also on how the results of the differences in timing of parenthood transmit to differences in fertility and higher-order births across welfare state contexts. These approaches will enable family sociologists to shed some light on the mechanisms linking childhood socioeconomic background, family formation and fertility later in life.

### Declarations of interest

None.

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## Appendix A

**Table A1**

Sample Summary Statistics (Means or Percentages, with Standard Deviation in Parentheses).

	United States		Finland	
Age at 1 <sup>st</sup> Birth (in years)	25.9	(5.27)	33.1	(8.95)
Age at 1 <sup>st</sup> Birth (in months)	311.4	(62.3)	397.4	(107.34)
Percent Entered Parenthood	75.7	(42.9)	75.6	(42.95)
Women's Income *	28,788.6	(32,201.1)	24,095.9	(16,139.12)
Women's Education (in years) †	13.4	(2.44)	13.5	(2.40)
Parental Income *	35,089.5	(21,075.9)	36,500.6	(14,449.96)
Parental Education (in years) †	11.7	(2.80)	9.2	(2.57)
Employment Status				
Employed	78.4	(41.2)	79.7	(40.22)
Unemployed	7.5	(26.4)	10.1	(30.09)
In Education	4.2	(20.0)	6.0	(23.72)
Outside Labor Force	9.8	(29.8)	4.5	(20.78)
Union Status				
Single	32.4	(46.8)	38.0	(48.54)
Married	52.1	(50.0)	48.4	(49.98)
Cohabited	8.5	(27.9)	9.1	(28.74)
Divorced/Widowed	7.0	(25.5)	4.5	(20.78)
Birth Cohort (US / FIN)				
1959 / 1965	9.1	(28.9)	14.4	(35.09)
1960 / 1966	13.3	(34.0)	15.9	(36.57)
1961 / 1967	17.4	(37.9)	16.7	(37.26)
1962 / 1968	20.3	(40.2)	18.2	(38.56)
1963 / 1969	19.6	(39.7)	16.9	(37.48)
1964 / 1970	20.2	(40.0)	18.0	(38.41)
Eq. Household Income *	53,033.3	(77,021.0)	35,107.8	(20,265.50)
Race				
Hispanic	5.7	(23.4)		
African American	11.0	(31.3)		
White	83.2	(37.4)		
N	2789		9226	

\* Variable centered at its mean in the analyses. Data from the US 1979 National Longitudinal Survey of Youth, weighted.

**Table A2**  
Complete Cox Regression Models on Women’s Age at 1<sup>st</sup> Birth.

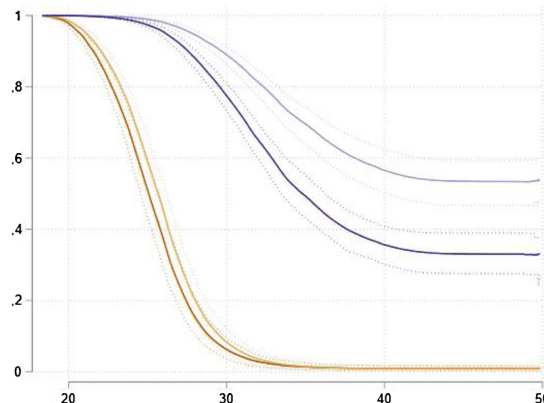
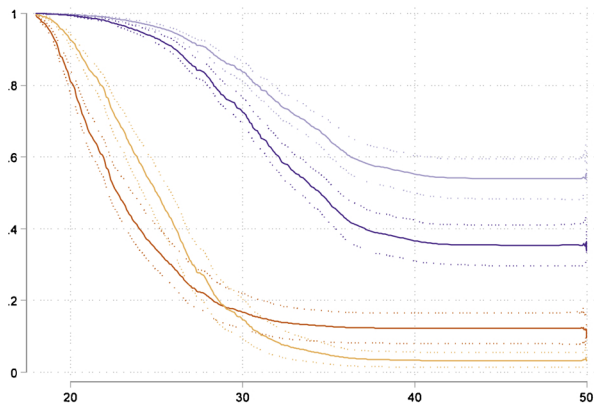
	United States		Finland	
	Parental Income	Parental Education	Parental Income	Parental Education
Women’s Income	0.879 <sup>***</sup> (0.006)	0.891 <sup>***</sup> (0.006)	0.780 <sup>***</sup> (0,005)	0.781 <sup>***</sup> (0,005)
Parental Income	0.973 <sup>***</sup> (0.007)	1.005 <sup>***</sup> (0.001)	1.005 (0,006)	1.006 <sup>***</sup> (0,001)
Parental Education	1.020 (0.013)	1.031 (0.066)	0.977 <sup>***</sup> (0,006)	1.043 (0,036)
Women’s Income * Parental Income	1.002 <sup>***</sup> (0.000)		1.002 <sup>***</sup> (0,000)	
Women’s Income * Parental Education		1.006 <sup>**</sup> (0.002)		1.013 <sup>***</sup> (0,002)
Women’s Education	0.496 <sup>***</sup> (0.038)	0.465 <sup>***</sup> (0.037)	0.333 <sup>***</sup> (0,012)	0.329 <sup>***</sup> (0,012)
Eq. Household Income	1.000 (0.000)	1.000 (0.000)	0.983 <sup>***</sup> (0,001)	0.983 <sup>***</sup> (0,001)
Employment Status (ref.: Employed)				
Unemployed	1.350 <sup>*</sup> (0.168)	1.413 <sup>**</sup> (0.181)	0.490 <sup>***</sup> (0,021)	0.491 <sup>***</sup> (0,021)
Not in Labor Force	0.465 <sup>***</sup> (0.051)	0.475 <sup>***</sup> (0.053)	0.177 <sup>***</sup> (0,013)	0.180 <sup>***</sup> (0,013)
In Education	2.208 <sup>***</sup> (0.306)	2.244 <sup>***</sup> (0.341)	0.739 <sup>***</sup> (0,037)	0.726 <sup>***</sup> (0,036)
Marital status (ref.: Married)				
Unmarried	1.148 (0.093)	1.153 (0.094)	0.765 <sup>***</sup> (0,020)	0.764 <sup>***</sup> (0,020)
Cohabiting	1.184 (0.115)	1.186 (0.119)	0.616 <sup>***</sup> (0.029)	0.614 <sup>***</sup> (0.029)
Divorced/Widowed	0.183 <sup>***</sup> (0.035)	0.182 <sup>***</sup> (0.035)	0.327 <sup>***</sup> (0,025)	0.323 <sup>***</sup> (0,025)
Race (ref.: White)				
Hispanic	0.935 (0.097)	0.934 (0.100)		
African American	0.946 (0.076)	0.997 (0.081)		
<i>Time Interactions</i>				
Women’s Income	1.004 <sup>***</sup> (0.000)	1.003 <sup>***</sup> (0.000)	1.006 <sup>***</sup> (0,000)	1.006 <sup>***</sup> (0,000)
Women’s Education	1.022 <sup>***</sup> (0.002)	1.024 <sup>***</sup> (0.002)	1.037 <sup>***</sup> (0.001)	1.037 <sup>***</sup> (0.001)
Parental Income	1.001 <sup>***</sup> (0.000)		1.000 (0,000)	
Parental Education		1.000 (0.002)		0.999 (0,001)
Women’s Income * Parental Income	1.000 <sup>***</sup> (0.000)		1.000 <sup>***</sup> (0,000)	
Women’s Income * Parental Education		1.000 <sup>**</sup> (0.000)		1.000 <sup>***</sup> (0,000)
N	2789	2789	9226	9226

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; Exponentiated coefficients; standard errors in parentheses; birth year fixed effects omitted; data from the US 1979 National Longitudinal Survey of Youth, weighted.

The United States

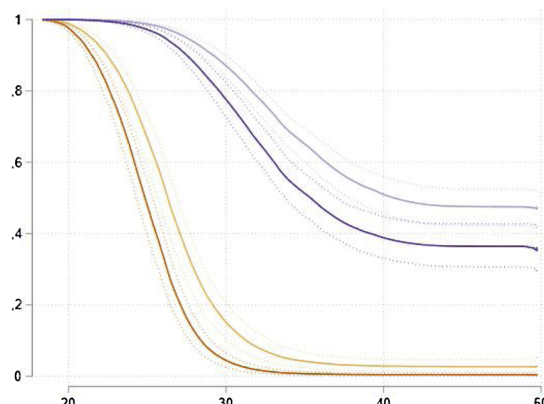
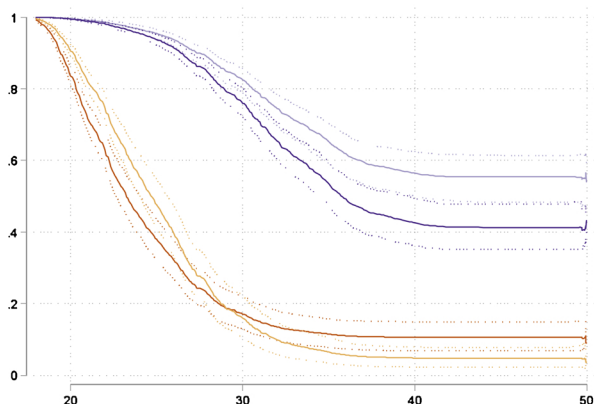
Finland

Parental Income



— High Income Low Par. Income  
— High Income High Par. Income  
— Low Income High Par. Income  
— Low Income Low Par. Income

Parental Education



— High Income Low Par. Education  
— High Income High Par. Education  
— Low Income High Par. Education  
— Low Income Low Par. Education

Fig. A1. Survival curves of Cox Regression models on timing of first birth with bootstrapped confidence intervals.

Note: Confidence intervals based on 5 and 95 percentiles of point estimates from analyses on 120 bootstrapped samples with a sample size of N = 2,789.

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