# Less Is More? Repartnering and Completed Cohort Fertility in Finland

# Linus Andersson, Marika Jalovaara, Caroline Uggla, and Jan Saarela

**ABSTRACT** An extensive literature theorizes the role of repartnering for cohort fertility and whether union dissolution can be an engine for fertility. A large share of higher order unions are nonmarital cohabitations, but most previous studies on completed cohort fertility have analyzed only marital unions, and none have incorporated nonmarital cohabitations using population-level data. To analyze the relationship between the number of unions and cohort fertility for men and women, we use Poisson regression with Finnish register data to enumerate every birth, marriage, and cohabitation among the 1969–1972 birth cohorts at ages 18–46. We show that dissolutions of first cohabitations are the main pathway to repartnering and that most higher order unions are cohabitations. Nonmarital repartnering is a strong predictor of low fertility. In contrast, remarriage is positively associated with cohort fertility. Because the bulk of first-union dissolutions and higher order unions are nonmarital, repartnering is not an efficient engine for fertility at the aggregate level. Marriage and cohabitation are far from indistinguishable in a country often described as a second demographic transition forerunner.

**KEYWORDS** Fertility • Union dissolution • Repartnering • Remarriage • Finland

## Introduction

During the past decades, a new family regime has emerged across many industrialized societies, where people enter marriage later in life, at lower rates, and with a higher divorce risk (Cherlin 2016). Nonmarital cohabitations are common in young adulthood and tend to dissolve at even higher rates than marriages (Billari and Liefbroer 2010; Manning et al. 2014). Consequently, an increasing share of individuals enter more than one union during their primary childbearing years (Thomson forthcoming). In societies with high union dissolution, childbearing is partly decoupled from entry into the first union. The institutions and ideals supporting a single marriage are partially replaced by one that also incorporates sequences of unions—a pattern sometimes described as "serial monogamy" (Andersson 2015; De La Croix and Mariani 2015). These developments have required demographers to consider the consequences of union dissolution and repartnering for fertility (Sassler and Lichter

2020). The question is challenging because union dissolution and repartnering exert opposite effects on fertility. On the one hand, union dissolution forcefully decreases fertility by placing individuals outside couple unions. On the other hand, union dissolution allows fertility to recuperate or even increase through births after repartnering, with some evidence suggesting that parity-specific fertility in repartnered unions may be higher than in first unions (Griffith et al. 1985; Vikat et al. 1999). To understand childbearing behavior in societies characterized by serial monogamy, it is therefore essential to analyze whether union dissolution can increase total fertility rates via births in higher order unions. As Thomson and colleagues (2012) poignantly formulated, can union instability be an "engine for fertility"?

The empirical accounts for the engine-for-fertility argument are few and, we argue, often inadequate. First, and most importantly, previous work has tended to focus on divorce and remarriage (Jokela et al. 2010; Van Bavel et al. 2012). In contemporary Western contexts, cohabitation is extensively practiced (Perelli-Harris and Lyons-Amos 2016). Nonmarital cohabitations dissolve at a high rate and therefore constitute a major pathway to serial monogamy, and higher order unions are often cohabitations (Steele et al. 2006; Zeng et al. 2012). In Finland, as in the other Nordic countries, roughly half of all first births occur in nonmarital unions, and 30% of mothers live in nonmarital unions (Jalovaara 2012; Statistics Finland 2020). Therefore, excluding cohabitation distorts the relationships among union dissolution, repartnering, and cohort fertility. Second, most previous work has focused exclusively on women, excluding men and forgoing the opportunity to assess often theorized sex differences in the association between partnering and fertility (Van Bavel et al. 2012). Third, previous research has relied on survey material that risks undercovering male fertility and often suffers from selective nonresponse and sample attrition (Guzzo and Dorius 2016; Juby and Le Bourdais 1999).

This study uses Finnish register data to analyze the relationship between the cumulated number of unions and the number of children born among the 1969–1972 birth cohorts by age 46. We ask whether repartnering unions have positive or negative associations with cohort fertility in Finland and whether this relationship differs for men and women. We use basic demographic methods to estimate cohort fertility, and we use Poisson regressions to estimate the marginal effect on fertility for cumulated union counts versus never-separated unions, separately for women and men. One strong indicator that union instability would increase fertility at the population level is that the birth rate of the total ever-repartnered population is higher than that of the population in a single intact union. Therefore, we attend to the aggregate relationship between the number of unions and cohort fertility. We also explore the composition of the repartnered population and fertility of various subgroups, including those with a first marital union, those with children in a first union, and those who repartnered or remarried multiple times. We aim to improve the empirical foundations of the engine-for-fertility argument by providing the first comprehensive picture of cohort repartnering and cohort fertility.

We contribute to this endeavor in three ways. First, this study is the first completed cohort perspective on the number of unions and cohort fertility that uses population coverage data. It thereby avoids much measurement error and statistical uncertainty prevalent in studies based on survey data. Second, the data are uniquely suited for these analyses because they contain yearly information on all marriages as well as

nonmarital cohabiting unions and near-complete coverage of fertility. We can thus conceptualize serial monogamy as sequences of unions of any marital status and elaborate on the empirical implications of how repartnering is measured, covering both marriages and cohabitations. Third, because we consider both sexes, we can analyze whether the role of repartnering in cohort fertility is similar for women and men.

Note that throughout the paper, we use the terms "union count" and "number of unions" interchangeably to describe the cumulated number of unions by age 46; we use the terms "fertility" and "completed fertility" interchangeably to refer to the number of children born by age 46, unless otherwise stated.

## Theory and Background

#### **Births Across Unions**

The relationships among union dissolution, repartnering, and fertility in contemporary societies hinge on the fact that childbearing occurs mostly within unions. Outside of marital and cohabiting unions, the likelihood of birth is low (Aassve et al. 2006; Thomson et al. 2020), and childbearing intentions are few (Spéder and Kapitány 2009). Union dissolution can thus interrupt intended and unintended childbearing and reduce fertility. Indeed, childlessness has often been found to be associated with union instability (e.g., Hart 2019); separating from (Tanturri and Mencarini 2008) or not finding a suitable partner (Gałęzewska et al. 2017) are common explanations for remaining childless, and expectations toward fertility behavior are highly influenced by union instability and partnering (Hayford 2009). Separation nevertheless exposes individuals to the possibility of new unions in which further childbearing is possible. A necessary condition to recuperate fertility lost to union dissolution is that fertility among the repartnered is nonnegligible (Thomson et al. 2012).

A central question is then why repartnering would increase cohort fertility. According to the "value of children" and "commitment" hypotheses, repartnering may increase the probability of births because a common child has value for couples as a shared commitment and is emblematic of a conventional family—that is, a signal of particular importance for partners who form a stepfamily (Griffith et al. 1985). Therefore, individuals may be more persuaded to progress to higher parities in higher order unions than they would have been within a first union. Several studies report that childbearing intentions and childbearing risks are greater among repartnered women than among women in a first union at the same parity (Griffith et al. 1985; Jefferies et al. 2000; Meggiolaro and Ongaro 2010; Vikat et al. 1999; but see Guzzo 2017). On the other hand, in higher order unions, one or both partners may have children with previous partners (Ivanova et al. 2014). Some studies suggest that the presence of stepchildren in the household impedes childbearing (Buber and Prskawetz 2000; Kalmijn and Gelissen 2007; Stewart 2002; Vikat et al. 2004; Wineberg 1990). Selection into union dissolution may confound the relationship between union count and fertility (Goodman and Koupil 2010). Guzzo (2017) showed that a significant proportion of fertility in U.S. stepfamilies is due to unintended births and found no elevated likelihood of intended births in higher order unions. Therefore, the author concluded that higher order union births may reflect

selection on childbearing behavior into the population at risk as well as conditions of partnering favoring unintended childbirths (McLanahan and Percheski 2008), rather than an exceptionally high value for common children in reconstituted families as proposed by the "value of children" perspective.

It is unclear whether fertility after repartnering differs for women and men. Vikat and colleagues (2004) proposed that holding primary residential custody of children from previous unions decreases fertility. Women are more likely than men to maintain primary residential custody of children from dissolved unions, which may impede fertility in higher order unions more for women than for men. The empirical evidence is inconclusive, however (Ivanova et al. 2014; Kalmijn and Gelissen 2007; Stewart 2002; Vanassche et al. 2015). Because individuals in higher order unions are older than those in their first unions, age-related fecundity is likely to matter more among the repartnered, with a more tangible impact on women than men. Beaujouan and Solaz (2013) suggested that the predicted fertility gains from second unions can be higher for women if not mitigated by fecundity. At least two factors may mitigate the influence of biological age on sex differences in fertility. First, because men and women typically have partners of somewhat similar ages, women's age-related fecundity affects men's fertility. Cultural norms and practical impediments may also set barriers to parenting and childbearing when men and women are older (Beaujouan and Solaz 2013). Second, ever-separated individuals tend to have had a first union and first birth at earlier ages than individuals in intact unions. On average, this prolonged exposure to higher parity progressions may lessen the impact of age-related fecundity (Andersson 2020; Manning et al. 2014; Saarela and Finnäs 2014). Finally, evolutionary theory has maintained that men, more so than women, have evolved a predisposition toward casual sex. Strains of anthropological theory suggest that sexspecific mating strategies predict sex differences in the number of spouses in various human populations (Brown et al. 2009), although the theory is mixed as to whether this translates into sex differences in the relationship between the number of unions and fertility (for a review, see Borgerhoff Mulder forthcoming).

## Completed Cohort Perspectives on Births Across Unions

Early studies from the United States suggest that remarried women fully or partially attain the fertility levels of those in intact unions (Cohen and Sweet 1974; Lauriat 1969; Thornton 1978). Thomson and colleagues (2012) simulated completed family size with imputed data on birth rates across unions. They found that childbearing after first unions came close to compensating for women's loss of fertility due to union dissolution. Observational data on recent cohorts in Italy suggest that remarriage recuperates fertility among divorced women (Meggiolaro and Ongaro 2010). Li (2006) estimated that remarried women in the United States do not have higher fertility than never-separated women. Among the few to analyze both women and men, Van Bavel and associates (2012) pooled European Social Survey data to study the association between divorce and fertility at age 45. They found that divorce is negatively related to fertility for women but not for men. Jokela and colleagues (2010) reported a positive association between the number of marriages and fertility for men but found no such association for women. These studies analyzed only marital unions. To our

knowledge, Forsberg and Tullberg (1995) conducted the only study that included cohabiting unions of both men and women. Their analysis, which drew on only 375 men and 492 women and lacked information on childbearing beyond third births, found a positive effect of the number of unions on fertility.

The setting for the current study is Finland. The Nordic countries, including Finland, are often described as forerunners in the so-called second demographic transition, especially with regard to partnering behavior. These countries demonstrate a high prevalence of separation, repartnering, cohabitation, and childbearing in cohabitations (Hoem et al. 2013; Jalovaara et al. 2021; Lesthaeghe 2010; Väisänen 2017). Therefore, our study context presents a strong case study of fertility in serial monogamy regimes. Finland has a family-friendly welfare system with subsidized childcare, and employment contracts allow parental leave for both men and women (Saarela and Finnäs 2014). These gender equity policy schemes and cultural contexts are associated with individualized incentives for family formation that would, according to institutional theory (McDonald 2000), lessen sex differences regarding partner behavior and childbearing. Therefore, the Finnish case may be considered a conservative test for disparities between men and women in the associations among union dissolution, repartnering, and cohort fertility.

## Methods

#### Data

We use individual-level data from registers containing yearly documentation of births, deaths, migration, coresidential unions, and marriages. The analytical population covers the entire Finnish-born birth cohorts of 1969-1972 who were alive and registered as residing in Finland in 2018 and who had been registered as residing in Finland since the year of their 18th birthday (N=243,471). To prevent the underestimation of births and unions that may have occurred abroad, we focus on the population remaining resident in Finland. All individuals are followed until age 46. Since 1987, Statistics Finland has maintained an exceptionally long comprehensive population record of coresidential unions. The Finnish registers contain information on the place of residence down to the specific dwelling, enabling the linkage of different-sex individuals in coresidential couples. Therefore, we can analyze both cohabitation and childbearing histories for individuals aged 18-46 in the 1969-1972 birth cohorts.

## Union Dissolution, Repartnering, and the Number of Unions

We measure the total number of unions by age 46 in two ways: (1) marital unions only and (2) all unique cohabitations and marriages (all unions). The marital status of a unique couple pair is defined by the event of marriage, regardless of whether the marriage occurred at the onset of the relationship or after a nonmarital cohabitation with the same partner. Thus, a union that is at first nonmarital and thereafter becomes marital is counted as a single marital union. This operationalization is motivated by the common occurrence of premarital cohabitation, nonmarital fertility, and marriage

after childbearing in Finland and aligns with the research design to capture the number of unique unions. We pair marriage records with Statistics Finland's definition of coresidence, which considers an individual to be living in a union if they lived with a different-sex individual who is not a close relative (a sibling or a parent) in the same dwelling beyond 90 days and the age difference between the two does not exceed 20 years. The rule regarding the age difference does not apply if the partners have a common child. This method has been established as accurate (Jalovaara and Kulu 2018; Saarela and Skirbekk 2020) and conforms to international standards for the identification of couple households (Kennedy and Fitch 2012). Union dissolution is derived from divorces, residential moves, and death registers. Most union dissolutions (98.8%) are due to divorces and separations. Because both types of dissolution events place individuals at risk of repartnering and further childbearing, we use both types to define the ever-dissolved population. Excluding the bereaved population has no impact on the results. Figure A1 (shown in the online appendix, along with all other figures and tables designated with an "A") shows the fraction of the population ever partnering and ever repartnering, based on information on marital unions only and on both marital and cohabiting unions. The marital repartnering incidence is approximately 8%. In contrast, the marital and cohabiting repartnering incidence is approximately 39%, which underscores the value of including cohabitations in repartnering measures.

## **Cohort Fertility**

We measure the cumulated number of children born to individuals aged 46, the latest observation with complete union histories. We use birth registers, linking parents to their children, to track each individual's complete fertility history. These records are highly reliable for covering fertility compared with self-reported information, particularly for male fertility. Paternity is established around the date of delivery if the couple is married and by the father's formal consent if the couple is not married. If paternity is contested, social services investigate. Only about 2% of the children born have no registered father. Because of sex differences in fecundity by age, the cutoff at age 46 slightly underestimates male completed fertility. Sensitivity analyses using the 1963 male birth cohort show that the effect of even a 10-year increase in the age range (i.e., measuring cohort fertility by age 55) is small because only 1.8% of births occur to fathers aged 46–55 (Figure A2). Male fertility after age 46 contributes only marginally to women's completed fertility because of dependency on female partners' age-related fecundity. Figure A3 shows that the share of partnered men in the 1963 cohort who had a (female) partner aged 40 or younger (a crude proxy for fecundity) decreased from 9% at age 46 to 0.2% at age 55. Swedish register data on male cohort fertility show that by age 47, most fertility is captured (Barclay and Kolk 2020). Tables A1 and A2 describe births across the number of unions and variable distributions.

## Analytical Strategy

First, we describe the prevalence of never-partnered, ever-partnered, ever-separated, and ever-repartnered individuals in the full population. Second, in multivariate models,

-	Total Population	Ever-Partnered	Repartnered
		z, er ramorea	
Never Partnered	25,395 (10)		
Partnered, Never Repartnered	124,471 (51)		
Intact		95,283 (44)	
Separated		29,188 (13)	
Ever Repartnered	93,765 (38)		
Two unions		62,056 (28)	(66)
Three unions		22,345 (10)	(24)
Four+ unions		6,864 (3)	(7)
Five+ unions		2,500(1)	(3)
Total	243,631 (100)	218,236 (100)	93,765 (100)

**Table 1** Prevalence of partnering and repartnering by age 46, total population: All marital and cohabiting unions

Note: Percentages, shown in parentheses, are rounded to the nearest integer.

we use Poisson regressions to accommodate the count distribution of the outcome variable, that is, the number of children born. Poisson regressions are useful to model the distribution of discrete events in large populations and are often applied to rates that occur with some probability, such as births (Nisén et al. 2018):

$$y = \exp(\alpha + \beta_1 UnionCount + \beta_2 Sex + \beta_3 UnionCount \times Sex + \beta_4 BirthCohort). \tag{1}$$

In our base model, y is the Poisson incidence rate, which in our case is the number of children;  $\alpha$  is the intercept; and  $\beta$  are the parameters to be estimated. The regressor variables are sex, union count, the interaction of sex and a union count, and birth cohort. Union count refers to the cumulated number by age 46. Our measure of union count defined by all marital and cohabiting unions contains five categories: zero unions; one intact (never-separated) union (the reference category); one union that has separated; two unions; three unions; and four or more unions. Our measure that enumerates marital unions contains four categories: zero marriages; one intact (never-divorced) marriage (the reference category); one divorced marriage; two marriages; and three or more marriages. We set the threshold for collapsing unions at four or more (and at three or more for marriages) because higher order unions were rare, as shown in Table 1.

We report average marginal effects (AMEs) with 95% confidence intervals for women and men of every level of union count against the reference category of one intact (never-separated) union. These effects can be interpreted as the association between a specific union count and the mean number of children, compared with the reference category of one intact union. Comparisons of men's and women's AMEs show the degree of similarity in the relationship between union counts and average fertility of men and women, compared with men's and women's respective reference categories of one intact union. Exponentiated coefficients and test statistics from the Poisson regression models can be found in Tables A7–A18. We estimate the base model A (corresponding to Eq. (1)) separately for the enumeration using marital unions and the enumeration using all unions. Model B adds union duration,

and Model C adds age at first union. These two variables are decisive proximate determinants of union and fertility trajectories (Sobotka et al. 2011). We do not estimate the influence of age at first birth because we do not want to condition on parenthood. To further investigate the role of union type, we analyze a combined measure of marriages and cohabitations across union counts. Specifically, we categorize individuals according to whether they had only marital unions, only cohabiting unions, or both marital and cohabiting unions by age 46.

We repeat the multivariate models adjusted for basic sociodemographic factors known to influence partnering behavior: socioeconomic status, educational level, region of residence at age 18, and parental social class. We operationalize socioeconomic status as the individual's disposable income rank, based on yearly earnings, capital income, and employment-contingent social security transfers that are subject to state taxation. We use the income quartile of age- and period-specific income around age 46, derived from age- and year-rank percentiles of the entire workingage population. To avoid incorporating temporary fluctuations, we use the maximum value during the calendar year of the 45th birthday, the year before, and the year after. Educational level is defined by the individual's highest attained educational level, with four categories that correspond to the ISCED codes 1–2, 3–4, 5, and 6+(UNESCO 2012). Parental social class is measured using the EGP occupational class scheme using dominance coding (Thaning and Hällsten 2020). Region of residence is a dummy variable that takes the value 0 for urban and 1 for rural/semirural municipality. Control variables are further described in Tables A2 and A3.

Parenthood has been found to be selective on traits, including socioeconomic status, which may influence births and partnering after the dissolution of a first union (Nisén et al. 2018). We also analyze, therefore, a subsample consisting of the child-bearing population, meaning that we repeat the model of Eq. (1) for the subpopulation that has at least one child from a first union.

## Results

## Incidence of Union Dissolution and Repartnering

First, we analyze the prevalence of partnering, union dissolution, and repartnering among the 1968–1971 birth cohorts by age 46, based on enumerating marriages and cohabitations. Table 1 shows that by age 46, 38% of individuals in the full population had more than one union, one half had a single union, and one tenth had never married or cohabited. Of the 218,236 individuals who ever partnered, 44% were still in their first union at age 46, 13% had dissolved the first union and had not repartnered, and 43% had repartnered. Three quarters of individuals who had dissolved a union repartnered by age 46 (93,756 / 122,944 = .76). Among the repartnered population, 66% partnered twice, 24% partnered three times, and 10% partnered four or more times. Tables A4 and A5 show that these patterns are largely identical for men and women. In sum, in Finland, repartnering—the practice of serial monogamy—is almost as common as partnering once.

Table 2 relates to the population that ever repartnered and shows that 72% of all first dissolved unions were cohabiting unions, whereas 28% were marriages.

 Table 2 First-union civil status, first-union childbearing status, and total higher order unions by first-union civil status: All ever-repartnered men and women

	Childless	Childbearing
Share of Individuals by First-Union Childbearing Status	64,451 (68)	29,305 (31)
	Cohabitation	Marriage
Share of Individuals by First-Union Civil Status Share of Higher Order Unions by First-Union Civil Status	67,576 (72)	26,180 (28)
First-union (dissolved) cohabitation	54,513 (40)	49,718 (36)
First-union (divorced) marriage	16,073 (13)	17,230 (11)

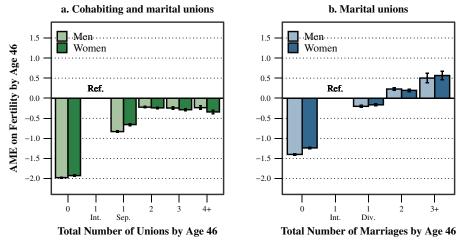
Note: Percentages, shown in parentheses, are rounded to the nearest integer.

Approximately 40% of all higher order unions were cohabitations following a (first dissolved) cohabiting union, 36% were marriages following a (first dissolved) cohabiting union, 13% were cohabitations following a (first divorced) marriage, and 11% were marriages following a (first divorced) marriage. Table A6 shows that the patterns are essentially the same for men and women. We conclude that repartnering behavior is dominated by sequences of nonmarital unions.

## Marital Repartnering, Cohabiting Repartnering, and Cohort Fertility

We now analyze union dissolution and repartnering as a predictor of cohort fertility in multivariate models. To analyze how the operationalization of unions matters for the association between repartnering and fertility, we enumerate unions as all marriages and cohabitations and as marriages only. Panel a in Figure 1 displays the AMEs of the total number of unions (marriages and cohabitations) on completed fertility by age 46, compared with individuals with a total of one intact union. The model includes the interaction between the number of unions and sex and adjusts for birth cohort. Average fertility for ever-repartnered individuals is higher than for individuals who separated without repartnering but lower than for those in one intact union. By age 46, the difference between those with separation without repartnering and those with one intact union is approximately -0.8 children for men and -0.65 children for women. Also, average fertility is substantially lower for ever-repartnered individuals than for those in one intact union. The difference is approximately -0.2 children for men with two, three, or four or more unions; the difference increases from -0.2 for women with two unions to -0.35 children for women with four or more unions. In sum, empirical evidence from all unions in Finland does not support the hypothesis that repartnering fully or moderately recuperates fertility lost because of union dissolution. The negative effect of union dissolution is stronger for men than for women, at a magnitude of 0.2 children, and repartnering compensates for this fertility deficit only slightly more for men than for women.

Panel b in Figure 1 is based on marriages only. In sharp contrast to the picture gained from all unions (marriages and cohabitations), the completed fertility of the remarried group far exceeds that of individuals in one intact marriage. Men and women who had



**Fig. 1** AMEs (with 95% confidence intervals) of the number of all unions (cohabitations and marriages) on cohort fertility by age 46 for men and women (panel a) and of the number of marital unions on cohort fertility by age 46 for men and women (panel b). Data are adjusted for birth cohort (*N*=243,631). Ref. = reference. Int. = intact. Sep. = separated. Div. = divorced.

two marriages by age 46 have, on average, 0.23 and 0.20 more children, respectively; corresponding numbers for men and women with three or more marriages are 0.50 and 0.55, respectively. The estimated negative effect of divorce without repartnering is substantially smaller than the corresponding numbers based on all unions.

To summarize, when we use a definition of unions that includes both cohabitation unions and marriages, repartnering negatively predicts ultimate fertility. When only marital unions are enumerated, repartnering positively predicts fertility. To give an overview of the union context of births and the role of parentage—that is, the context in which partnership children in the repartnered population are born and the relationship to cohort fertility—we decompose the cohort fertility rate (CFR) for (1) the ever-partnered but never-separated and (2) the ever-repartnered population. We multiply the union type (marriage and cohabitation) and union order (first and higher order union) age-specific fertility rate with the proportion of individuals at a given age. This calculation gives the proportional composition of cohort fertility of births from marital and cohabiting unions in first and higher order unions. In Figure 2, blue indicates births in marriage, and green indicates births in cohabiting unions. Dark gradients indicate births in first unions, and light gradients indicate births in higher order unions. As mentioned earlier, unions are counted as marital if the couple dyad ever marries by age 46. The CFR is highest in the intact-union population. For both the population in intact unions and the ever-repartnered population, births occur mostly within marital unions. Among ever-repartnered individuals, most births occur after first-union dissolution (i.e., in a higher order union), and births in cohabiting unions represent a substantial minority of all births among ever-repartnered individuals. The slope of the curves suggests that after age 46, the CFR will likely increase marginally for repartnered men but not at all for repartnered women. Using the same exercise, we decompose the repartnered population with a first marital union and first cohabiting union, respectively (Figure A4). We show that in line with Figure 1

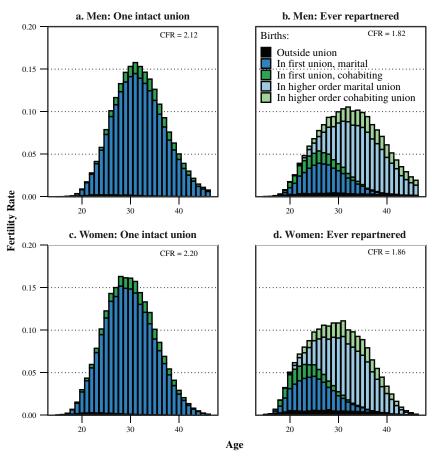


Fig. 2 The proportional contribution of births by parentage (union order) and by union civic status to total cohort fertility. The graphs show age-specific fertility rates of ever-partnered, never-separated men (panel a), ever-repartnered men (panel b), ever-partnered, never-separated women (panel c), and ever-repartnered women (panel d). CFR = cohort fertility rate.

(panel b), the CFR is higher among those who repartner after a first marriage (approximately one quarter of repartnered individuals) than among those in intact unions. Furthermore, whereas births in the first marriage are essential, the net positive CFR among the remarried is achieved by additional parentage in higher order marriages. Among men and women who repartnered after a first cohabiting union (about three quarters of the repartnered population), higher order parentage births are substantial, but cohort fertility is lower than that of intact couples.

Figures A5 and A6 show results from reiterating all analyses in Figure 1 but adjusting for parental socioeconomic position, urban/rural residence, income, and education. The results remain essentially the same. Figures A7–A10 display results from the analysis repeated for those who had a birth in a first-order union. In models that exclude control (Figures A7 and A8) as well as in models that include them (Figures A9 and A10), we find a positive association between fertility and repartnering after dissolved childbearing unions. The positive sign of repartnering among

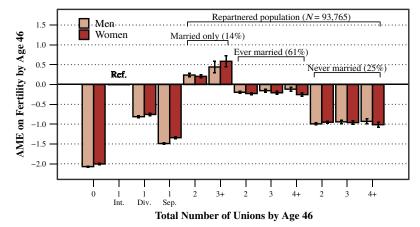


Fig. 3 AMEs (with 95% confidence intervals) of the number of all unions (marriages and cohabitations) on cohort fertility by age 46 for men and women by partnering and repartnering trajectory, adjusted for birth cohort (N=243,631). Ref. = reference. Int. = intact. Div. = divorced. Sep. = separated.

those who had children in the first union may reflect that this group has characteristics that beget further parenthood in subsequent unions, such as fecundity, health, a preference for children, behavioral traits, or economic resources. However, because the model excludes childless individuals and individuals who may or may not enter parenthood first in a higher order union, it may not identify the full impact of union dissolution on the CFR

## Repartnering Trajectories and Cohort Fertility

The contrasting results of panel a (all unions) and panel b (marital unions) in Figure 1 suggest that fertility behavior after union dissolution is heterogeneous with respect to marital status. Figure 3 shows the AMEs of union counts on fertility across distinct partnering and repartnering trajectories. Individuals with one intact union—both marriages (85%) and cohabitations (15%)—by age 46 form the reference category. The reference categories in Figures A12 and A13 are intact marriages and intact cohabitations, respectively.

Only-married individuals—whose first and higher order unions are all marital—are the only groups with higher average fertility than those in one intact union (Figure 3). Ever-married individuals with at least one nonmarital union have roughly 0.25 fewer children across union counts. Those who never marry but have had multiple nonmarital unions by age 46 have, on average, roughly 1.0 fewer children. Sex differences within categories exist but do not follow a uniform pattern in relation to repartnering. For example, never-married men have a slightly stronger negative association with fertility at two unions than never-married women, but they have a weaker negative association at four or more unions. Among the ever-married, repartnering is more strongly negatively associated with fertility for women than men, but among those who have only marital unions, multiple remarriages are more positively associated for women than for men. Figure A12 adjusts for control variables, which do not alter the conclusions.

The heterogeneity shown in Figure 3 problematizes the interpretation of previous research, which has typically presented a linear association of the number of unions (or dichotomizes ever- and never-repartnered individuals) rather than modeling counts. Married-only groups represent only 14% of the ever-repartnered population and constitute the only categories with higher fertility than those in one intact union. These findings underscore that union dissolution is unlikely to be an effective engine for fertility for the total ever-separated population. At the same time, they show that high fertility can be achieved amid union dissolution and repartnering trajectories.

# **Summary and Discussion**

In mid-twentieth century Western societies, remarriage at childbearing ages following divorce or widowhood was a fairly inconspicuous yet marginal phenomenon (Cherlin 2016). Today, union separation is a majority experience in many countries, and two to three quarters of the population repartner (Thomson forthcoming). This pattern of serial monogamy, a defining characteristic of partnering in many contemporary societies, likely affects childbearing behavior. Union dissolution reduces fertility because individuals effectively exit the primary context of childbearing. Simultaneously, union dissolution enables childbearing in subsequent unions via repartnering and may be an engine for fertility. Hence, a first grasp of the associations among union dissolution, the number of unions, and cohort fertility is essential for understanding fertility regimes in contemporary societies with high union instability. Yet, ample empirical cohort fertility analysis on the issue is lacking. Although research has long indicated that cohabitation drives much dissolution and repartnering, studies have almost exclusively examined marital unions when analyzing the link between repartnering and fertility (but see, e.g., Forsberg and Tullberg 1995; Hart 2019).

This study uses Finnish register data to enumerate every birth, marriage, and cohabitation among men and women in four birth cohorts at ages 18-46. First, we show that repartnering is common in Finland. Among the ever-partnered by age 46, it is almost as common to have formed more than one union as it is to have formed a single union. Moreover, most unions in the ever-repartnered population are nonmarital. When enumerating only marriages, we find that remarriages are positively associated with cohort fertility compared with remaining in a single intact marriage. When we enumerate unions by marriages and nonmarital cohabiting unions, however, individuals with more unions have markedly fewer children than those in a single intact union. Among those who had a first union resulting in childbearing, repartnering is positively associated with cohort fertility when we measure unions both as marriages and as marriages and cohabitations. Among individuals with only marital unions by age 46, remarriage increases fertility. For individuals with only cohabitation unions by age 46, fertility is particularly low. Across model specifications, the overall relationship between the number of unions and cohort fertility is fairly similar for women and men.

These results have implications for union dissolution and repartnering as engines for fertility, the conceptualization of multiple unions (serial monogamy) as a family and fertility regime, and the meaning of marriage and cohabitation in this context.

We show that the repartnered population has more children than those who do not repartner after union dissolution and that average fertility is markedly lower for the total repartnered population than for those in intact unions. Nonetheless, repartnering may well be a pathway to higher ultimate fertility for segments of the population. Trajectories involving divorce and remarriage result in higher fertility than trajectories for intact marriages. Men and women who enter parenthood in a first childbearing union but separate and repartner have higher cohort fertility than parents who stay in a single union. This finding is indicative of selection by unobserved traits correlated with marriage and parenthood in first unions that also generate or thwart fertility in higher order unions. However, individuals with these particular repartnering trajectories are not numerous enough to impact fertility among the ever-repartnered population. Therefore, the results suggest that union dissolution and repartnering will not be an engine for fertility for the population at large. Our findings are rather consistent with contemporary fertility theories that highlight the negative forces of union dissolution for fertility, which are potentially driven by an imbalance in gender roles (Goldscheider et al. 2015) or other value shifts (Zaidi and Morgan 2017). Future research may take note of this heterogeneity when investigating the causal effect of union dissolution and repartnering on cohort fertility.

The engine-for-fertility literature is often paralleled by a discourse regarding potential sex differences in the repartnering–fertility association (as related to sex differences in childcare and age-related fecundity after dissolution; Ivanova et al. 2014) and in mating strategies (as identified by evolutionary theory; Borgerhoff Mulder forthcoming). However, our analyses do not support the notion of a uniform gendered relationship between repartnering and cohort fertility. The most robust differences between men and women are that among never-partnered individuals and separated but never-repartnered individuals, men have somewhat lower fertility than women. The negative relationship between the number of (marital and cohabitation) unions and cohort fertility is somewhat stronger for women than for men, at a magnitude of up to 0.1 fewer children, but this pattern is not consistent across models. The positive association between remarriage and fertility is higher for women than for men, but fertility is not necessarily complete for repartnered men at age 46. Thus, following cohorts to older ages may tip the balance in favor of men.

The stark differences between results based on marital count and those based on all unions are important to consider. In terms of research design, reliance on marriage data distorts a general analysis between repartnering and fertility. This does not mean one should disregard marital status. Instead, it is indicative of both the strong selection into cohabitation and marriage among the repartnered population and the salience of marriage as a context for childbearing. Those who repartner but never marry by age 46 constitute 26% of all repartnered individuals and have markedly lower completed fertility. This finding is in line with arguments on selective stocks of the separated and partnered inclined to union stability, with negative implications for fertility. The higher completed fertility among the remarried-only population than among the married and never-divorced population suggests that marriage remains a favored union format for childbearing in the Nordic countries (Lappegård and Noack 2015), a region otherwise portrayed as having deinstitutionalized marriage. Births in our study population, also in higher order unions, most often take place in unions that are or will become marital unions. Thus, childbearing or childbearing intentions often

beget marriage, and enduring unions tend to become marital unions (Cherlin 2020; Holland 2013). Nevertheless, even though nonmarital cohabiting unions are not the primary context of childbirth, they remain critical to higher order union fertility. Exposure to the risk of birth in higher order unions is contingent on first-union dissolution and subsequent repartnering in early adulthood. Analyzing the ever-partnered population from a cohort perspective, we show that the lion's share of the first dissolved unions and repartnered unions are nonmarital. Hence, nonmarital cohabiting unions are foundational events of theoretical concepts such as serial monogamy and individuals' engagement in multiple intimate unions across the life course.

The mere prevalence of multiple unions and their relation to fertility demonstrated in the case of Finland suggests that union dissolution and repartnering are critical to understanding fertility in the twenty-first century (cf. Lichter and Qian 2019). Demographic research is ambivalent about denoting repartnering as part of a general fertility regime. The concept of multipartner fertility includes reproductive unions only. However, researchers who study multipartner fertility often show interest in union histories and partly operationalize these in analysis when, for example, using marital status as a predictor or mediating variable (Lappegård and Rønsen 2013). Likewise, the standard notion of serial cohabitation, defined as having multiple premarital cohabiting relationships (Eickmeyer and Manning 2018; Hiekel and Fulda 2018; Hopcroft 2018), appears very restrictive. We show that 61% of ever-repartnered individuals have entered at least one marital and one cohabiting union, whereas 26% could be categorized as serial cohabiters. The concept of "stepfamily fertility," on the other hand, signifies a couple perspective rather than an individual trajectory, representing a specific birth rather than the total fertility accumulated in various household constellations. Therefore, when studying fertility in the context of repartnering, demographers seem motivated to use concepts such as "serial monogamy," which denotes sequences of unions not restricted by marital status or childbearing.

Our findings should be considered in light of the limitations and scope of the study. First, sex differences in fertility emerge at the right-hand tail of the age distribution because of the continued childbearing of older men who may also have had multiple unions. Our cutoff point at age 46 captured men's completed fertility and its relation to union dissolution reasonably well. Yet, how male fertility and repartnering at ages beyond female infertility contribute to sex differences in fertility provides an intriguing topic for future research. Second, recent research suggests that having a first birth outside of a cohabiting or marital union likely boosts childbearing across unions (Thomson et al. 2021). This study assessed only the prevalence of nonunion births, but the dynamics of nonunion births deserve further attention. Third, union formation, union dissolution, and fertility are deeply interdependent. The anticipation or absence of childbearing impacts union formation and dissolution (Ivanova et al. 2013), and numerous other causal pathways operate. Revealing these processes was not our aim, although we believe that we have improved the understanding of the core associations of these issues—a task that arguably facilitates analyses on causal inference. Finally, the presented patterns may reflect the particular context of the Nordic countries, characterized by dual-earner households, shared parental investments, and social security schemes promoting such behaviors. It is good practice to avoid hasty generalizations from studies without a cross-comparative design. At the same time, the spread of nonmarital cohabitation and repartnering reflects the direction in which

most Western and several non-Western industrialized countries have been heading for decades (Cherlin 2016; Perelli-Harris and Lyons-Amos 2016). We hope that our study will resonate with future ventures to understand fertility in the context of serial monogamy across societies.

**Acknowledgments** We are grateful for useful comments from Ben Wilson, Betty Thomson, and Kieron Barclay. This work was supported by the Academy of Finland under grant 321264 for the NEFER project and grant 320162 for the INVEST research; the Swedish Research Council for Health, Working life and Welfare under grant 2016-07099; and the Swedish Research Council Grant 2020-06426.

## References

- Aassve, A., Burgess, S., Propper, C., & Dickson, M. (2006). Employment, family union and childbearing decisions in Great Britain. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 169, 781–804.
- Andersson, C. (2015). A genealogy of serial monogamy: Shifting regulations of intimacy in twentieth-century Sweden. *Journal of Family History*, 40, 195–207.
- Andersson, L. (2020). Lifetime parenthood in the context of single- and multiple-partner fertility. Advances in Life Course Research, 47, 100355. https://doi.org/10.1016/j.alcr.2020.100355
- Barclay, K., & Kolk, M. (2020). The influence of health in early adulthood on male fertility. Population and Development Review, 46, 757–785.
- Beaujouan, E., & Solaz, A. (2013). Racing against the biological clock? Childbearing and sterility among men and women in second unions in France. European Journal of Population / Revue Européenne de Démographie, 29, 39–67.
- Billari, F. C., & Liefbroer, A. C. (2010). Towards a new pattern of transition to adulthood? Advances in Life Course Research, 15, 59–75.
- Borgerhoff Mulder, M. (forthcoming). Bateman's principles and the study of evolutionary demography. In O. Burger, R. Lee, & R. Sear (Eds.), *Human evolutionary demography*. Retrieved from https://osf.io/p59eu/
- Brown, G. R., Laland, K. N., & Borgerhoff Mulder, M. (2009). Bateman's principles and human sex roles. *Trends in Ecology & Evolution*, 24, 297–304.
- Buber, I., & Prskawetz, A. (2000). Fertility in second unions in Austria: Findings from the Austrian FFS. Demographic Research, 3, 2. https://doi.org/10.4054/DemRes.2000.3.2
- Cherlin, A. J. (2016). A happy ending to a half-century of family change? Population and Development Review, 42, 121–129.
- Cherlin, A. J. (2020). Degrees of change: An assessment of the deinstitutionalization of marriage thesis. Journal of Marriage and Family, 82, 62–80.
- Cohen, S. B., & Sweet, J. A. (1974). The impact of marital disruption and remarriage on fertility. *Journal of Marriage and the Family*, 36, 87–96.
- De La Croix, D., & Mariani, F. (2015). From polygyny to serial monogamy: A unified theory of marriage institutions. Review of Economic Studies, 82, 565–607.
- Eickmeyer, K. J., & Manning, W. D. (2018). Serial cohabitation in young adulthood: Baby boomers to millennials. *Journal of Marriage and Family*, 80, 826–840.
- Forsberg, A. J. L., & Tullberg, B. S. (1995). The relationship between cumulative number of cohabiting partners and number of children for men and women in modern Sweden. *Ethology and Sociobiology*, 16, 221–232.
- Gałęzewska, P., Perelli-Harris, B., & Berrington, A. (2017). Cross-national differences in women's repartnering behaviour in Europe: The role of individual demographic characteristics. *Demographic Research*, 37, 189–228. https://www.jstor.org/stable/26332195
- Goldscheider, F., Bernhardt, E., & Lappegård, T. (2015). The gender revolution: A framework for understanding changing family and demographic behavior. *Population and Development Review*, 41, 207–239.

- Goodman, A., & Koupil, I. (2010). The effect of school performance upon marriage and long-term reproductive success in 10,000 Swedish males and females born 1915–1929. Evolution and Human Behavior, 31, 425–435.
- Griffith, J. D., Koo, H. P., & Suchindran, C. M. (1985). Childbearing and family in remarriage. *Demography*, 22, 73–88.
- Guzzo, K. B. (2017). Is stepfamily status associated with cohabiting and married women's fertility behaviors? *Demography*, 54, 45–70.
- Guzzo, K. B., & Dorius, C. (2016). Challenges in measuring and studying multipartnered fertility in American survey data. *Population Research and Policy Review*, 35, 553–579.
- Hart, R. K. (2019). Union histories of dissolution: What can they say about childlessness? *European Journal of Population / Revue Européenne de Démographie, 35,* 101–131.
- Hayford, S. R. (2009). The evolution of fertility expectations over the life course. *Demography*, 46, 765–783.
- Hiekel, N., & Fulda, B. E. (2018). Love. Break up. Repeat: The prevalence and stability of serial cohabitation among West German women and men born in the early 1970s. *Demographic Research*, 39, 855–870. https://doi.org/10.4054/DemRes.2018.39.30
- Hoem, J. M., Jalovaara, M., & Mureşan, C. (2013). Recent fertility patterns of Finnish women by union status: A descriptive account. *Demographic Research*, 28, 409–420. https://doi.org/10.4054/DemRes .2013.28.14
- Holland, J. A. (2013). Love, marriage, then the baby carriage? Marriage timing and childbearing in Sweden. Demographic Research, 29, 275–306. https://doi.org/10.4054/DemRes.2013.29.11
- Hopcroft, R. L. (2018). Number of childbearing partners, status, and the fertility of men and women in the U.S. *Frontiers in Sociology*, *3*, 22.
- Ivanova, K., Kalmijn, M., & Uunk, W. (2013). The effect of children on men's and women's chances of re-partnering in a European context. European Journal of Population / Revue Européenne de Démographie, 29, 417–444.
- Ivanova, K., Kalmijn, M., & Uunk, W. (2014). Fertility after repartnering in the Netherlands: Parenthood or commitment? Advances in Life Course Research, 21, 101–112.
- Jalovaara, M. (2012). Socio-economic resources and first-union formation in Finland, cohorts born 1969– 81. Population Studies, 66, 69–85.
- Jalovaara, M., Andersson, L., & Miettinen, A. (2021). Parity disparity: Educational differences in Nordic fertility across parities and number of reproductive partners. *Population Studies*, 76, 119–136.
- Jalovaara, M., & Kulu, H. (2018). Separation risk over union duration: An immediate itch? European Sociological Review, 34, 486–500.
- Jefferies, J., Berrington, A., & Diamond, I. (2000). Childbearing following marital dissolution in Britain. European Journal of Population / Revue Européenne de Démographie, 16, 193–210.
- Jokela, M., Rotkirch, A., Rickard, I. J., Pettay, J., & Lummaa, V. (2010). Serial monogamy increases reproductive success in men but not in women. *Behavioral Ecology*, 21, 906–912.
- Juby, H., & Le Bourdais, C. (1999). Where have all the children gone? Comparing mothers' and fathers' declarations in retrospective surveys. Canadian Studies in Population, 26, 1–20.
- Kalmijn, M., & Gelissen, J. (2007). The impact of recohabitation on fertility: Evidence from life history data in the Netherlands. *Journal of Comparative Family Studies*, 38, 555–574.
- Kennedy, S., & Fitch, C. A. (2012). Measuring cohabitation and family structure in the United States: Assessing the impact of new data from the Current Population Survey. *Demography*, 49, 1479–1498.
- Lappegård, T., & Noack, T. (2015). The link between parenthood and partnership in contemporary Norway—Findings from focus group research. *Demographic Research*, 32, 287–310. https://doi.org/10 .4054/DemRes.2015.32.9
- Lappegård, T., & Rønsen, M. (2013). Socioeconomic differences in multipartner fertility among Norwegian men. *Demography*, 50, 1135–1153.
- Lauriat, P. (1969). The effect of marital dissolution on fertility. *Journal of Marriage and the Family*, 31, 484–493.
- Lesthaeghe, R. (2010). The unfolding story of the second demographic transition. *Population and Development Review, 36,* 211–251.
- Li, J.-C. A. (2006). The institutionalization and pace of fertility in American stepfamilies. *Demographic Research*, 14, 237–266. https://doi.org/10.4054/DemRes.2006.14.12

Lichter, D. T., & Qian, Z. (2019). The study of assortative mating: Theory, data, and analysis. In R. Schoen (Ed.), The Springer series on demographic methods and population analysis: Vol. 47. Analytical family demography (pp. 303–337). Cham, Switzerland: Springer Nature.

- Manning, W. D., Brown, S. L., & Payne, K. K. (2014). Two decades of stability and change in age at first union formation. *Journal of Marriage and Family, 76, 247–260.*
- McDonald, P. (2000). Gender equity in theories of fertility transition. *Population and Development Review*, 26, 427–439.
- McLanahan, S., & Percheski, C. (2008). Family structure and the reproduction of inequalities. *Annual Review of Sociology*, 34, 257–276.
- Meggiolaro, S., & Ongaro, F. (2010). The implications of marital instability for a woman's fertility: Empirical evidence from Italy. *Demographic Research*, 23, 963–996. https://doi.org/10.4054/DemRes.2010.23.34
- Nisén, J., Martikainen, P., Myrskylä, M., & Silventoinen, K. (2018). Education, other socioeconomic characteristics across the life course, and fertility among Finnish men. European Journal of Population / Revue Européenne de Démographie, 34, 337–366.
- Perelli-Harris, B., & Lyons-Amos, M. (2016). Partnership patterns in the United States and across Europe: The role of education and country context. *Social Forces*, 95, 251–282.
- Saarela, J., & Finnäs, F. (2014). Transitions within and from first unions: Educational effects in an extended winnowing model. Marriage & Family Review, 50, 35–54.
- Saarela, J., & Skirbekk, V. (2020). Childlessness and union histories: Evidence from Finnish population register data. *Journal of Biosocial Science*, 52, 78–96.
- Sassler, S., & Lichter, D. T. (2020). Cohabitation and marriage: Complexity and diversity in union-formation patterns. *Journal of Marriage and Family*, 82, 35–61.
- Sobotka, T., Skirbekk, V., & Philipov, D. (2011). Economic recession and fertility in the developed world. Population and Development Review, 37, 267–306.
- Spéder, Z., & Kapitány, B. (2009). How are time-dependent childbearing intentions realized? Realization, postponement, abandonment, bringing forward. European Journal of Population / Revue Européenne de Démographie, 25, 503–523.
- Statistics Finland. (2020). Births [Data set]. Helsinki: Statistics Finland. https://stat.fi/en/statistics/synt
- Steele, F., Kallis, C., & Joshi, H. (2006). The formation and outcomes of cohabiting and marital partnerships in early adulthood: The role of previous partnership experience. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 169, 757–779.
- Stewart, S. D. (2002). The effect of stepchildren on childbearing intentions and births. *Demography*, 39, 181–197.
- Tanturri, M. L., & Mencarini, L. (2008). Childless or childfree? Paths to voluntary childlessness in Italy. Population and Development Review, 34, 51–77.
- Thaning, M., & Hällsten, M. (2020). The end of dominance? Evaluating measures of socio-economic background in stratification research. *European Sociological Review, 36*, 533–547.
- Thomson, E. (forthcoming). Cohabitation in the life course. In *Oxford international handbook of social policy*. Oxford University Press.
- Thomson, E., Dahlberg, J., & Svallfors, S. (2021). Childbearing across partnerships in Europe and the United States (Stockholm Research Reports in Demography, No. 2021:6). Stockholm, Sweden: Stockholm University Demography Unit, Department of Sociology. https://doi.org/10.17045/sthlmuni .14179967
- Thomson, E., Gray, E., & Carlson, M. J. (2020). Multiple partner fertility in Europe and the United States. In R. Schoen (Ed.), The Springer series on demographic methods and population analysis: Vol. 51. Analyzing contemporary fertility (pp. 173–198). Cham, Switzerland: Springer Nature.
- Thomson, E., Winkler-Dworak, M., Spielauer, M., & Prskawetz, A. (2012). Union instability as an engine of fertility? A microsimulation model for France. *Demography*, 49, 175–195.
- Thornton, A. (1978). Marital dissolution, remarriage, and childbearing. Demography, 15, 361-380.
- UNESCO. (2012). International standard classification of education: ISCED 2011 (Report). Montreal, Quebec, Canada: UNESCO Institute for Statistics.
- Väisänen, H. (2017). The timing of abortions, births, and union dissolutions in Finland. *Demographic Research*, 37, 889–916. https://doi.org/10.4054/DemRes.2017.37.28

- Vanassche, S., Corijn, M., Matthijs, K., & Swicegood, G. (2015). Repartnering and childbearing after divorce: Differences according to parental status and custodial arrangements. *Population Research* and *Policy Review*, 34, 761–784.
- Van Bavel, J., Jansen, M., & Wijckmans, B. (2012). Has divorce become a pro-natal force in Europe at the turn of the 21st century? *Population Research and Policy Review, 31*, 751–775.
- Vikat, A., Thomson, E., & Hoem, J. (1999). Stepfamily fertility in contemporary Sweden: The impact of childbearing before the current union. *Population Studies*, 53, 211–225.
- Vikat, A., Thomson, E., & Prskawetz, A. (2004). Childrearing responsibility and stepfamily fertility in Finland and Austria. European Journal of Population / Revue Européenne de Démographie, 20, 1–21.
- Wineberg, H. (1990). Childbearing after remarriage. Journal of Marriage and the Family, 52, 31–38.
- Zaidi, B., & Morgan, S. P. (2017). The second demographic transition theory: A review and appraisal. Annual Review of Sociology, 43, 473–492.
- Zeng, Y., Morgan, S. P., Wang, Z., Gu, D., & Yang, C. (2012). A multistate life table analysis of union regimes in the United States: Trends and racial differentials, 1970–2002. *Population Research and Policy Review*, 31, 207–234.

Linus Andersson (corresponding author) linus.andersson@sofi.su.se

\*\*Andersson • Swedish Institute for Social Research, Stockholm University, Stockholm, Sweden; https://orcid.org/0000-0002-0347-3802

Jalovaara • Department of Social Research/Sociology, University of Turku, Turku, Finland; https://orcid.org/0000-0003-1501-7078

*Uggla* • Stockholm University Demography Unit, Department of Sociology, Stockholm University, Stockholm, Sweden; https://orcid.org/0000-0003-1639-3307

Saarela • Demography Unit, Åbo Akademi University, Turku, Finland; https://orcid.org/0000-0001-8313-4271