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# Prevalence, Demographic Correlates,
# Social Gradient

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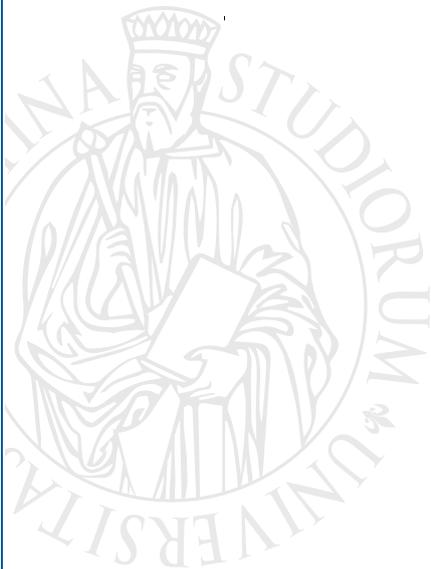
# Childbearing Across Partnerships in Italy:

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*Elena Pirani[1] and Daniele Vignoli[2]*

**Abstract**

Studies of childbearing across partnerships – or having children with more than one partner – have generally focused on countries with relatively high separation rates. We complement analyses for Italy using nationally-representative retrospective data and event-history techniques, and we offer three key findings. First, we detected a non-negligible share of childbearing across partnerships, although at substantially lower levels relative to other wealthy countries (5%). Second, multivariable analyses revealed an impressive similarity as for the demographic correlates found elsewhere. Finally, we showed that childbearing across partnerships was initiated by the 'social vanguard' of new family behaviours, but then diffused among the least well-off. Overall, this study adds to the growing literature on childbearing across partnerships by showing the phenomenon to be also demographically and sociologically relevant in countries with a limited diffusion of union dissolutions and strong family ties.

**Keywords**

Family Complexity; Multipartner fertility; Fertility; Italy; Repartnering; Union dissolution.

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## Introduction

Marriage appears to be losing its centrality in the majority of middle–high income countries, and cohabitation, divorce, childbearing within cohabitation, and re-partnering have become common life course events. Due to most parental separation and re-partnering occurring during the childbearing years – having children with more than one partner has also seen a consequent increase. This phenomenon is known as 'multi-partner fertility' or 'childbearing across partnerships'[3] (Carlson and Furstenberg 2006; Guzzo and Furstenberg 2007; Manlove et al. 2008; Lappegård and Rønsen 2013; Thomson et al. 2014; Monte 2019; Sykes and Guzzo 2019; Thomson et al. 2020). Empirical studies of childbearing across partnerships have typically focused on countries with relatively high parental separation rates (e.g. Thomson et al. 2014; Thomson et al. 2020, 2021), with estimates of childbearing across partnerships ranging between approximately 6–35% of parents with at least two children (Gray and Evans 2008; Thomson et al. 2014, 2021; Jalovaara and Kreyenfeld 2020). We complement previous analyses for Italy, a country that – despite being all-to-often caricatured as a traditional country by the international literature – has undergone substantial changes in the last 20 years, resulting in increasing levels of diversity and complexity across multiple domains of family life (Meggiolaro and Ongaro 2008; Pirani and Vignoli 2016; Vignoli et al. 2016; Vignoli et al. 2018; Caltabiano et al. 2019; Guarneri et al. 2021).

The study of childbearing across partnerships is attracting growing levels of scholarly and general interest. Childbearing across partnerships often occurs in step-family constellations, with crucial consequences for kinship, family ties, childbearing, and child welfare (Manning and Smock 2000). The socio-economic disadvantage of families involved in such a process does appear to be unusually similar across societies – including those with more extensive welfare programmes – and seems to increase in line with income inequality (Thomson et al. 2014). This is consistent with several facts regarding the less-educated part of the population: they seem to be increasingly experiencing childbearing within cohabitation (Ventura and Bachrach 2000; Perelli-Harris et al. 2010); they are increasingly likely to separate, especially as divorce becomes socially institutionalised (Härkönen and Dronkers 2006;

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[3] In this paper, we refer to 'childbearing across partnerships' instead of the (perhaps more common) term 'multi-partner fertility' for two reasons (Thomson et al. 2014, 2020). First, most often parents have children with no more than two different partners. Second, the term 'fertility' is a misnomer when applied to individuals or couples.

Matysiak et al. 2014); and their exposure-time to childbearing across partnerships is amplified by the relatively early ages at which they tend to begin childbearing (Wilde et al. 2010).

Prior studies for Italy have focused on the precursors of childbearing across partnerships: cohabitation, childbearing within cohabitation, separation, re-partnering, and step-family childbearing (De Rose 1992; Castiglioni and Dalla Zuanna 2008; Meggiolaro and Ongaro 2008, 2010, 2015; Salvini and Vignoli 2011; Pirani and Vignoli 2016; Vignoli et al. 2018). The vast majority of this research has been limited to one or two steps of the overall process. In contrast, the present study instead adopts a life course perspective (Elder 1985; Bernardi et al. 2019), placing childbearing in the context of partnership careers. This approach – pioneered by Guzzo and Furstenberg (2007), and further developed by Lappegård and Rønsen (2013), Thomson et al. (2014), and Jalovaara and Kreyenfeld (2020) – recognises that childbearing across partnerships is not the result of a single decision or reason. More specifically, we followed individuals from the birth of the first (or subsequent) child and examined three alternative life paths: having no further children; having a subsequent child within the same union; or having a subsequent child within a new union. We relied upon the best and most recent retrospective nationally-representative Italian data offered by the National Institute of Statistics in order to: (i) estimate the prevalence of childbearing across partnerships; (ii) describe the main demographic correlates of this phenomenon; and (iii) depict the social gradient of the individuals involved in the process, as well as whether such social gradient has changed over time.

## Italy, a case (to) study

Many classify Italy as belonging to the Southern European or Mediterranean model, where the family has remained pivotal and traditional attitudes favouring family behaviour have prevailed (e.g. Reher 1998; Viazzo 2003). Italy has been labelled 'traditional' in terms of values orientation, a feature due in no small part to the prevalent role of the Roman Catholic Church (Caltabiano et al. 2006; Vignoli and Salvini 2014). Consequently, the international literature has often caricatured Italy as the antidote to the broad changes to the family occurring in other wealthy countries. However, things change.

Since the mid-1960s, marriage slowly started to lose its centrality as individuals began marrying later and divorcing more frequently, especially as cohabitation arose as a prelude to marriage, and out of wedlock childbearing began to gain relevance (De Rose 1992; Meggiolaro and Ongaro 2008, 2010, 2015; Vignoli and Ferro 2009; Salvini and Vignoli 2011; Pirani and Vignoli 2016; Vignoli et al. 2018). The early-2000s brought unexpected and rapid changes in Italian family demographics (Pirani et al. 2021). From roughly 650 marriages per 1,000 women registered in 2000, this number decreased to 600 in 2008, and less than 500 in 2019. Northern Italian regions anticipated this downward trend, settling below the 400 level in recent years. Regarding cohabitation, 20 years ago, only 2 out of 100 couples lived in a non-

marital union. Currently, approximately 16% of young and adult Italians (but 22% of Northern ones) choose this form of family arrangement, at least for a part of their relationship. In recent years, roughly one third of children are born out of wedlock (most often in cohabitations), with even higher percentages in Northern and Central regions (35–39%). The rising dynamicity of union patterns is even more visible when examining marriage dissolutions, and again differs by region. Marital separations have experienced a slow but continuous rise since Italy's 1970 divorce law was introduced, but an acceleration to this growth was registered at the turn of the new century (Istat 2015; Guarneri et al. 2021; Pirani et al. 2021), passing from roughly 150 separations out of 1,000 marriages in the '90s to roughly 270 in mid-2000s (corresponding to 80 and 144 divorces, respectively). Since this time, union dissolutions have continued to diffuse, and in recent years roughly 340 out of 1,000 marriages dissolve – although this level is lower for some Southern regions (approximately 260). Cohabiting couples are characterised by higher levels of dissolution rates compared to their married counterparts (Bastianelli and Vignoli 2021).

In contrast to these lively family-related transformations, total fertility has remained anchored to (lowest-)low levels across the last couple of decades. From the mid-1960s, Italian fertility started to decline from the replacement level, with a certain delay relative to other European countries, but registered a vertiginous decline since the '80s. However, over the last 20 years, fertility levels have stagnated at approximately 1.3–1.4 children per women on average. Interestingly, in Italy, unintended childbearing is quite limited, probably due to reproductive decisions being carefully managed by couples: fertility realisations are highly consistent with previously stated intentions (e.g. Rinesi et al. 2011); and negative fertility intentions in particular have been proven to be almost perfect predictors of subsequent realisations (Régnier-Loilier and Vignoli 2011). In addition, also rates of adolescent pregnancies are extremely low (Castiglioni et al. 2001; Sedgh et al. 2011).

Italy is also widely-recognised as the European country with the highest mean age at first birth. On average, Italian women in the late-1990s gave birth to their first child around the age of 28, and the continuous and constant increase raised this age to 31 and over in 2016, which was approximately 1.5 years higher than the European average. Naturally, the record-high mean age at first birth leaves limited room for separation, remarriage, and having a second child with another partner (see also Castiglioni and Dalla Zuanna 2008).

Proponents of the Second Demographic Transition (SDT) (Lesthaeghe and van de Kaa 1986) tend to interpret the changes that have occurred in recent decades as processes driven by the emancipation from traditional social norms. Accordingly, these new family patterns began to spread across more secularised individuals, as well as those with the highest socioeconomic profiles, coming from higher social origin families, and living predominantly in the north of the country (Pirani and Vignoli 2016; Caltabiano et al. 2019). De Sandre (1980) was the first to show the increase in marital instability among women of high

socio-economic status in the first half of the 1970s, a finding later confirmed by, among others, De Rose (1992) and Vignoli and Ferro (2009) on micro data. More recently, however, during a rapid rise in separations, Salvini and Vignoli (2011) found evidence to suggest a weakening in the positive educational gradient, as the rate of separation seemed to be increasing more abruptly among the less educated, while plateauing among the highly educated. Regarding the rise of cohabitation, research focusing on Italy has shown that highly-educated women initiated its diffusion, but the educational gradient is becoming null, or even negative, among the younger cohorts that are increasingly more likely to enter cohabitation as a first union (Guetto et al. 2016). Gabrielli and Vignoli (2013) also illustrated that, in most recent periods, the well-known North–South gradient in the diffusion of new family patterns – i.e. the greater prevalence of cohabitation and divorce in the secularised north – weakened. Regarding re-partnering, while Meggiolaro and Ongaro (2008) found no significant educational gradient, they illustrated that re-partnering was still more common in Northern Italy, likely due to the opportunities of a second union being facilitated by a higher acceptance of new family behaviours from family, peers, and society in general.

In Italy, the Catholic Church has maintained a stronger and more marked presence in the socialization of young people when compared to other European contexts, such as France or Spain (Caltabiano et al. 2006). Additionally, the role of parental normative pressures on children's decisions concerning family and sexual life is especially important there due to the strength of family ties and obligations (Guetto et al. 2022). Parents tend to discourage non-normative behaviour in their offspring, and even adults tend to feel a high degree of parental pressure when making their own choices (Vignoli and Salvini 2014). Hence, strong family ties affect the rate at which new family behaviours are adopted, thereby fostering traditional family structures (Reher 1998). However, more highly-educated parents may be more open to accepting the adoption of new family behaviours on behalf of their children (Di Giulio and Rosina 2007).

At the intersection of these major areas of change, a new reality is that a potentially sizeable and relevant fraction of adults has (or will have) biological children with more than one partner. Such a possibility for Italy has hitherto been ignored by researchers and policymakers alike. Italy is absent from the literature on childbearing across partnerships, which instead has foregrounded wealthy countries with higher separation rates and less traditional family patterns. As such, our focus on the Italian context meaningfully complements the literature on childbearing across partnerships.

## Childbearing across partnerships: the background

### Between socio-cultural explanations and demographic fundamentals

The process of childbearing across partnerships has been squeezed between socio-cultural and other, more mechanic, demographic forces. In recent decades, scholars have examined the connection between

socio-cultural shifts and family changes observed in the wealthiest countries under the umbrella of the SDT narrative. The underlying idea of the SDT is that, in Western societies – and in Nordic ones in particular – the centrality of the family is declining in favour of more liberal demographic behaviours, such as divorce, cohabitation, and childbearing within cohabitation (Van de Kaa 1987). These new behaviours are viewed as the progressive independence of individuals who place a growing importance on self-realisation, psychological well-being, and their own personal freedom of expression. Accordingly, the rise of individualism and secularisation has prompted shifts in the moral code, thereby instigating and enabling major changes to family behaviour (Lesthaeghe 2020).

A new population-wide behaviour does not appear instantaneously, in fact. Rather, it initially emerges among certain population sub-groups (the so-called trendsetters, or forerunners, who usually belong to the top of the social pyramid), and later, if 'appealing', spread to others (Livi Bacci 1986). William J Goode's (1962, 1970, 1993) argument regarding marital breakdown and societal factors illuminates the dynamics beyond this diffusion process. He argued that, at least initially, only couples from the highest social strata had the intellectual and economic means to divorce. Later, as divorce's social acceptability increased, and its legal and economic barriers began to dissipate, the relationship between social status and divorce flagged and even reversed. Goode thus argued that marriage dissolution would, in all probability, eventually become more common at the bottom of the social hierarchy. Extending Goode's argument to other family events – including childbearing across partnerships – is relatively straightforward. In essence, the diffusion of new behaviours is ignited by a 'social vanguard' comprised of highly-educated individuals from upper-class families; then, as time passes, new family arrangements become democratised across social groups (Esping-Andersen and Billari 2015; for divorce, see Härkönen and Dronkers 2006, Matysiak et al. 2014; for the diffusion of cohabitation, see Ní Bhrolcháin and Beaujouan 2013).

These socio-cultural shifts facilitate the diffusion of new family patterns, in turn fostering childbearing across partnerships. Nonetheless, fundamental demographic forces are also responsible for the level of diffusion of childbearing across partnerships. First, the overall level of fertility clearly affects the strength of the process (Schoen 2020). By definition, childless women, or those with a single child, cannot experience childbearing across partnerships. Second, the age at first sexual debut and (especially) at first birth influence both future childbearing and union behaviours (Brown 1999; Giordano et al. 2006). The postponement of first birth may possibly reduce the risk of separation, re-partnering, and second births with a possible new partner (Gibson-Davis 2011; Guzzo and Hayford 2011, 2012). Third, childbearing across partnerships is much higher in contexts where a high proportion of first births occur to single people. The United States is an archetypical example of such a context (Cherlin 2009).

*A methodologically challenging issue*

While an intuitive and straightforward definition of childbearing across partnerships can be easily proposed – i.e. the experience of having children with more than one partner – its demographic analysis requires at least three pivotal analytical decisions (Guzzo and Dorius 2016; Stykes and Guzzo 2019). These are not ancillary technical aspects, and require explicit discussion.

First, the choice of the perspective of analysis – whether that of parents or children – may lead to different results. Taking adults as the statistical unit of analysis denotes a preferable route if the interest is on documenting the prevalence of childbearing across partnerships and its associated characteristics (for more details, see Guzzo and Dorius 2016). One could derive conflicting estimates depending on which of the various subsets one considers, ranging from all individuals, to all parents who gave birth to a child, to all parents with at least two children. Conversely, when the researcher seeks to study children's outcomes arising from their parent's childbearing across partnerships experiences, the unit of analysis should consider the proportion of children having at least one half-sibling, or similar operationalisations (Guzzo and Dorius 2016). Due to our aims, we decided to focus on the adults' experience of this process. Specifically, for the prevalence estimate of childbearing across partnerships, we focused on parents with at least two children, or those technically eligible to have children with more than one partner, whereas for the study of the correlates we followed adult individuals from the birth of the first (or subsequent) child to the eventual experience of childbearing in a different union.

Second, the correct identification of the fatherhood and motherhood of a given child – which represents the foundation of childbearing across partnership studies – is heavily dependent on data availability. It would be optimal to have the possibility to consult population (administrative) registers, thus relying on a unique identification code that enables the linkage between children and biological parents beyond the existence of an enduring union. Unfortunately, this is only available for a restricted number of countries (e.g. the Nordic ones in the European context, see Lappegård and Rønsen 2013; Jalovaara and Kreyenfeld 2020), or indeed rarely publicly available at all (Guzzo and Dorius 2016). The typical shortage of administrative data fuelled the development of different strategies for identifying childbearing across partnerships, taking advantage of survey data, which typically collect retrospective fertility and union histories. This information enhances the possibility to *indirectly* identify childbearing across partnerships using birth and partnership histories, assuming that different union spells represent different partners, or that a child is from a specific partner if the date of birth lies within the start and end dates of said union. Accordingly, childbearing across partnerships is proxied by multiple-union childbearing. A number of assumptions must be made regarding, for instance: the correspondence between spells of co-residence and partner identification; the recall precision for event timing; or the births outside unions (Guzzo and Dorius 2016). These assumptions may lead one to

overestimate the prevalence of childbearing across partnerships, especially in context where births outside co-residential unions are frequent (Stykes and Guzzo 2019). An alternative identification strategy is possible when the survey *directly* asks respondents if they have had children with more than one partner. Whereas the need of assumptions is more relaxed in this case, Stykes and Guzzo (2019) noticed that a potential social desirability bias might induce respondents to hide multiple union births, thereby leading to an underestimation of the phenomenon, especially for women and in more traditional contexts. Comparing alternative identification strategies, Stykes and Guzzo (2019) concluded that both approaches could produce credible estimates, with differences confined in a reasonable narrow range of values. Due to data constraints, we adopted a fertility and union career perspective, identifying childbearing across partnerships through the *indirect* method. In addition, we opted to provide minimum and maximum interval estimates to account for the possible assumptions, thus enhancing the robustness of our estimates (Stykes and Guzzo 2019).

Third, paths towards childbearing across partnerships are various, each of them implying other demographic processes over the life course. Specifically, childbearing across partnerships is intimately connected with the union formation/dissolution processes (Guzzo 2014), thereby raising endogeneity issues. It has been widely established that non-marital unions are generally less stable than marital ones, even in the presence of children (e.g. Manning et al. 2004), thus enhancing the probability of childbearing across partnerships (e.g. Lappegård and Rønsen 2013; Lappegård and Thomson 2018). Moreover, while having children with a different partner is not impossible within an ongoing union, we should note that it is relatively unlikely (Guzzo 2014). The propensity to re-partner once the previous union has dissolved – and its gender differentials (Monte 2019) – is also expected to be of consequence. It is thus reasonable to imagine that never-married individuals and those who experienced a union disruption are more likely to have children from multiple unions. Given its endogenous nature, previous research seems conflicted as to whether partnership history must be accounted for in the analysis of childbearing across partnerships. While some researchers have opted to exclude this variable (e.g. Jalovaara and Kreyenfeld 2020), others have tested various specifications (also according to data availability), such as marital status at first birth (e.g. Carlson and Furstenberg 2006; Manlove et al. 2008; Lappegård and Thomson 2018), prior marriage (Thomson et al. 2014), and marital history (Lappegård and Rønsen 2013; Monte 2019). Eventually, we decided to exclude any measure of union history from our model (see also our robustness checks).

### *Empirical evidence*

Bearing in mind that different selections of the study populations and analytical perspectives produce estimate variations (Guzzo 2014; Guzzo and Dorius 2016), much of the literature has supported a prevalence of childbearing across partnerships ranging from slightly above 6% to over 20% of parents

(of those of adult age) across European countries (e.g., Thomson et al. 2014, 2021; Jalovaara and Kreyenfeld 2020). In the United States, roughly one third of parents are estimated as having had children across partnerships (Monte 2019; Thomson et al. 2021). Thomson, Gray, and Carlson (2020) estimated that childbearing across partnerships constitutes up to 9% of total fertility in Europe and over 20% in the United States.

The demographic correlates of childbearing across partnerships have been previously explored. Men and women tend to experience multiple-union childbearing differently (Monte 2019) due to the gendered characteristics of fertility constraints, union dissolution, re-partnering, and co-residence with former child(ren). The final result – also influenced by individual preferences and desires (Thomson 2004; Beaujouan and Solaz 2013) – is rarely straightforward. For instance, German, Finnish, and Norwegian women (Lappegård and Thomson 2018; Jalovaara and Kreyenfeld 2020) have shown (somewhat unexpected) higher rates of having a further child with a new partner than men, especially when the first child was still young, but negligible gender differences were found in Sweden (Lappegård and Thomson 2018). Low age at first birth has been consistently found to be a strong predictor of childbearing across partnerships for both females and males. The longer 'exposures' to entering and exiting relationships (which fosters childbearing) is especially amplified by adolescent pregnancy (Carlson and Furstenberg 2006; Thomson et al. 2014). Parity also shapes childbearing across partnerships. Indeed, the probability of experiencing childbearing across partnerships declines as a parent already has two or more children – which also decreases the likelihood of forming a new partnership (Thomson et al. 2012). Finally, partnership experience (when included, e.g. Carlson and Furstenberg 2006; Manlove et al. 2008; Lappegård and Rønsen 2013; Thomson et al. 2014; Lappegård and Thomson 2018; Monte 2019) indicated that for the never married, unmarried at first birth, or those who experienced a marital dissolution, the likelihood for childbearing across partnerships is generally higher.

The social gradient in childbearing across partnerships has also been explored. Lappegård and Rønsen (2013) showed that, for males, the likelihood of having a child with a new partner is positively related to both socioeconomic advantage and disadvantage. Thomson et al. (2014) clearly highlighted a negative educational gradient in childbearing across partnerships in Australia, the United States, Norway, and Sweden. Additionally, interaction models by time period also showed that the negative educational gradient in childbearing across partnerships only emerged in recent years, and became steeper in the 2000s. Finally, Jalovaara and Kreyenfeld (2020) analysed childbearing across partnerships in Finland and Germany. While they found no consistent relationship between education and childbearing across partnerships in Germany, a low level of education appeared to be associated with an increased likelihood of having children with different partners in Finland.

## Research questions

Three research questions for Italy guided the present paper.

- RQ1 (Prevalence): How many individuals have children across partnerships? We expected the phenomenon of childbearing across partnerships to involve a lower share of parents compared to other countries. In Italy, the recent diffusion of family behaviours preluding childbearing across partnerships is on the rise, but this process is likely counterbalanced by important structural demographic forces, primarily low fertility, and a small proportion of births outside unions and at young ages.

- RQ2 (Demographic correlates): What factors are associated with the probability of having children across partnerships? We anticipated Italy to have similar demographic correlates of childbearing across partnerships to those of other countries. Much of this similarity would likely be due to the role of 'fertility fundamentals' (Thomson et al. 2014: 502), namely that the share of the phenomenon is known to decrease with parity and age at first birth.

- RQ3 (Social Gradient): What are the socioeconomic correlates of childbearing across partnerships? Are they changing over time? Similar to other new family patterns, we expected that the trendsetters of childbearing across partnerships in Italy would be less traditional individuals living in areas more open to the diffusion of new family patterns, or highly-educated people living in Northern Italy (Pirani and Vignoli 2016; Caltabiano et al. 2019). Nevertheless – and as observed for other family-related behaviours, such as cohabitation and union dissolution (Salvini and Vignoli 2011; Gabrielli and Vignoli 2013) – we advance the possibility that the positive social gradient of childbearing across partnerships is weakening over time as new family behaviours diffuse.

## Research Design

### Data

We obtained our data from the two Italian surveys on Families and Social Subjects (FSS) conducted by the National Institute of Statistics in 2009 and 2016. These are the most complete and reliable retrospective nationally-representative surveys on Italian individuals and their families. The former collected information on approximately 24,000 households for roughly 50,000 individuals, while the latter gathered data on 30,000 individuals aged 18 years and older, and both had an overall response rate of approximately 80%. Due to how the 2009 survey collected information for all individuals living in the household, we decided to select and include in the analysis only the record of the so-called 'reference person', who directly answered the survey (as was the case in the 2016 survey). These data

include detailed information (recorded on a monthly basis) on men[4] and women's partnership and childbearing histories, which allowed us to follow an event history approach. The respondents were asked to provide start and end dates for all of their unions, regardless of their duration.

To study childbearing across partnerships, we included both men and women aged between 25–54 at the time of the survey – corresponding to the cohorts born in 1955–1984 (for the 2009 survey) and 1962–1991 (for the 2016 survey). We focused on individuals with at least one child at the time of the survey. We excluded cases with missing values on union/fertility histories (roughly 0.5% of the sample) and adopted children (less than 1% of those reporting having children). Twin births were treated as single events. The analytical sample included 12,938 individuals with at least one child (7,680 men, 5,258 women) from both surveys (5,760 in 2009, 7,178 in 2016). The prevalence measure refers to the sub-sample of those with at least two children, which contained 8,196 individuals (4,941 men and 3,255 women; 3,726 surveyed in 2009 and 4,470 in 2016).

### *Detecting childbearing across partnerships*

Given the nature of our data, there was no mother or father identification code available with which to securely detect both parents of each child. In line with Thomson et al. (2014; 2021) and Jalovaara and Kreyenfeld (2020), and aware of the possible limitations, we chose to follow the indirect approach for identifying childbearing across partnerships (Guzzo 2014; Guzzo and Dorius 2016). We thus compared the dates of childbearing and union histories, and attributed each birth to a specific union (and approximately to a specific partner). If two births originated from the same union, it was considered a case of same-union childbearing. However, if the respondent was engaged in different unions at the times of birth of two children, we considered this to be childbearing across partnerships (or multiple union). This method is well-suited for a country like Italy, where pregnancies occur almost entirely within co-residential unions (De Rose and Dalla Zuanna 2013). We did not distinguish between marital or non-marital cohabitation, and when a pre-marital cohabitation transformed into marriage, we considered it to be the same union. We studied the process considering all higher-order parity transitions, despite the large majority of cases pertaining to second born children.

This procedure allowed us to easily assign the overwhelming majority of cases (94%) to same or multiple union childbearing type. Nevertheless, in the remaining 6% of cases, the respondents were not involved in a partnership at the time of at least one childbirth, thereby frustrating the unequivocal event identification process. To disentangle these cases, we laboured under the assumption that births

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[4] In the 2009 household survey, husbands' childbearing histories had to be attached to them from the corresponding information of their wives' records.

occurring closely (before or after) a union formation involved the same partner (Kreyenfeld et al. 2017; Stykes and Guzzzo 2019), despite certain studies having occasionally documented the opposite (e.g. Guzzo 2017). In fact, pregnancies and births may occur when parents are not formally cohabiting, although a co-residing union generally soon follows. Alternatively, and even rarer, a union dissolution may occur briefly after pregnancy or birth. On average, the space between births appears closer for people who have a second child in the same union than for those having a second child with a new partner (Kreyenfeld et al. 2017). For the sake of clarity, we will here describe the strategy followed with reference to the second child; we applied a similar approach when considering subsequent children.

In some cases (4%), the first child was born during a non-union spell, with a second child following within a union. In these situations, we checked the time that elapsed between the first birth and the beginning of the union. When this time was less or equal to 5 years (which was the case over 75% of the time) we assumed that the two children originated from the same relationship, only attributing them to multi-partner when this amount of time was higher. Conversely, in other rare cases (0.7%), a respondent was in a union at the moment of the first birth, but not for the second. We considered these potentially ambiguous situations to be cases of childbearing across partnerships if the respondent reported no subsequent new union; in case of further union, we accurately checked the time (in months or years) that passed between the two unions and childbirth, attributing the latter to the closest union. Major complications arose in the case of subsequent births unrelated to unions, namely those during non-union spells (1.1%). Again, we accounted for the timing of childbearing and union histories, assuming that multiple non-union births originated from different partners only when there was a relatively long time span between union and birth events (i.e. higher than 5 years, which represented only a small number of these cases). Finally, the negligible percentage of cases where no union spells were reported by the individual (0.2%) were all considered as childbearing originating from different partners.

*Method*

To examine childbearing across partnerships from the perspective of individual fertility histories, we applied a discrete-time hazard regression and adopted a competing risk framework, following the route traced by Lappegård and Rønsen (2013), Thomson et al. (2014) and Lappegård and Thomson (2018). Competing risk models are suitable when studying a transition from one origin state (i.e. having had one child), but there is more than one destination or type of event (i.e. having a subsequent child in the same or in a different union), under the assumption that these destinations are mutually exclusive.

The risk set was composed of individuals technically eligible to bear children across partnerships (namely, those who have had at least one child). We thus followed individuals from the year of the birth of their first child until the year of birth of their second. We identified a new birth originating from a

new union as a case of childbearing across partnerships, excluding further observations. If the new birth occurred within the same union, we continued our observation, but at parity two. In case of no additional children, we ceased our observation when the individual reached the age of 49 or at the time of interview.

We indicated with R the types of event. In the case under study, $r=1$ if a second (or further) child was born in the same union; and $r=2$ if the child was born in a different union. If *no event* (no second child) occurred in the time interval considered, $r=0$. To obtain the discrete-time (cause-specific) hazard, or the conditional probability, of an event of type $r$ during interval $t$ for individual $j$, we estimated a discrete-time multinomial logistic regression model. The multinomial logit specification implies the estimation of R equations contrasting event type $r=1,2$ with *no event* ($r=0$) to estimate the cause specific hazard $h_j^{(r)}(t)$, which is expressed as follows in the logit form:

$$log\left(\frac{h_j^{(r)}(t)}{h_j^{(0)}(t)}\right) = a^{(r)}(t) + \boldsymbol{\beta}^{(r)}\boldsymbol{x}_j^{(r)} + \boldsymbol{\gamma}^{(r)}\boldsymbol{z}_j^{(r)}(t) + u_j^{(r)}.$$

According to this equation, $a$ represents the baseline duration – i.e. the time since previous birth measured in years – which we modelled with a piecewise specification: 1–2 years, 3–4, 5–9, 10–14, or 15 years or more; $\boldsymbol{x}_j$ is a vector of time-constant covariates; and $\boldsymbol{z}_j$ is a vector of time-varying covariates. $u_j^{(1)}$ and $u_j^{(2)}$ follow a multivariate normal distribution. We estimated the model using STATA Software, version 15.

### *Variables*

The discrete-time hazard regression model controls for some demographic fundamentals and socio-economic characteristics. As we jointly considered males and females, we included an indicator variable (*male*; *female*) in the model specification, together with the age at first birth (*24 or younger*; *25–29*; *30 or over*). The model also controlled for the parity (*1*; *2*; *3 or more;* time-varying).

We focused on period developments of childbearing across partnerships in Italy so as to pinpoint changes in calendar time (Ní Bhrolcháin 1992). To control for changes over time, roughly accounting for variations across time in the antecedents of childbearing partnerships (union instability, non-marital childbearing, and cohabiting union trends; Manlove et al. 2008), we created a time-varying variable indicating the calendar time, starting at the beginning of the process (birth of the first child) and updating it by year, which was then collapsed into two large periods: *2003 or before* and *2004 or after*. We identified this threshold also considering the diffusion of union dissolutions in Italy, a key precursor of childbearing across partnerships. As previously discussed, at the end of the '90s and the beginning of 2000s, marriage separations registered an impressive increase which, will still rising, began to decrease in pace from approximately 2004.

***Table 1*** *– Exposures (person-years) and occurrences, by socio-demographic characteristic, absolute and percentage values*

| | | Exposures | | Additional child in same union | | Additional child in multiple unions | |
|---|---|---|---|---|---|---|---|
| | | absolute value | % | absolute value | % | absolute value | % |
| **Total** | | 165,646 | 100.0 | 10,058 | 100.0 | 409 | 100.0 |
| **Years from prev. child** | | | | | | | |
| | 1/2 | 40,845 | 24.7 | 2,735 | 27.2 | 27 | 6.6 |
| | 3/4 | 30,064 | 18.1 | 3,644 | 36.2 | 53 | 13.0 |
| | 5/9 | 47,745 | 28.8 | 3,181 | 31.6 | 171 | 41.8 |
| | 10/14 | 27,451 | 16.6 | 436 | 4.3 | 109 | 26.7 |
| | 15+ | 19,541 | 11.8 | 62 | 0.6 | 49 | 12.0 |
| **Gender** | | | | | | | |
| | men | 91,977 | 55.5 | 6,037 | 60.0 | 187 | 45.7 |
| | women | 73,669 | 44.5 | 4,021 | 40.0 | 222 | 54.3 |
| **Parity** | | | | | | | |
| | 1 | 76,130 | 46.0 | 7,885 | 78.4 | 302 | 73.8 |
| | 2 | 71,279 | 43.0 | 1,768 | 17.6 | 78 | 19.1 |
| | 3+ | 18,237 | 11.0 | 405 | 4.0 | 29 | 7.1 |
| **Age at 1st child** | | | | | | | |
| | 24 or younger | 53,360 | 32.2 | 2,954 | 29.4 | 239 | 58.4 |
| | 25-29 | 59,029 | 35.6 | 3,620 | 36.0 | 105 | 25.7 |
| | 30 or over | 53,257 | 32.2 | 3,484 | 34.6 | 65 | 15.9 |
| **Calendar year** | | | | | | | |
| | 2003 or before | 77,200 | 46.6 | 6,027 | 59.9 | 199 | 48.7 |
| | 2004 or after | 88,446 | 53.4 | 4,031 | 40.1 | 210 | 51.3 |
| **Education** | | | | | | | |
| | Lower-secondary | 95,403 | 57.6 | 5,662 | 56.3 | 235 | 57.5 |
| | Upper-secondary | 52,395 | 31.6 | 3,159 | 31.4 | 122 | 29.8 |
| | Higher | 17,848 | 10.8 | 1,237 | 12.3 | 52 | 12.7 |
| **Parental education** | | | | | | | |
| | Lower-secondary | 135,967 | 82.1 | 8,081 | 80.3 | 302 | 73.8 |
| | Upper-sec. or higher | 29,679 | 17.9 | 1,977 | 19.7 | 107 | 26.2 |
| **Area of residence** | | | | | | | |
| | North-Centre | 97,358 | 58.8 | 5,585 | 55.5 | 282 | 68.9 |
| | South | 68,288 | 41.2 | 4,473 | 44.5 | 127 | 31.1 |

*Source*: Authors' elaborations on Italian FSS data, 2009, 2016.

Respondents' level of education was included as a time-varying specification, distinguishing between *lower-secondary*, *upper-secondary*, and *higher* education levels. Parental education – which we included as a marker for the family of origin's social background – was built as the highest educational level reached by parents, differentiating between *lower-secondary* vs. *upper-secondary or higher* education, a dichotomisation suggested by the extremely low share of tertiary-educated Italians in the oldest cohorts

(e.g. Barone and Guetto 2021). Finally, to account for Italy's well-established regional gradient, we added a control for the area of residence (*North-Centre* vs. *South*). In the last part of our analysis, in order to verify the change over time of the social gradient (if any), we interacted calendar time with respondents' education, parental education, and region (within the same model specification).

Descriptive statistics on the composition of the analytical sample, in terms of exposures and occurrences, are reported in Table 1. A total of 409 individuals included in our sample experienced childbearing across partnerships. Occurrences were, in some cases, irregularly distributed across the socio-demographic characteristics considered, but the categorisations chosen led to a substantial robustness of the model findings.

## Results

### *Prevalence*

Table 2 shows the prevalence of childbearing across partnerships among parents aged between 25–54 with at least two children. We found that 5% of the sample – or, in terms of population-level estimates, some 490,000 parents – had children in multiple unions.

We found this to be more highly prevalent for women. Segmenting by parity illustrates that, as the number of children increases, so too does the prevalence of multiple-union childbearing. It also seems that childbearing across partnerships increases for younger cohorts, although the difference is not statistically significant.

We are aware that this prevalence may have been affected by the identification procedure adopted. To gain confidence in our estimates, we used two parallel strategies. First, we validated our results through another data source, namely the Italian Sample Survey on births. This contained a direct question asked to a sample of women who gave birth in 2012. They were asked whether all of their children were of the same partner, thereby making this survey a suitable alternative data source with which to directly address the prevalence of childbearing across partnerships. This data source revealed that over 4% of children had siblings of different parentage. The similarity with findings for women from the FSS convinced us of the soundness of the indirect identification of childbearing across partnerships. Interestingly, Stykes and Guzzo (2019) cautioned of the possibility that social desirability bias produces downwardly estimates, especially among women, of childbearing across partnerships when using direct questions.

Secondly, to account for potential distortions due to the assumptions made in the identification process, we attributed possibly ambiguous cases alternatively to same- or multiple-union, thus identifying a *bandwidth* for our prevalence estimate (Stykes and Guzzo 2019). When all potentially uncertain cases were coded as same union childbearing, the prevalence reduced to 4.2%, whereas it rose

to 6.0% when potential uncertain childbearing was considered as coming from multiple unions. These lower and upper bounds – while still confining prevalence across childbearing to limited values in Italy as compared to other countries – proved the phenomenon's certain relevance and further enhanced the validity of our results. According to this interval, we may estimate that between 410,000 and 580,000 Italians parents with at least two children are involved in multiple-union childbearing.

*Table 2 – Prevalence of childbearing across partnerships, weighted percentages. Individuals aged 25– 54 at the time of the survey who have at least two children*

|  | additional child in multiple unions |
|---|---|
| Total | 5.0 |
| Gender |  |
| Men | 4.2 |
| Women | 5.9 |
| N. children |  |
| 2 | 3.6 |
| 3+ | 9.6 |
| Birth cohort |  |
| 1955-64 | 5.0 |
| 1965-74 | 4.9 |
| 1975-91 | 5.2 |

*Source*: Authors' elaborations on Italian FSS data, 2009, 2016.

### *Demographic correlates*

The model's results are reported in Figure 1 in terms of the predicted probabilities of having an additional child in a different union (and likely with a different partner) than the previous one. The confidence intervals are centred on the predictions and have lengths equal to $1.39 \times$ standard errors. This is necessary for having an average level of 5% for Type I errors in pair-wise comparisons of a group of means (Goldstein and Healy 1995). Complete estimates, also for the likelihood of having an additional child in the same union, can be found in the Appendix.

In line with our previously estimated prevalence measure, the probability of childbearing across partnerships was relatively low: 0.23% on average (i.e. when covariates are at their reference level, depicted with a horizontal line in Figure 1). However, interesting differences emerged when considering the correlates of the process.

The probability of having a child in a different union seems to be at its lowest within 1–2 years after the first birth. However, it progressively rises in line with time since previous child birth, and reaches its peak between 5–9 and 10–14 years (0.37–0.41%) before reducing again. After a dissolution, time is needed for re-partnering and, consequently, for a new childbirth. Children in different unions tend to be relatively more spaced out in terms of birth than subsequent children within the same union (Kreyenfeld et al. 2017).

Indeed, for this latter group, the highest probability of having a subsequent child was within 3–4 years from the previous one (see Table A1 in the Appendix).

*Figure 1* –*Predicted probabilities of childbearing across partnerships. The results are from discrete-time competing risk model*
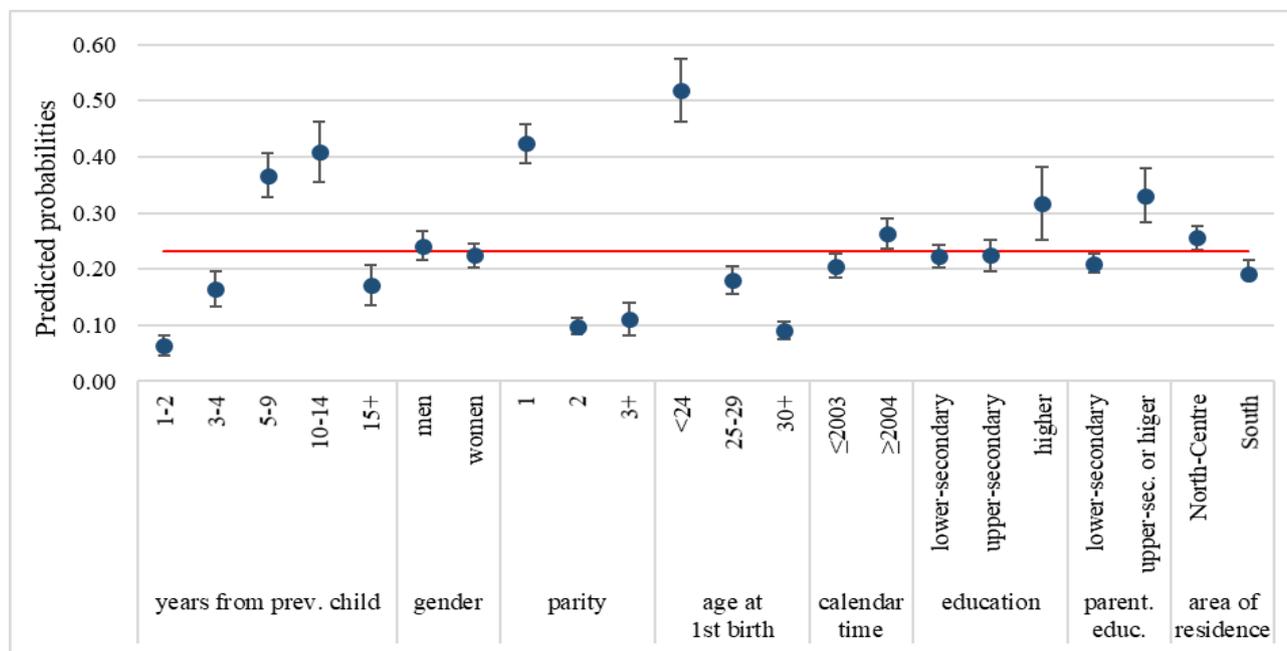


*Note*: Horizontal red line: baseline probability averaged over the other covariates. CI for approximate 5% significance level for the comparison of pairs of predicted probabilities.
*Source*: Authors' elaborations on Italian FSS data, 2009, 2016.

Gender differences did not emerge in the multivariable analysis, with a similar probability of having children across unions for men and for women (0.24 and 0.22%, respectively). Most new-partner births were second- rather than higher-order births, a result expected in the context of the Italian lowest-low fertility levels. The likelihood of having an additional child within a new union was highest for individuals with only one previous child, then declined rapidly along with the increase of parity (probability equal to 0.42% for parity 1, compared to 0.10–0.11 for higher-order parities).

We confirmed that an early timing of the first birth is associated with a higher chance of multiple-union childbearing. Our model estimated a probability equal to 0.52% for those who became parents before the age of 25 – which decreased to 0.18 and 0.09 for older age classes. Age at first birth seems decisive in higher-order parity fertility (see Table A1 in the Appendix), but is especially relevant in multiple-union childbearing.

As expected, Figure 1 shows a progressive increasing trend of the probability of childbearing across partnerships over time (0.26% in 2004 and after, relative to 0.21 before 2003). This result becomes increasingly relevant when one considers that the relative risk of having a second child within the same union slightly decreases over time (Table A1 in the Appendix).

### *Social gradient*

Figure 1 also illustrates the social gradient in the childbearing across partnerships process. More highly-educated individuals seem to have an above-average likelihood to have children in different unions (0.32%). This seems to contradict the prevailing international literature, which has consistently stated that more lowly-educated individuals are overrepresented among multi-partner parents. A positive effect of higher education has been noticed for higher-order fertility in the Italian context (Impicciatore and Dalla Zuanna 2017). In line with this study, Table A1 of the Appendix shows that highly-educated people also display a greater probability of having additional children within the same union, although the effect seems especially relevant for multiple-union childbearing. We also confirmed the same positive gradient for parental education. Finally, as has been widely-established, Southern Italian regions are characterised by a lower diffusion of new family-related behaviours, which was mirrored by a reduced probability for residents of this area to experience childbearing across partnerships (0.19% vs. 0.26 for Northern Italy).

Having documented the existence of certain social gradients (in terms of respondents' and parents' education and area of residence) in the probability of having children in multiple unions, we then sought to explore whether this association has changed over time. Figure 2 shows the predicted probabilities of the social gradient in multiple-unions childbearing by calendar period (resulting from the three interactions simultaneously added to the main model previously estimated).[5]

Regarding the respondents' level of education, the overall positive gradient previously described (again, see Figure 1) seems to hide a temporal variation. Until the beginning of the 2000s, childbearing across partnerships was mostly confined to higher educated trendsetters: highly-educated individuals exerted a probability of multiple-union childbearing equal to 0.30%, relative to 0.18 and 0.23 for lower-secondary and upper-secondary educated individuals, respectively. During the following period, the probability of having multiple-union children showed a moderate increase for higher-educated individuals (0.35%) but, importantly, it also increased for their less-educated counterparts (especially for those with the lowest education level, 0.28%). The disappearing of the educational gradient is therefore clear-cut.

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[5] We inspected the number of occurrences in each cell deriving from these interactions. Each crossing cell includes a sufficiently high level of events (only two cells involving higher educated individuals include 22 and 30 events in the two time-periods, respectively).

***Figure 2*** *–Predicted probabilities of childbearing across partnerships. The results are from discrete time competing risk model, calendar time interacted with respondent education, parental education and area of residence. Model controlled for covariates included in Figure 1.*
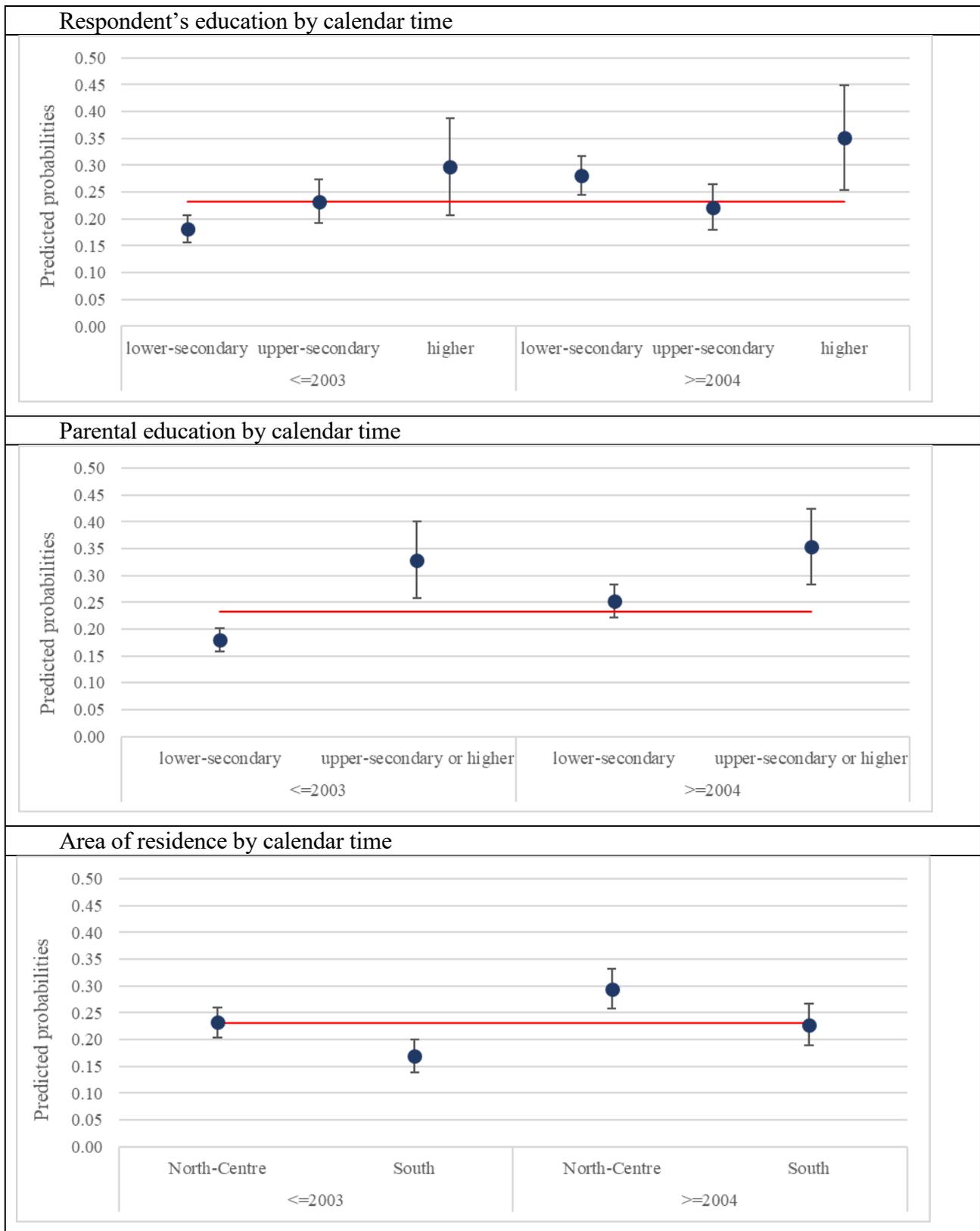


*Note*: Horizontal red line: baseline probability averaged over the other covariates. CI for approximate 5% significance level for the comparison of pairs of predicted probabilities.
*Source*: Authors' elaborations on FSS data, 2009, 2016.

A similar trend can be observed when considering the parental educational level. While in the most distant calendar period, the probability of childbearing across partnerships for individuals with highly-educated parents was almost double that of those with lower-secondary educated parents (0.33 vs. 0.18%), the gap progressively reduced in the following period. Multiple-union children are nowadays almost equally likely across individuals regardless of parental educational level (0.25% for those with lower-educated parents vs. 0.35% for highly-educated parents).

Finally, variations over time clearly appeared for the regional gradient. The previously outlined Southern delay (see, again, Figure 1), derived from a regional gap which closed over time, and became irrelevant in recent years (probability equal to 0.29 for Northern and Central areas, and 0.23 for Southern ones after 2003, with overlapping confidence intervals).

### *Robustness checks*

We ran a series of sensitivity checks to assess the robustness of the findings (results not shown here, but are available upon request). One may question whether our results were affected by the age selection made on the sample. Performing a check to include older individuals (namely those above the age of 54 at the time of the survey) showed no significant differences in our results, whether in terms of prevalence or characteristics associated with childbearing across partnerships.

Our analysis considered every child an individual had, whereas other studies have tended to focus only on the first two or three. We checked both possibilities but, given the substantial stability of the models' estimates, we decided to perform the analysis considering all higher-order parity transitions so as to slightly increase the sample size. Moreover, we did not censor observations after a certain exposure time; nevertheless, checks limiting birth intervals to a maximum of 20 years proved that this choice did not affect the study's substantial conclusions.

Regarding the model specification, we implemented a set of sensitivity checks. We first estimated separate models for men and women. Due to the reduced sample size, estimates generally presented higher confidence intervals, and the substantial absence of gender differences in the effects of the different correlates (in line with those here presented) convinced us to jointly report the results for men and women. Additionally, as some may question the inclusion of the age at first birth – older first-time mothers have less time in which to find a new partner and have additional children after union dissolution (Carlson and Fustenberg 2006; Gibson-Davis 2011; Guzzo and Hayford 2011, 2012) – we re-ran our models omitting this variable. Our findings were largely confirmed.

As previously noted, union status may be considered an endogenous variable in the process of (multiple-union) childbearing, leading to our decision to exclude it from the final model specification. When included for the robustness check, being in a union (time-varying specification) resulted in an association with a higher probability of having an additional child with the same partner, while not

being in a union increased the probability of multiple-union childbearing. Partnership status, in some sense, could account for the way events of interest were identified, but other correlate estimates were unaffected by the presence of this variable. Other variable specifications tested – e.g. partnership history (*never married*; *married, never divorced*; *married and divorced*) or union status at first birth (*not in union*; *cohabiting*; *married*) – performed as expected without altering the models' results.

Regarding the calendar time, we also tested other specifications accounting for small variations in the contrasting of the two periods, but the results remained virtually unchanged. Finally, following Stykes and Guzzo (2019), we also estimated models considering the different coding of potentially uncertain childbearing events (i.e. attributing ambiguous cases alternatively to 'same union' – lower bound – or to 'multiple unions' – upper bound) in order to document possible variations in the correlates' association. Our results proved robust in all of these different event specifications.

## Discussion

Despite mounting evidence of childbearing across partnerships for several wealthy countries with relatively high parental separation rates (Carlson and Furstenberg 2006; Guzzo and Furstenberg 2007; Gray and Evans 2008; Manlove et al. 2008; Lappegård and Rønsen 2013; Monte 2019; Sykes and Guzzo 2019; Thomson et al. 2014; Thomson et al. 2020, 2021), previous research has hitherto neglected Mediterranean countries characterised by strong family ties, such as Italy. In response to this oversight, this study elucidates on prevalence, demographic correlates, and social gradient (and its change over time) of childbearing across partnerships for Italy.

First, we detected a share of childbearing across partnerships of 5% among parents aged 25–54 with at least two children; a population-level estimate ranging from 410,000 to 580,000 individuals, depending on the assumptions made. Most recent estimates of childbearing across partnerships by Thomson et al. (2021) were generated from Harmonized Histories survey data for Belgium, Bulgaria, the Czech Republic, Estonia, France, Georgia, Hungary, Lithuania, Norway, Poland, Romania, Spain (women only), and Sweden. Prevalence estimates suggest that the percentage of parents aged under 46 at the interview with at least two children who have had children with more than one partner ranges from roughly 6 to over 20%. Our estimate for Italy – based on the same methodology of Thomson et al. (2021), which considers whether all of the respondent's children are born in the same union or some in different union spells –  suggests that this country displays the lowest share of childbearing across partnerships among the countries analysed in contemporary research. Nonetheless, this group is demographically and sociologically interesting. This group appears to be finding its place between socio-cultural changes that drive the diffusion of new family patterns and more structural demographic forces that limit its prevalence. On the one hand, several SDT markers in Italy, such as cohabitation,

childbearing within cohabitation, and union dissolution, are now spreading rapidly (Pirani and Vignoli 2016; Vignoli et al. 2016; Caltabiano et al. 2019; Pirani et al. 2021). On the other hand, more mechanic forces seem to be pushing in the opposite direction: the lowest-low Italian fertility (there are few women who have more than one child and, by definition, childbearing across partnership is visible from parity two); the inborn postponement of the first child and the lengthy average marriage duration (which leaves little space for separation, remarriage, and a second child with another partner); and the low number of children outside unions and at young ages (due to the Italian youth's effective and careful management of contraception; Castiglioni et al. 2001; Guetto et al. 2022).

Accordingly, despite it is relatively straightforward to predict an increase in exposure to childbearing across partnerships due to the drastic rise in union dissolutions (of marriages and cohabitations), we do not expect childbearing across partnerships to become commonplace in the near future. Similar to other European countries (Van Bavel et al. 2012), divorced or widowed women who did not remarry in Italy had much lower completed fertility (Meggiolaro and Ongaro 2010). Microsimulation analyses by Winkler-Dworak et al. (2017) also suggest that re-partnering does not fully compensate for the lower fertility associated with union disruption in Italy.

Second, our findings show an impressive similarity regarding the demographic characteristics associated with childbearing across partnerships throughout culturally different societies (e.g. Australia, Germany, Finland, Norway, Sweden, and the United States). Indeed, the effects of age at first birth and parity are largely consistent with prior research (Guzzo and Furstenberg 2007; Manlove et al. 2008; Lappegård and Rønsen 2013; Thomson et al. 2014, 2020; Jalovaara and Kreyenfeld 2020). Those who had their first birth at a very young age are most likely to have children with different partners. Older first-birth parents had less time available – and possibly a lower inclination – for a new start (Thomson et al. 2012). Parity reduced childbearing, whether with the same or a different partner. Parents were most likely to transition to multi-union parenthood at the second birth, and the probability of a birth with a new partner seems to be highly reduced when a parent already has two or more children with their previous. Contrary to earlier findings, we did not identify a higher likelihood for men having children with multiple partners than women.

Third, and perhaps most interestingly, we showed that childbearing across partnerships was a family behaviour initiated in Italy by well-known trendsetters (i.e. highly-educated, Northern, coming from higher social origin families). The effects of these characteristics showed a weakening in recent years, with childbearing across partnerships becoming equally likely in more economically-disadvantaged groups. This finding positions Italy strikingly in line with the prevailing effects highlighted by studies focusing on other European countries, Australia, and the United States. Indeed, a low education level has repeatedly been shown to be associated with a higher probability of

childbearing across partnerships (e.g. Carlson and Furstenberg 2006; Guzzo and Furstenberg 2007; Manlove et al. 2008; Lappegård, and Rønsen, 2013; Thomson et al. 2014). Whether the change in the relationship between socioeconomic status and childbearing across partnerships is due to interlinked transitions over the life course (e.g. cohabitation, separation, re-partnering) or to the process itself is difficult to isolate. In line with prior research (e.g. Goode's hypothesis 1962, 1970, 1993; then empirically supported by Härkönen and Dronkers 2006; Matysiak et al. 2014; Guetto et al. 2016), it can be argued that the relationship between childbearing across partnerships and socioeconomic status has turned from positive to non-significant (or negative) due to the different stages in the democratisation of new family-related behaviours across social groups (Blossfeld et al. 1995). In Italy, the change in the socioeconomic gradient of childbearing across partnerships does seem to be occurring in parallel to a diffusion of new family behaviours, as the direct (i.e. financial) and indirect (i.e. social acceptance) costs of new family transitions have weakened. We can thus offer initial evidence for a changing social gradient of childbearing across partnerships for a country in which new family behaviours have been pioneered by the 'social vanguard'. Although the prevalence of childbearing across partnerships in Italy is the lowest among wealthy countries (Thomson et al. 2021), our results pinpoint a growing socio-economic disadvantage of families involved in this process, with potential implications for kinship, family ties, and child welfare (Cherlin 2010; McLanahan and Beck 2010).

We do, however, both note and accept several limitations to our study. First, the event history model accounts for right censoring, but the model relies on the proportionality assumption, which is likely violated by women accelerating childbearing after union dissolution. Second, notwithstanding possible drawbacks of indirect estimation based on retrospective surveys (Stykes and Guzzo 2019), the specific Italian context (characterised by a high share of childbearing in co-residential unions) and the sensitivity checks implemented should assure a certain strength of our results. Third, we acknowledge that an individual's socioeconomic position is not utterly exogenous to the childbearing across partnerships process (Lundberg and Rose 2002; Gupta et al. 2007; Rogers and Stratton 2010). Accordingly, we interpret our results as close associations rather than causal effects.

## Conclusions

The descriptive analysis offered in this paper is a necessary first step for including the Italian case within the growing international debate over childbearing across partnerships (or multi-partner fertility). Through the use of nationally-representative retrospective data and event-history techniques, we were able to provide three key findings. First, we detected a non-negligible share of childbearing across partnerships, although at substantially lower levels relative to other wealthy countries. Second, multivariable analyses revealed an impressive similarity about the demographic correlates of the

phenomenon found elsewhere. Finally, we showed that childbearing across partnerships was initiated by the 'social vanguard' of new family behaviours, but then diffused among the more economically-disadvantaged.

We conclude by recalling that childbearing across partnerships is not a new phenomenon in Italy (Livi Bacci 1981; Breschi et al. 2008). In the past, the process was driven not by union dissolution, but mortality. Before the demographic transition, death during the childbearing years was not uncommon. A surviving spouse with children had little choice but to re-marry, usually with someone who was also still in their childbearing years, thereby frequently resulting in having further children. After the demographic transition, in the 'golden age of marriage' in the 1950s and '60s, childbearing across partnerships declined. Following on from this, the rise of divorce, cohabitation, and second unions served as a new vehicle for childbearing across partnerships. Even assuming that childbearing across partnerships in Italy will remain at relatively low levels in the near future, this study contributes important insights into an, as yet, largely overlooked life course dynamic.

Overall, complex families have always existed in Italy (Livi Bacci 1981; Breschi et al. 2008), but detecting and understanding patterns of childbearing across partnerships is becoming increasingly crucial and timely for the families formed through this process. Based on our finding that the least well-off are increasingly more likely to have children with more than one partner, childbearing across partnerships may be an important aspect of rising inequality, with significant implications for children, parents, and service providers.

# References

Barone, C., and Guetto, R. (2020). Education and Social Fluidity in Contemporary Italy: An Analysis of Cohort Trends. In: Breen, R., and Müller, W. (Eds*.) Education and Intergenerational Social Mobility in Europe and the United States*, Stanford, Stanford University Press: 196-223.

Bastianelli E., and Vignoli V. (2021). The Gendered Relationship between (Old and New forms of) Employment Instability and Union Dissolution. *Population Research and Policy Review*, 1-28.

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*(1), 39-67.

Bernardi, L., Huinink, J., & Settersten Jr, R. A. (2019). The life course cube: A tool for studying lives. *Advances in Life Course Research*, 41, 100258.

Blossfeld, H. P., De Rose, A., Hoem, J. M., & Rohwer, G. (1995). Education, modernization, and the risk of marriage disruption in Sweden, West Germany, and Italy. *Gender and family change in industrialized countrie*s, 200-22.

Breschi, M., Fornasin, A., Manfredini, M., & Zacchigna, M. (2008). I secondi matrimoni nell'Italia pre-transizionale. Due casi di studio. *Popolazione e Storia*, 9(1), 55-78.

Brown, B. B. (1999). "You're going out with who?": Peer group influences on adolescent romantic relationships. In W. Furman, B. B. Brown, & C. Feiring (Eds.), *The development of romantic relationships in adolescence* (pp. 291–329). New York: Cambridge University Press.

Caltabiano, M., Dreassi, E., Rocco, E., & Vignoli, D. (2019). A subregional analysis of family change: The spatial diffusion of one-parent families across Italian municipalities, 1991–2011. *Population, space and place*, *25*(4), e2237.

Caltabiano, M., Zuanna, G. D., & Rosina, A. (2006). Interdependence between sexual debut and church attendance in Italy. *Demographic Research*, *14*, 453-484.

Carlson, M. J., & Furstenberg Jr, F. F. (2006). The prevalence and correlates of multipartnered fertility among urban US parents. *Journal of Marriage and Family*, *68*(3), 718-732.

Castiglioni, M., & Dalla Zuanna, G. (2008). A marriage-cohort analysis of legal separations in Italy. *Population*, *63*(1), 173-193.

Castiglioni, M., Dalla Zuanna, G., & Loghi, M. (2001). Planned and unplanned births and conceptions in Italy, 1970–1995. *European Journal of Population/Revue européenne de Démographie*, *17*(3), 207-233.

Cherlin, A. (2009). *Marriage, divorce, remarriage*. Harvard University Press.

Cherlin, A. J. (2010). Demographic trends in the United States: A review of research in the 2000s. *Journal of Marriage and Family*, 72(3), 403-419.

De Rose, A. (1992). Socio-Economic Factors and Family Size as Determinants of Marital Dissolution in Italy. *European Sociological Review*, *8*(1), 71-91.

De Rose, A and Dalla Zuanna G. (Eds) (2013). *Rapporto sulla Popolazione. Sessualità e riproduzione nell'Italia contemporanea*, Il Mulino, Bologna.

De Sandre, P. (1980). *Caratteristiche recenti dell'instabilità matrimoniale in Italia*. Studi in onore di Paolo Fortunati, 219-234.

Di Giulio, P., & Rosina, A. (2007). Intergenerational family ties and the diffusion of cohabitation in Italy. *Demographic Research*, 16, 441-468.

Elder G.H. (1985). Perspectives on the Life Course. In G.H. Elder, (Ed) Life Course Dynamics: *Trajectories and Transitions, 1968-1980*, pp. 23-49. Ithaca, NY: Cornell University Press.

Esping-Andersen, G., & Billari, F. C. (2015). Re-theorizing family demographics. *Population and Development Review*, *41*(1), 1-31.

Gabrielli, G., & Vignoli, D. (2013). The breaking-down of marriage in Italy: Trends and trendsetters. *Population Review*, 52(1).

Gibson-Davis, C. (2011). Mothers but not wives: The increasing lag between nonmarital births and marriage. *Journal of Marriage and Family*, *73*(1), 264-278.

Giordano, P. C., Longmore, M. A., & Manning, W. D. (2006). Gender and the meanings of adolescent romantic relationships: A focus on boys. *American Sociological Review*, 71(2), 260–287.

Goldstein, H., & Healy, M. J. (1995). The graphical presentation of a collection of means. *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 158(1), 175-177.

Goode, W. J. (1962). Marital satisfaction and instability-A cross-cultural class analysis of divorce rates. *International social science journal*, 14(3), 507-526.

Goode, W. J. (1970). 1963. *World revolution and family patterns*.

Goode, W. J. (1993). *World changes in divorce patterns*. Yale University Press.

Gray, E., & Evans, A. (2008). The limitations of understanding multi-partner fertility in Australia. *People and Place*, *16*(4), 1-8.

Guarneri, A., Rinesi, F., Fraboni, R. et al. (2021). On the magnitude, frequency, and nature of marriage dissolution in Italy: insights from vital statistics and life-table analysis. *Genus*. 77, 28.

Guetto, R., Mancosu, M., Scherer, S., & Torricelli, G. (2016). The spreading of cohabitation as a diffusion process: Evidence from Italy. *European Journal of Population*, *32*(5), 661-686.

Guetto, R., Vignoli, D., & Lachi, A. (2022). Higher Parental Socioeconomic Status Accelerates Sexual Debut: Evidence from University Students in Italy. *Advances in Life Course Research*, 100461.

Gupta, N. D., Smith, N., & Stratton, L. S. (2007). Is marriage poisonous? Are relationships taxing? Ananalysis of the male marital wage differential in Denmark. *Southern Economic Journal*, 74, 412–433.

Guzzo, K. B. (2014). New partners, more kids: Multiple-partner fertility in the United States. *The Annals of the American Academy of Political and Social Science*, *654*(1), 66-86.

Guzzo, K. B. (2017). *A research note on the stability of unions formed post-conception*. 2017 Working Paper Series.

Guzzo, K. B., & Dorius, C. (2016). Challenges in measuring and studying multipartnered fertility in American survey data. *Population Research and Policy Review*, *35*(4), 553-579.

Guzzo, K. B., & Hayford, S. (2011). Fertility following an unintended first birth. *Demography*, *48*(4), 1493-1516.

Guzzo, K. B., & Hayford, S. R. (2012). Unintended fertility and the stability of coresidential relationships. *Social Science Research*, *41*(5), 1138-1151.

Guzzo, K., & Furstenberg, F. F. (2007). Multipartnered fertility among American men. Demography, 44, 583 – 601.

Härkönen, J., & Dronkers, J. (2006). Stability and change in the educational gradient of divorce. A comparison of seventeen countries. *European Sociological Review*, *22*(5), 501-517.

Impicciatore, R., & Dalla Zuanna, G. (2017). The impact of education on fertility in Italy. Changes across cohorts and south–north differences. *Quality & Quantity*, 51(5), 2293-2317.

Istat (2015). Matrimoni, separazioni e divorzi, Statistiche Report, Istat, Roma

Jalovaara, M., & Kreyenfeld, M. (2020). Childbearing across partnerships in Finland and Germany. In *Divorce in Europe* (pp. 315-335). Springer, Cham.

Kreyenfeld, M., Geisler, E., Martín, T. C., Hannemann, T., Heintz-Martin, V., Jalovaara, M., ... & Solaz, A. (2017). Social policies, separation, and second birth spacing in Western Europe. *Demographic Research*, *37*, 1245-1274.

Lappegård, T., & Rønsen, M. (2013). Socioeconomic differences in multipartner fertility among Norwegian men. *Demography*, *50*(3), 1135-1153.

Lappegård, T., & Thomson, E. (2018). Intergenerational transmission of multipartner fertility. *Demography*, *55*(6), 2205-2228

Lesthaeghe, R. (2020). The second demographic transition, 1986–2020: sub-replacement fertility and rising cohabitation—a global update. *Genus*, *76*(1), 1-38.

Lesthaeghe, R., & van de Kaa, D. J. (1986). Twee demografische transities", in Lesthaeghe and van de Kaa (eds) "Groei of Krimp? (book ed.). Van Loghum Slaterus, Deventer: Mens en Maatschappij.

Livi Bacci M. (1981). On the frequency of remarriage in nineteenth century Italy: methods and results, in J. Dupâquier, E. Hélin, P. Laslett, M. Livi Bacci, E. Segner (eds.), *Marriage and remarriage in populations of the past*, Academic Press, London, 347-361.

Livi Bacci M. (1986) Social-group forerunners of fertility control in Europe. In: Coale A.J., Cotts Watkins S. (Eds.), *The Decline of Fertility in Europe*. Princeton University Press, Princeton, NJ.

Lundberg, S., & Rose, E. (2002). The effects of sons and daughters on men's labor supply and wages. *The Review of Economics and Statistics*, 84, 251–268.

Manlove, J., Logan, C., Ikramullah, E., & Holcombe, E. (2008). Factors associated with multiple-partner fertility among fathers. *Journal of Marriage and Family*, *70*(2), 536-548.

Manning, W. D., & Smock, P. J. (2000). "Swapping" families: Serial parenting and economic support for children. *Journal of Marriage and Family*, 62(1), 111-122.

Manning, W. D., Smock, P. J., & Majumdar, D. (2004). The relative stability of cohabiting and marital unions for children, *Population Research and Policy Review*, 23, 135–159.

Matysiak, A., Styrc, M., & Vignoli, D. (2014). The educational gradient in marital disruption: A meta-analysis of European research findings. *Population Studies*, *68*(2), 197-215.

McLanahan, S., & Beck, A. N. (2010). *Parental relationships in fragile families. The Future of children*, Center for the Future of Children, the David and Lucile Packard Foundation, 20(2), 17.

Meggiolaro, S., & Ongaro, F. (2008). Repartnering after marital dissolution: Does context play a role? *Demographic Research*, *19*, 1913-1934.

Meggiolaro, S., & Ongaro, F. (2010). The implications of marital instability for a woman's fertility: Empirical evidence from Italy. *Demographic Research*, *23*, 963-996.

Meggiolaro, S., & Ongaro, F. (2015). Non-resident parent-child contact after marital dissolution and parental repartnering: Evidence from Italy. *Demographic Research*, *33*, 1137-1152.

Monte, L. M. (2019). Multiple-partner fertility in the United States: A demographic portrait. *Demography*, 56(1), 103-127.

Ní Bhrolcháin, M. N. (1992). Period paramount? A critique of the cohort approach to fertility. The *Population and Development Review*, 599-629.

Ní Bhrolcháin, M., & Beaujouan, É. (2013). Education and cohabitation in Britain: A return to traditional patterns? *Population and Development Review*, *39*(3), 441-458.

Perelli-Harris, B., Sigle-Rushton, W., Kreyenfeld, M., Lappegård, T., Keizer, R., & Berghammer, C. (2010). The educational gradient of childbearing within cohabitation in Europe. *Population and Development Review*, *36*(4), 775-801.

Pirani, E., & Vignoli, D. (2016). Changes in the satisfaction of cohabitors relative to spouses over time. *Journal of Marriage and Family*, *78*(3), 598-609.

Pirani, E., Guetto, R., Rinesi, F. (2021). Le famiglie, in F.C. Billari and C. Tomassini (Eds) *Rapporto sulla popolazione. L'Italia e le sfide della demografia*, Il Mulino, Bologna

Régnier-Loilier, A., Vignoli, D. (2011). Fertility intentions and obstacles to their realization in France and Italy. *Population*, *66*(2), 361-389.

Reher, D. S. (1998). Family ties in Western Europe: persistent contrasts. *Population and Development Review*, 203-234.

Rinesi, F., Pinnelli, A., Prati, S., Castagnaro, C., & Iaccarino, C. (2011). The transition to second child in Italy: Expectations and realization. *Population*, *66*(2), 391-405.

Rogers, W. M., III, & Stratton, L. S. (2010). The male marital wage differential: Race, training, and fixed effects. *Economic Inquiry*, 48, 722–742

Salvini, S., & Vignoli, D. (2011). Things change: Women's and men's marital disruption dynamics in Italy during a time of social transformations, 1970–2003. *Demographic Research*, *24*, 145-174.

Schoen, R. (Ed.). (2020). *Analyzing Contemporary Fertility* (Vol. 51). Springer Nature.

Sedgh, G., Singh, S., Henshaw, S. K., & Bankole, A. (2011). Legal abortion worldwide in 2008: levels and recent trends. *Perspectives on sexual and reproductive health*, *43*(3), 188-198.

Stykes, J. B., & Guzzo, K. B. (2019). Multiple-partner fertility: Variation across measurement approaches. In *Analytical family demography* (pp. 215-239). Springer, Cham.

Thomson, E. (2004). Step-families and childbearing desires in Europe. *Demographic Research*, 3, 117-134.

Thomson, E., Dahlberg, J., & Svallfors, S. (2021). Childbearing across Partnerships in Europe and the United States, *Stockholm Research Reports in Demography*, 2021:6, Stockholm University, Demographic Unit.

Thomson, E., Gray, E., & Carlson, M. J. (2020). Multi-Partner Fertility in Europe and the United States. In *Analyzing Contemporary Fertility* (pp. 173-198). Springer, Cham.

Thomson, E., Lappegård, T., Carlson, M., Evans, A., & Gray, E. (2014). Childbearing across partnerships in Australia, the United States, Norway and Sweden. *Demography*, 51, 485–508.

Thomson, E., Winkler-Dworak, M., Spielauer, M., & Prskawetz, A. (2012). Union stability as an engine of fertility? A micro-simulation model for France. *Demography*, 49(1), 175–195.

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(5), 751-775.

Van de Kaa, D. J. (1987). Europe's second demographic transition. *Population bulletin*, *42*(1), 1-59.

Ventura, S. J., & Bachrach, C. A. (2000). Nonmarital childbearing in the United States, 1940-99. *National vital statistics reports*, *48*(16), n16.

Viazzo, P. P. (2003). What's so special about the Mediterranean? Thirty years of research on household and family in Italy. *Continuity and Change*, *18*(1), 111-137.

Vignoli, D., & Ferro, I. (2009). Rising marital disruption in Italy and its correlates. *Demographic Research*, *20*, 11-36.

Vignoli, D., & Salvini, S. (2014). Religion and union formation in Italy: Catholic precepts, social pressure, and tradition. *Demographic Research*, *31*, 1079-1106.

Vignoli, D., Matysiak, A., Styrc, M., & Tocchioni, V. (2018). The positive impact of women's employment on divorce: Context, selection, or anticipation? *Demographic Research*, *38*(37), 1059-1110.

Vignoli, D., Tocchioni, V., & Salvini, S. (2016). Uncertain lives: Insights into the role of job precariousness in union formation in Italy. *Demographic Research*, *35*, 253-282.

Wilde, E. T., Batchelder, L., & Ellwood, D. T. (2010). The mommy track divides: The impact of childbearing on wages of women of differing skill levels, *NBERWorking Paper* No. 16582. Cambridge,MA: National Bureau of Economic Research.

Winkler-Dworak, M., Beaujouan, E., Di Giulio, P., & Spielauer, M. (2017). Union instability and fertility: a microsimulation model for Italy and Great Britain, n. 08. *Vienna Institute of Demography* Working Papers.

# Appendix

*Table A1* – *Models' results: relative risk ratios and predicted probabilities for the competing events having an additional child within the same union or in multiple unions, reference outcome: not having the second child*

| | | additional child in the same union | | | | | additional child in multiple unions | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | RRR | P>z | predicted prob. | P>z | | RRR | P>z | predicted prob. | P>z |
| **Years from prev. child** | | | | | | | | | | |
| | 1/2 (ref.) | 1.000 | | 5.696 | *0.000* | | 1.000 | | 0.064 | *0.000* |
| | 3/4 | 1.939 | *0.000* | 10.269 | *0.000* | | 2.792 | *0.000* | 0.165 | *0.000* |
| | 5/9 | 1.189 | *0.000* | 6.642 | *0.000* | | 5.882 | *0.000* | 0.367 | *0.000* |
| | 10/14 | 0.293 | *0.000* | 1.760 | *0.000* | | 6.077 | *0.000* | 0.408 | *0.000* |
| | 15+ | 0.051 | *0.000* | 0.313 | *0.000* | | 2.491 | *0.000* | 0.172 | *0.000* |
| **Gender** | | | | | | | | | | |
| | men (ref.) | 1.000 | | 6.118 | *0.000* | | 1.000 | | 0.241 | *0.000* |
| | women | 0.832 | *0.000* | 5.188 | *0.000* | | 0.916 | *0.406* | 0.224 | *0.000* |
| **Parity** | | | | | | | | | | |
| | 1 (ref.) | 1.000 | | 9.302 | *0.000* | | 1.000 | | 0.424 | *0.000* |
| | 2 | 0.239 | *0.000* | 2.473 | *0.000* | | 0.215 | *0.000* | 0.098 | *0.000* |
| | 3 + | 0.194 | *0.000* | 2.021 | *0.000* | | 0.240 | *0.000* | 0.110 | *0.000* |
| **Age at 1st birth** | | | | | | | | | | |
| | 24 or younger (ref.) | 1.000 | | 6.792 | *0.000* | | 1.000 | | 0.519 | *0.000* |
| | 25-29 | 0.874 | *0.000* | 6.059 | *0.000* | | 0.341 | *0.000* | 0.180 | *0.000* |
| | 30 or over | 0.669 | *0.000* | 4.766 | *0.000* | | 0.167 | *0.000* | 0.090 | *0.000* |
| **Calendar time** | | | | | | | | | | |
| | 2003 or before (ref.) | 1.000 | | 5.823 | *0.000* | | 1.000 | | 0.205 | *0.000* |
| | 2004 or after | 0.949 | *0.028* | 5.553 | *0.000* | | 1.284 | *0.024* | 0.264 | *0.000* |
| **Education** | | | | | | | | | | |
| | Lower-secondary (ref.) | 1.000 | | 5.717 | *0.000* | | 1.000 | | 0.222 | *0.000* |
| | Upper-secondary | 0.945 | *0.023* | 5.435 | *0.000* | | 1.005 | *0.969* | 0.224 | *0.000* |
| | Higher | 1.159 | *0.000* | 6.512 | *0.000* | | 1.446 | *0.032* | 0.317 | *0.000* |
| **Parental education** | | | | | | | | | | |
| | Lower-secondary (ref.) | 1.000 | | 5.684 | *0.000* | | 1.000 | | 0.210 | *0.000* |
| | Upper-sec. or higher | 1.026 | *0.382* | 5.808 | *0.000* | | 1.586 | *0.000* | 0.331 | *0.000* |
| **Area of residence** | | | | | | | | | | |
| | North-Centre (ref.) | 1.000 | | 5.259 | *0.000* | | 1.000 | | 0.256 | *0.000* |
| | South | 1.243 | *0.000* | 6.395 | *0.000* | | 0.761 | *0.012* | 0.192 | *0.000* |
| **Constant** | | 0.126 | *0.000* | | | | 0.002 | *0.000* | | |

*Source*: Authors' elaborations on Italian FSS data, 2009, 2016.