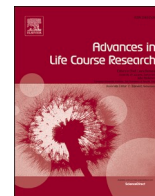




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# Higher parental socioeconomic status accelerates sexual debut: Evidence from university students in Italy

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## ABSTRACT

In this paper we analyze how the timing and type (protected or unprotected) of sexual debut are influenced by parental socioeconomic status (SES). We argue that depending on whether a “parental control” or a “cultural openness” mechanism prevails, one could find a postponing or an anticipating effect of higher parental SES on children’s timing of sexual debut. By applying event-history techniques to unique data from the two releases of the Sexual and Emotional Life of Youths survey (2000 and 2017), we found a clear accelerating effect of higher parental SES—parental education and father’s social class—on the sexual debut of Italian university students. The effect is partly mediated by family characteristics related to the cultural openness mechanism, such as low parental religiosity, greater communication about sex, and parental permissiveness; on the contrary, we only found weak support for the parental control explanation. Higher parental education is associated with a higher likelihood of protected first sexual intercourse—and especially of condom use—even if more precocious. Our results dispute the North American- and Anglo-Saxon-driven finding that high-SES children postpone their sexual debut.

## 1. Introduction

The life course perspective posits that experiences at one stage of life will have an impact on later stages of life (Bernardi, Hiunink, & Settersten, 2019; Elder, 1994), suggesting that the onset of the transition to adulthood starts with first sexual experiences (James-Hawkins, 2019). The sexual debut, in particular, represents a life-changing event that looms large in the memories and lives of teenagers (Brown, 1999; Giordano, Longmore, & Manning, 2006) and can have profound direct and indirect influences on later family life courses (Manning, Giordano, & Longmore, 2008). The timing of first sexual intercourse affects the first stages of the process of building one’s own relational and social identity (Carpenter, 2001, 2010), particularly in terms of increasing independence, responsibility, and the management of at-risk behaviors (Manning et al., 2008; Manning, 2019; Rosina, 2004). In this paper, we focus on the role that the family of origin plays for children’s timing and type (protected or unprotected) of sexual debut. Parents express both explicit and implicit messages about sexuality to their children (Mollborn, 2017), and while norms about sexuality can vary in relation to changing social networks (James-Hawkins, 2019), parents continue to have a large influence on their offspring’s sexuality (Mancin & Dalla

Zuanna, 2004). We consider a fundamental characteristic of the family of origin: parental socioeconomic status (SES), i.e., parental education and social class.

Studying patterns of sexual debut in relation to parental SES is important because an earlier and unprotected sexual debut is associated with higher risks of sexually transmitted infections and teen child-bearing (Atkins & Heart, 2008) which, in turn, can have long-term negative effects on a variety of social and economic outcomes (Kane, Morgan, Harris, & Guilkey, 2013). Thus, addressing the relationships between social origins and the timing and type of sexual debut can contribute to a better understanding of the mechanisms underlying the intergenerational transmission of (dis)advantage. Higher parental SES is usually interpreted in the light of the better behavioral monitoring exerted by high-status parents, who are more capable of preventing their children’s risky sexual behavior. Indeed, the literature offers robust, clear-cut evidence for such a “parental control” mechanism, as higher levels of parental education and social class have been found to be associated with children’s later sexual debut in several empirical studies, mostly concerning the US or Anglo-Saxon European contexts—see, e.g., Miller (2002) for a literature review concerning the US; for the UK, see Wellings (2001) and Wight, Williamson, and Henderson

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(2006). This evidence can be interpreted through the lens of the Diverging Destinies thesis (McLanahan, 2004), i.e. by arguing that the postponement of sexual debut represents an additional mechanism through which children with an advantaged background are sheltered from adverse events that might put their life chances at risk.

Building from this standpoint, we add that another explanation might also be relevant, which we labeled as the “cultural openness” mechanism. It is well-known that high-SES individuals hold more liberal attitudes toward sexual and family life (Kalmijn & Kraaykamp, 2007), and this is true also among parents (Kalmijn & Kraaykamp, 2018). Highly educated and high-class parents may, thus, not only exert higher behavior control on their children, but they may also be more open toward their children’s sexuality and have better communication with them about sexual issues (e.g., safe sex and contraception), which could translate into earlier, but *protected*, sexual intercourse for their offspring. Depending on whether the “parental control” or the “cultural openness” mechanism prevails, one could find a postponing or an anticipating effect of higher parental SES on children’s timing of sexual debut.

Which of the two mechanisms prevails, and, thus, whether earlier sexual debut may or may not represent a mechanism for the intergenerational reproduction of social inequalities, is likely, we posit here, to depend on the social context. In this paper, we analyze the role of the family of origin in shaping children’s sexual debut in Italy. Differently from the US and other Anglo-Saxon contexts, teenage childbirths are extremely rare in Italy, and later sexual debut has a normative status, also due to the influence of the Catholic Church (Barbagli, Dalla Zuanna, & Garelli, 2010; Garelli, 2011). In addition, the role of parental normative pressures on children’s decisions concerning family and sexual life is likely to be especially important in Italy due to the strength of family ties and obligations (Guetto, Mancosu, Scherer, & Torricelli, 2016; Vignoli & Salvini, 2014). The specific national context considered may have profound implications for the role of parental SES in children’s sexual debut: on the one hand, prevailing social norms in Italy represent a way to exert intergenerational control without SES differences; on the other hand, the presence of a “cultural openness” mechanism gains special relevance in a context of delayed sexual debut, whereas the “parental control” mechanism may be much more evident in contexts with anticipated sexual debut, such as the Anglo-Saxon ones. Thus, in Italy we expect a higher parental SES to accelerate the timing of first (protected) sexual intercourse, contrary to the prevailing results in the North American literature.

We outline such an approach by using unique data from two large-scale samples of undergraduate university students stemming from the Sexual and Emotional Life of Youths survey (SELYF), a self-completed questionnaire filled out in the classroom during a lecture (Billari, Caltabiano, & Dalla Zuanna, 2007; Minello, Caltabiano, Dalla Zuanna, & Vignoli, 2020).

A central issue must be mentioned upfront. Given the selection of first-year university students, our work is affected by limited external validity, as our sample is not representative of the population of young Italians as a whole. The sexuality of our sample of university students seems to be delayed and to be less intense than that of their less educated peers (Minello, Caltabiano, Dalla Zuanna, & Vignoli, 2020). While we will discuss the possible implications of this selectivity issue, a sample of university students has, nonetheless, many advantages—in particular, it allows for a large number of respondents who can complete a relatively long (40-min), though not complex, questionnaire. In addition, university students are known for a great heterogeneity with regard to sexual behaviors, making them very suitable for this kind of investigations (see, e.g., Pitts & Rahman, 2001; Billari, Caltabiano, & Dalla Zuanna, 2007; Hines, 2007; Weeden & Sabini, 2007; Stinson, 2010). Also, the SELFY data allowed us to operationalize the mechanisms potentially underlying the effects of parental SES, such as indicators of the quality of parent-child relations, the level of communication about sex, and parental permissiveness, as well as to distinguish whether first sexual intercourse occurred in a protected or unprotected manner.

The paper is organized as follows. We first discuss the nexus between social origins and timing of sexual debut, paying special attention to different types of sexual intercourse (protected versus unprotected); then, we advance specific research hypotheses for the Italian context. The methodological section follows, in which data, variables and the event-history models implemented are presented. We continue by presenting our empirical findings and conclude the paper with a final discussion.

## 2. Background

### 2.1. Social origins and timing of sexual debut

In Western European countries, parental education and social class have been found to influence a postponement of family decisions, from union formation (see, e.g., Mooyaart & Liefbroer, 2016; Brons, Liefbroer, & Ganzeboom, 2017) to fertility choices (see, e.g., Rijken & Liefbroer, 2009). However, much of the available empirical evidence on the association between parental SES and children’s sexual behavior focuses on the US, and shows that higher parental education and income correspond to a lower probability of adolescents’ having had sexual intercourse (Miller, 2002; Santelli, Lowry, Brener, & Robin, 2000; Pearson, Muller & Frisco, 2006). An earlier sexual debut is associated with higher risks of unplanned pregnancies and sexually transmitted infections (Atkins & Heart, 2008), and a lack of parental supervision and control has been identified among the most important predictors of earlier sexual debut (Miller, 2002). Thus, one of the reasons why a higher parental SES could be associated with a postponement of children’s sexual debut can be traced back to greater behavioral monitoring (Miller, 2002; Wellings, 2001; Wight et al., 2006). It is well-known indeed that more educated parents devote more time to their children (Dotti Sani & Treas, 2016), also because of structural limitations such as nonstandard work schedules, more prevalent among low-SES parents. In addition, parents desire to avoid downward social class mobility for their children, a desire that is stronger than that of pursuing upward mobility (Breen & Goldthorpe, 1997). Better behavioral monitoring by higher-status parents may thus also aim at discouraging behaviors that might put their children’s school performance and career at risk. Among other things, teenage childbearing has long-term detrimental consequences for educational attainment (Kane et al., 2013), reducing high-SES children’s chances to reach the same social class of their parents.

Higher parental SES may theoretically have an opposite effect, however. An alternative mechanism potentially implying an anticipation of children’s timing of sexual debut is related to the possible “emancipatory” effects of higher status attainment. The highly educated tend to have more liberal sexual attitudes (Treas, 2002), and value orientations concerning sexual and family life are transmitted from one generation to the next (Vollebergh, Iedema, & Raaijmakers, 2001). We do not claim that parental SES has a *causal* effect on those values; it may well be that individuals attend higher education for reasons that also correlate with more open attitudes toward the sexual life. We see higher parental education and social class as proxies of a more open attitude toward sex. More educated and higher-status parents may thus be more “open” toward their children’s sexuality and less likely to perceive their children’s sexual life as a taboo subject (Raffaelli & Green, 2003; Kim & Ward, 2007).

The theoretical opposition between a “parental control” and a “cultural openness” mechanism serves analytical purposes, as it allows to understand why parental SES may have effects of opposite signs on children’s patterns of first sexual intercourse across different societal contexts. In fact, both mechanisms are likely to be at play in any real life circumstances and, for this reason, different types of parenting practices may be associated with parental SES and its influence on children’s timing and type of sexual debut. For instance, high-SES parents may not only exert more effective behavioral control, but also have more intense

and direct communication about sex with their children (Raffaelli & Green, 2003), and provide less restrictive sexual messages (Kim & Ward, 2007). However, if behavioral control is more important, factors such as parental supervision, or the type of family arrangement, should matter more; on the contrary, if openness is more important, one would expect parent-child communication to have a relatively larger role.

## 2.2. Understanding the mechanisms: parenting practices and children's timing and type of sexual debut

In their review of the empirical research on parent-child communication about sex carried out during the 1980s and 90s, Diorio, Pluhar, and Belcher (2003) illustrate that most studies found parent-teen communication about sexuality to either delay the onset of sexual intercourse among adolescents or not to have any significant effect. Some studies did find communication about sex to be associated with an earlier sexual debut (Davis & Friel, 2001; Pearson, Muller, & Frisco, 2006), but results seem to be contingent on parental values and the gender of the child (Diorio et al., 2003). By making use of panel data, Pearson, Muller, and Frisco (2006) analyzed the effects of several parenting practices in the US. They showed that when children have positive relationships with their parents, share mealtimes, and participate in shared activities, they are less likely to initiate sex; on the contrary, communication about sex is related to a higher likelihood to initiate sex, but mostly among girls and non-Latino/a white adolescents.

The delaying effects of parental monitoring have been suggested in several studies (see, e.g., Meschke & Silbereisen, 1997; Lohman & Billings, 2008), and the extent of parental control and supervision has been found to be a crucial mediator of the effects of the type of family arrangement children have been exposed to during childhood and adolescence (Miller, 2002). Children who experienced parental break-up following separation or divorce are more likely to develop a weaker relation with the noncustodial parent, which is usually the father, and to feel less normatively bound by parental expectations about their sexual and family choices (Amato, 1993, 2000). Children of divorced parents are exposed to weaker parental monitoring not only because of the absence of the father, but also because single mothers are more likely to work and be less present (Davis & Friel, 2001), even if they often embrace intensive mothering to cope with the reduced social supports for their children's upbringing (Elliot, Powell, & Brenton, 2015; Gauthier & de Jong, 2021). The effect of having been raised in single-parent households on children's earlier sexual intercourse may be due not only to father absence and lower adult supervision, but also to omitted variables (high parental conflict, violence and substance abuse, etc.). However, recent studies have found evidence of causal negative effects of father absence on a variety of children's outcomes even after controlling for unobserved family characteristics (McLanahan, Tach, & Schneider, 2013).

Results about parent-child communication are mixed. Differently, higher parental supervision—also proxied by the type of family arrangement—as well as higher quality of parent-child relationships seem to be intertwined and related to a postponement of sexual intercourse (Pearson, Muller, & Frisco, 2006). Thus, there is more empirical evidence in line with a parental control rather than a cultural openness mechanism. This is consistent with our arguments, since the bulk of empirical studies considered so far concerns the US, where teenage births are much more common compared with other Western countries (Singh, Darroch, & Frost, 2001; UNICEF, 2001), and especially compared with Italy, where they are virtually non-existent (Castiglioni, Dalla Zuanna, & Loghi, 2001; Sedgh, Singh, Henshaw, & Bankole, 2011). Also, the interpretation of the effects of factors such as parental divorce and the type of family arrangement may differ across time and space. In the US, single-parent households are growing as of the '80s especially among the least-educated social groups, consistent with the Diverging Destinies thesis (McLanahan, 2004); in Italy, at least up to the 2000s the educational gradient of divorce was still strongly positive

(Härkönen & Dronkers, 2006), indicating different selection mechanisms, although among the youngest cohorts marital instability is increasing especially among the least educated women (Matysiak, Styrac, & Vignoli, 2013; Salvini & Vignoli, 2011).

The effects of parent-child communication and parental monitoring may differ when focusing also on the type, and not only on the timing, of first sexual intercourse. For instance, Parkes, Henderson, Wight, and Nixon (2011) show that if parents support the autonomy of their children, encouraging them to have sexual intercourse only within stable relationships, this brings about several benefits in their sexual life, like a more common use of condoms. Thus, mixed results concerning communication about sex may be due to opposing effects: a delaying effect on the likelihood of experiencing unprotected sex, and an accelerating effect on the likelihood of experiencing protected sex. The same may hold true for parental monitoring: the results of a meta-analysis taking into account all studies carried out between 1984 and 2014 suggest that parental supervision is associated with both delayed sexual intercourse and greater condom use (Dittus et al., 2015).

The focus on the type of first sexual intercourse (protected vs. unprotected) may also help reconcile ambiguous expectations concerning the effect of parental SES on the timing of their offspring's sexual debut. We could surmise that higher parental SES may facilitate a lower risk of unprotected sexual intercourse. In other terms, higher parental education and social class may be associated with better parent-child communication regarding sexuality, which should then be associated with a higher likelihood of protected first sexual intercourse—and especially of condom use—even if more precocious. We argue that this is particularly likely to hold true in Italy, considering some features of the Italian society that may moderate the role of the family of origin for children's timing and type of sexual debut.

## 2.3. The role of the family of origin for children's sexual debut in Italy

Italy offers an interesting, largely unexplored case study to test the role of parental SES on the timing of youths' sexual debut. It has been shown that in a country characterized by "strong family ties" (Reher, 1998), children are especially likely to feel parental pressure on family decisions—such as the choice of entering a first union through cohabitation rather than marriage (Di Giulio & Rosina, 2007; Vignoli & Salvini, 2014; Guetto et al., 2016). The strong normative pressure exerted by Italian parents is both reflected in and amplified by their children's longer permanence in the family of origin (Billari & Rosina, 2004). The Italian latest-late transition to adulthood cannot be attributable solely to the labor market and housing difficulties (Vignoli, Rinesi, & Mussino, 2013; Vignoli, Tocchioni, & Mattei, 2020), but also to a culturally-rooted behavior, the so called "postponement syndrome" (Livi-Bacci, 2001). Families in Southern Europe are characterized by strong intergenerational ties, which entail considerable psychological and material solidarity (Reher, 1998; Dalla Zuanna & Micheli, 2004) that contributes to reinforcing Italy's latest-late transition to adulthood, including a later sexual debut. Billari and Ongaro argued that "the functioning rules of the first stages of the process of union formation and sexual experience continue to be rooted in tradition" (2004: 124).

The delay in union formation and sexual debut in Italy are the results both of the influence of the Catholic Church and of the already mentioned strength of intergenerational bonds. The Catholic Church has maintained a strong presence in the socialization of young people, and this is more marked in Italy compared to other European contexts such as, for example, France or Spain (Caltabiano, Dalla Zuanna, & Rosina, 2006). At the same time, parents tend to discourage non-normative behavior in their offspring, and even their adult children feel themselves to be under great pressure when making their own choices (Dalla Zuanna & Micheli, 2004; Rosina & Fraboni, 2007; Vignoli & Salvini, 2014; Guetto et al., 2016).

In addition, Italy represents a late-comer in Second Demographic Transition (SDT)-related behaviors such as divorce, cohabitation, and

childbearing within cohabitation. At the end of the 1970 s, later than most other Western European countries, early traces of the SDT started to become visible in Italy. These changes intensified in the 1990 s and accelerated still more in the first decade of the twenty-first century (Castiglioni & Dalla Zuanna, 2009). Although the incidence of new family behaviors remains less evident in Italy than in other Western European countries, marriage dissolution is now common, and the share of cohabiting couples and childbearing within cohabitation has reached surprisingly high levels (Pirani & Vignoli, 2016; Caltabiano, Dreassi, Rocco, & Vignoli, 2019).

Over the last decades, the sexual revolution has also taken place in Italy. Especially in the northern part of the country (Billari & Ongaro, 2004; Billari, Caltabiano, & Dalla Zuanna, 2007; Minello, Caltabiano, Dalla Zuanna, & Vignoli, 2020), sexuality has become increasingly disconnected from reproduction, with sexual pleasure gaining central relevance in the lives of both couples and single people (Barbagli, Dalla Zuanna, & Garelli, 2010). This new state of affairs has been accompanied by a convergence between men's and women's median ages at first sexual intercourse (Barbagli, Dalla Zuanna, & Garelli, 2010; Billari & Borgoni, 2002). Despite these changes, however, teenage childbirths and the rates of unintended pregnancies remained extremely low in Italy, suggesting that sexual decisions are carefully meditated and managed among individuals (Dalla Zuanna, De Rose, & Racioppi, 2005).

In light of this background, we ask whether the literature's common finding of a delayed sexual intercourse for children of higher-status parents is confirmed also in the Italian context. Mancin & Dalla Zuanna (2004) did observe a strong connection between age at first intercourse and social control, consistent with the North American literature: when pressure from family, school and religion abates, sexual intercourse proceeds faster. However, the parental control mechanism should be of lower importance compared to the US or other Anglo-Saxon countries, considering the much lower rates of teenage pregnancies, and that delayed sexual debut has strong normative status. That is, prevailing social norms, also influenced by the Catholic Church, and their enforcement through strong intergenerational ties tend to inhibit an early and unprotected sexual debut of the Italian youth independently from their socioeconomic background. In the Italian setting, the cultural openness mechanism may even gain the upper hand, because high-SES Italian parents are more likely to be liberal when it comes to sexuality, which may translate in their children having a relatively earlier but protected sexual debut (Struffolino & Zagel, 2021).

#### 2.4. Research hypotheses

In light of previous discussion, our main hypotheses (H1 and H2) can be formulated as follows:

H1: *Higher parental SES is associated with an earlier sexual debut of Italian youths.*

However, the type of first sexual intercourse is relevant in shaping parental SES effects:

H2: *Whereas higher SES fosters an earlier protected sexual debut, it is associated with a lower risk of first unprotected sexual intercourse.*

Additional hypotheses (H3 and H4) concern the mechanisms potentially driving parental SES effects, i.e. parental control and cultural openness. First, we consider family characteristics more related to the parental control mechanism. That is, our third hypothesis states that:

H3: *If parental supervision mediates the relationship between parental SES and the timing of sexual debut, then parental divorce, having been raised by a working mother, and lower parent-child relationship quality should accelerate the sexual debut and decrease the (direct) effect of parental SES.*

Regarding family characteristics related to the cultural openness mechanism, our fourth hypothesis states that:

H4: *If cultural openness mediates the influence of parental SES on the timing of sexual debut, then low parental religiosity, greater communication about sex, and parental permissiveness should accelerate the sexual debut and decrease the (direct) effect of parental SES.*

A clarification concerning hypotheses H3 and H4 is needed, and should be kept in mind when interpreting our results. Notwithstanding the hypothesized prevalence of cultural openness in the Italian setting, it is empirically difficult, given the information available to us, to make clear-cut distinctions between factors only related either to parental control or cultural openness, which makes it difficult to disentangle the relative contribution of the two mechanisms. For instance, the hypothesized accelerating effect of the experience of parental divorce may certainly be explained by reduced parental control, as it is usually interpreted in the literature, but it may also be due to more liberal parental attitudes, especially in Italy where, until recently, divorce was a rare event characterized by a positive educational gradient. On the other hand, having a good relationship with at least one parent may well be interpreted as more supervision, but it may also facilitate communication about sexual issues and, thus, a relatively earlier, but perhaps safer, sexual debut. Given the scarcity of previous evidence on the issue, especially concerning the Italian case, we refrain, then, to formulate differential hypotheses based on the type of first sexual intercourse.

In the next sections we test our hypotheses with a sample of Italian university students. Based on data from the Italian National Institute of Statistics (ISTAT), only about 25% of those who attend vocational upper-secondary tracks (*istituti professionali*) subsequently enroll to university, compared to more than 90% of those who attend the most prestigious academic tracks (*liceo classico and liceo scientifico*). Considering that upper-secondary school choice in Italy is strongly stratified based on parental education and social class (Guetto & Vergolini, 2017; Panichella & Triventi, 2014), the sample we use consists of socioeconomically selected and better-off individuals. To partly address this selectivity issue, we will implement separate models for the 2000 and 2017 SELFY surveys, which allows to take into account the possible role of educational expansion at the tertiary level. Data from ISTAT show that at the beginning of the 2000 s 12% of the population aged 25–29 obtained a university degree, whereas the percentage increased to 27% in 2017. The share of those enrolled to university—our analytical sample—is much higher in both periods, however, also due to a large share of undergraduate students exiting the school system without a tertiary degree: the percentage of high-school graduates in 2017 who enrolled in university in the same year was 50.3%, and the percentage of those who ever enrolled within four years after upper-secondary school graduation is approximately 60%.

### 3. Data and methods

The SELFY dataset is based on a survey carried out in the first half of 2017 in 28 Italian universities with the aim of drawing an updated picture of sexual and affective opinions and behavior among Italian university students. It was almost identical to a survey carried out 17 years before. All participants were attending Italian undergraduate courses in economics and statistics. Self-completed questionnaires were filled in during a one-hour lesson of a compulsory course under the discreet surveillance of both the teacher and a researcher, who presented the survey and was ready to answer any questions. Students were reassured about anonymity and the use of the data: after completion, the questionnaires were sealed in an envelope and all the envelopes were mailed to the directors of the survey for data entry. This process resulted in a practical nonexistence of refusals to fill out the questionnaire in class, in both 2000 and 2017. Importantly, interviewing students in their first year of undergraduate studies minimizes the selectivity of future eventual dropouts. The survey was realized with 12,604 cases. For both 2000 and 2017, the data were post-stratified at the macro-regional level to obtain representative results (Billari, Caltabiano, & Dalla Zuanna, 2007; Minello, Caltabiano, Dalla Zuanna, & Vignoli, 2020).

We study the timing and type of sexual debut of Italian university students with event-history techniques. The median age at first sexual intercourse decreased, over the period 2000–2017, by one year for young men (from 18.9 to 17.9) and 1.2 years for young women (from

**Table 1**  
Log-logistic event-history models for the analysis of the transition to first sexual intercourse.

	M1	M2	M3A	M3B	M4
Area (Center)					
North - East	0.103*** (0.0185)	0.103*** (0.0184)	0.103*** (0.0184)	0.105*** (0.0177)	0.106*** (0.0176)
North - West	0.0312* (0.0182)	0.0307* (0.0181)	0.0271(0.0181)	0.0423** (0.0174)	0.0390** (0.0173)
South	0.0352** (0.0151)	0.0328** (0.0151)	0.0131(0.0152)	-0.0207(0.0146)	-0.0353** (0.0147)
Survey (2000)					
2017	-0.203*** (0.0187)	-0.209*** (0.0187)	-0.204*** (0.0189)	-0.162*** (0.0180)	-0.167*** (0.0182)
Gender (Male)					
Female	0.0644*** (0.0198)	0.0577*** (0.0198)	0.0572*** (0.0197)	-0.0254(0.0193)	-0.0243(0.0193)
Survey # Gender					
2017 # Female	-0.0584** (0.0249)	-0.0546** (0.0248)	-0.0552** (0.0248)	-0.0656*** (0.0238)	-0.0643*** (0.0238)
Parental education (Up to low-sec)					
Upper-secondary	-0.0792*** (0.0160)	-0.0627*** (0.0161)	-0.0473*** (0.0162)	-0.0417*** (0.0155)	-0.0308** (0.0156)
Tertiary	-0.0840*** (0.0180)	-0.0361* (0.0192)	-0.00675 (0.0194)	-0.0126(0.0184)	0.00982(0.0187)
Father's social class (Low)					
Medium		-0.0335** (0.0161)	-0.0305* (0.0160)	-0.0240(0.0154)	-0.0213(0.0154)
High		-0.118*** (0.0183)	-0.118*** (0.0182)	-0.0929*** (0.0176)	-0.0939*** (0.0175)
Does not work		-0.0225 (0.0807)	-0.00609 (0.0808)	-0.0360(0.0770)	-0.0276(0.0767)
Working mother (No)					
Yes			-0.101*** (0.0132)		-0.0788*** (0.0127)
Parental divorce (No)					
Yes			-0.0783*** (0.0247)		-0.0123(0.0238)
Good relation with at least one parent (No)					
Yes			0.0527** (0.0219)		0.0882*** (0.0214)
Parental church attendance (No)					
At least one parent				0.0884*** (0.0128)	0.0853*** (0.0128)
Index of dialog about sex issues with parents				-0.0388*** (0.00935)	-0.0449*** (0.00948)
Moments of intimacy at home (Never)					
Sometimes				-0.285*** (0.0155)	-0.283*** (0.0155)
Often				-0.342*** (0.0212)	-0.335*** (0.0212)
Very often				-0.448*** (0.0287)	-0.441*** (0.0288)
Index of parental permissiveness				-0.0659*** (0.00992)	-0.0656*** (0.00990)
Constant	4.291*** (0.0218)	4.329*** (0.0243)	4.341*** (0.0312)	4.615*** (0.0351)	4.593*** (0.0387)
Observations	10,255	10,255	10,255	10,255	10,255
N. Events	7586	7586	7586	7586	7586

\*p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. Standard errors in parentheses.

19.2 to 18.0). Hence, the SELFY data, notwithstanding their selectivity, recover the closing of the gender gap in the age at first sexual intercourse found in other studies (Struffolino & Zagel, 2021).

The analysis is divided into two steps. In the first step, the baseline duration is the time elapsed since the age of 13 to the first sexual intercourse; the remaining observations are right-censored at the time of the interview (respondents are from 18 to 26 years old when interviewed). In the second step, the baseline duration is the time elapsed from the age of 13 to the type of first sexual intercourse, protected with condom, protected with other contraceptives (birth control pill or intrauterine device, IUD) or unprotected (nothing, not fecundity period, *coitus interruptus*), whichever came first.<sup>1</sup> We considered the three transitions as distinct processes or competing risks, i.e., the occurrence of one event removed the individual from the possibility of experiencing the other. We censored the remaining observations at the time of the interview.

After preliminary data cleaning, our analytical sample for the models consisted of 10,255 observations. We eliminated: 81 cases who experienced the first sexual intercourse before turning 13; 283 records because the date of the event was missing; 153 because the type of first sexual intercourse was missing; 82 foreign students because information about their migratory background was missing; 1748 because of missing information uniformly distributed throughout the independent variables; the remaining two cases were eliminated because of deliberately fatuous answers.

Parental SES has been operationalized through a set of variables referring to the time when the child was aged 13. Parental education has been measured considering the highest between mother's and father's

<sup>1</sup> In the questionnaire, only one answer for the type of protection used in the first sexual intercourse was allowed.

educational level. If the variable is missing for one parent, the value for the other parent is considered. Cases in which the variable has missing values for both parents are excluded from the analyses (only 89 cases, 0.7% of the original sample). The levels are: 0 = "up to lower-secondary" (no title, elementary school, and lower-secondary school); 1 = "upper-secondary" (upper-secondary courses lasting from 2 to 5 years); 2 = "tertiary" (higher education). As a measure of parental social class, we use a three-category variable based on information concerning the father's job: 0 = "low" (unskilled manual worker, lower-grade routine non-manual employee, lower-grade military officer); 1 = "medium" (skilled manual worker, higher-grade routine non-manual employee, teacher, self-employed with or without employees); 2 = "high" (entrepreneur, manager, professional with or without employees, higher-grade military officer); 3 = "did not work."

All models include a common set of control variables. They are: the area of residence during adolescence (0 = "Center", including Sardinia; 1 = "North-East" 2 = "North-West" 3 = "South", including Sicily); gender (0 = "male", 1 = "female"); and the year of survey (0 = "2000" 1 = "2017").<sup>2</sup>

Following a step-wise modeling strategy, models are augmented with two sets of possible intervenient variables.<sup>3</sup> A first set of variables

<sup>2</sup> We also included in the model equation whether the respondent was in a relationship at the time of the first sexual intercourse. The variable did not exert statistically and substantially significant effects; it was thus omitted from the final model specification.

<sup>3</sup> In additional analyses (available upon request), variables concerning students' previous school career have also been considered as potential intervening factors. However, although better grades in the final exam of lower-secondary school and enrollment in the most prestigious academic tracks (*liceo classico* and *liceo scientifico*) came out to be associated with a delayed first sexual intercourse, parental SES effects remained virtually unchanged.

consists of factors related to the parental control mechanism, that is: whether children experienced parental divorce, have been raised by a working mother, and the quality of parent-child relationship. Parental divorce (time-varying) is a dichotomous variable (0 = “parents never broke up or broke up after the first sexual intercourse” 1 = “parents broke up before the first sexual intercourse”). The variable does not only consider legal separations and divorces, but also dissolutions of co-habitations and de facto separations of parents who remained formally married. Given the historically low level of women’s labor force participation in Italy, for mothers we did not look at the type of occupation, but rather at whether she was employed (0 = “not employed” 1 = “employed”) when the child was aged 13. The quality of parent-child relationship has been measured through a variable referring to the time when the child was aged between 14 and 18: whether the child reports to have had a good relation with at least one parent (0 = “distant or no relationship with both parents” 1 = “good relationship with at least one parent”), to proxy the level of parental involvement (Pearson, Muller, & Frisco, 2006).

As regards factors related to the cultural openness mechanism, parental religiosity has been measured through the level of church attendance of the family of origin when the child was aged 13 (0 = “none of the parents regularly attended the Mass” 1 = “at least one parent regularly attended the mass”). Models are also augmented with three variables referring to the time when the child was aged between 14 and 18. First, an additive index of communication about sex based on three highly correlated indicators of the level of parent-child dialog concerning sexual development, sexually transmitted diseases, and contraceptive use (0 = “never” 1 = “superficially” 2 = “in-depth”). Variables have been summed up and divided by three. Second, to measure parental permissiveness we considered whether parents allowed the respondent to have moments of intimacy with his/her partner at home (0 = “never” 1 = “sometimes” 2 = “often” 3 = “very often”), and an index of parental permissiveness based on three highly correlated indicators about children’s freedom to return home late for meals, on Saturday night, and on all other nights (0 = “never” 1 = “sometimes” 2 = “often” 3 = “very often”). Even in this case, variables have been summed up and divided by three.

It is worth noting that given the two sets of variables used to operationalize the parental control and the cultural openness mechanisms, their empirical distinction is difficult. For instance, as discussed, parental divorce can be a measure for both mechanisms. Hence, measures of parental control and cultural openness should not be assessed individually. Rather, we posit that the stronger the relationship between parental SES and children’s timing of sexual debut is mediated by one group of variables rather than the other group of variables, the more it is related to the one mechanism over the other.

The distributions of person-months (exposures) and events according to all categorical variables considered are reported in Table A1 in the appendix. A piece-wise constant exponential model with interactions between the variables relating to parental SES and the baseline duration suggested a non-proportional effect of the covariates (results not shown, but available upon request). In addition, the shape of the hazard function suggested the appropriateness of a log-logistic or a log-normal model specification. For these reasons, we opted for a log-logistic specification of our event-history models, using the Accelerated Failure Time parameterization, as it proved superior on the basis of AIC and BIC criteria.

## 4. Results

### 4.1. Social origins and the timing of sexual debut

Table 1 reports results from step-wise multivariable models. While commenting and interpreting our findings it should be bear in mind that our sample is not representative of the population of young Italians as a whole. The sexuality of our sample of university students is known to be

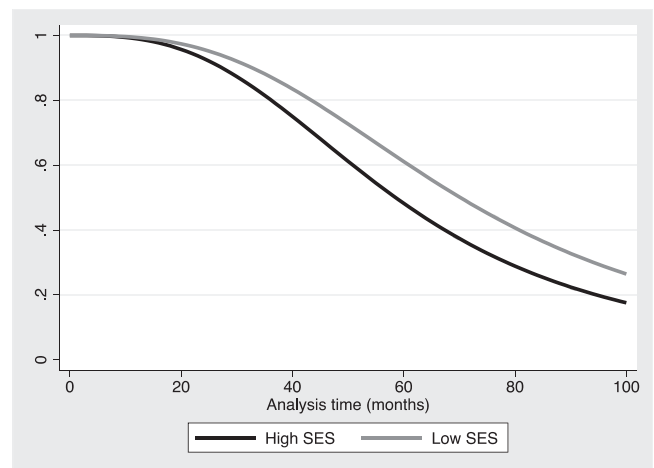


Fig. 1. Predicted survival curves (based on Model 2 in Table 1) for students raised in families with high vs. low parental SES. Predictions refer to the first 100 months of observations when most of the events occur.

delayed and less intense than that of their less educated peers (Minello, Caltabiano, Dalla Zuanna, & Vignoli, 2020). The selectivity by SES, however, is difficult to anticipate, as we will discuss in the concluding section of the paper.

Model 1 only includes the level of parental education as the independent variable of interest, controlling for a set of variables common to all models. Consistent with our hypothesis H1, the higher the level of parental education, the lower the survival time (and, thus, the higher the hazard of sexual debut). In Model 2, the father’s class is added, the effects of which are also consistent with hypothesis H1: the higher the father’s class, the higher the hazard of first sexual intercourse. The father’s class accounts for a substantial part of the effect of parental education, and especially the effect of having a highly educated parent, so that it emerges as the strongest predictor.<sup>4</sup> Models 1 and 2 have also been implemented separately for the 2000 and the 2017 survey (see Table A2 in the appendix). Results show that the effects of higher parental education have waned over time—although far from becoming positive as in most studies concerning Anglo-Saxon countries. This evidence is consistent with the idea that whereas parental education can be seen as a proxy for more liberal attitudes concerning sexual life in “traditional” societies, the ongoing sexual revolution and secularization process have made parental education less relevant than in the past. However, and interestingly, the overall effect of parental SES, as proxied by father’s social class, did not substantially change across the two surveys, notwithstanding the different selectivity of the sample due to the expansion of tertiary education.

To provide a more substantive interpretation of the results, Fig. 1 shows predicted survival curves for children with low and high parental SES, with all other covariates set at their mean value. Low parental SES is defined as having a low class father and parents with up to lower-secondary education, whereas high parental SES is defined as having a high class father and parents with upper-secondary education (to account for the non-linear effect of parental education). The median duration to first sexual intercourse is substantially longer for children raised by low-SES parent. More specifically, the difference in the median durations between children with lower and higher parental SES is approximately 12 months (71 months for the low- and 59 for the high-SES parents, starting from the 13th birthday).

<sup>4</sup> We tested that the differences between the coefficients associated with parental education shifting from Model 1 to Model 2 are statistically significant at conventional levels.

#### 4.2. Understanding the mechanisms

Models 3A and 3B include characteristics of the family of origin which may act as potential intervening variables. Starting from variables related to the parental control mechanism, the effects confirm our expectations based on prior studies: children experiencing parental breakup, raised by a working mother, and who did not have a good relationship with (at least one of) the parents experience an earlier sexual debut. However, the effects of parental SES are only marginally affected: the effect of the father's social class remains virtually unaltered, whereas that of parental education is slightly reduced, especially the effect of having a highly educated parent. Hence, the accelerating effect of higher SES on the timing of sexual debut can only marginally be attributed to this first set of intervening variables.

Model 3B augments Model 2 with variables related to the cultural openness mechanism, which are expected to play a more relevant role in accounting for parental SES effects. All variables are associated with the timing of first sexual intercourse in line with our hypothesis H4 and with most of the empirical evidence available in the literature. Parental church attendance is associated with a delay of first sexual intercourse. On the contrary, having had dialog about sexual issues is associated with a higher risk of sexual debut. The effect of this variable cannot be easily interpreted in causal terms, however. Parents' propensity to discuss contraceptive methods, for instance, is very likely endogenous to their children's sexual activity and risk of first intercourse. The same holds as far as parents' propensity to allow their children moments of intimacy at home with their partners, which has been found to increase the risk of first sexual intercourse too. Finally, parental permissiveness in terms of returning home late is associated with an accelerated transition to first sexual intercourse. Differently from Model 3A, the inclusion of this set of variables accounts for part of the effects of father's social class. For instance, shifting from Model 2 to Model 3B, the coefficients associated with having a high- or middle-class father, rather than a low-class father, are reduced by 21% and 28%, respectively, and the latter lost its statistical significance. Additional analyses reveal that high-class fathers are more open to allowing their children moments of intimacy at home, as well as later curfews. The effect of having an upper-secondary educated parent is also reduced to a larger extent in Model 3B compared to Model 3A.

Thus, notwithstanding the ambiguity of some of the individual measures used, the general pattern of results associated to the two groups of variables suggests the prevalence of the cultural openness mechanism, in line with our hypothesis H4. However, a large share of parental SES effects remains direct, i.e., could not be grasped by the mediators.<sup>5</sup> For instance, a nine months difference in the median durations between children with lower and higher parental SES remains in Model 3B. The simultaneous inclusion of both sets of intervening variables in Model 4 only produces a slight reduction in the effects of parental SES compared to Model 3B, which remain substantially and statistically significant.<sup>6</sup> However, it should be noticed that the accelerating effect of parental divorce turns to zero in Model 4. This suggests that the effect of this variable, that has been associated with the parental control mechanism, was, in fact, capturing factors more related to the cultural openness mechanism: in particular, divorced parents tend to be

less religious than their non-divorced counterparts.

#### 4.3. Social origins and the type of first sexual intercourse

The results of competing-risks models are shown in Table 2. Model 5 shows coefficients from a model identical to Model 2 in Table 1, with the only inclusion being a variable for the type of first intercourse. The latter has a strong effect on the time of the event: intercourse protected with condoms happens much sooner and more frequently than intercourse using other methods, with unprotected types in an intermediate position. This corroborates the view that although sexuality is changing and becoming more precocious in Italy, it still remains carefully managed.

Model 6 adds interactions between the type of intercourse and both parental education and the father's social class. Consistently with our hypothesis H2 stating that parental SES may have a positive effect, especially on the risk of first protected intercourse, a higher level of education of the family of origin accelerates the timing to first intercourse only if the latter is protected with a condom, whereas it protects children from the risk of first unprotected intercourse. Although birth control pills and IUDs only protect from the risks of unintended pregnancy and not from sexually transmitted diseases, the effect of parental education does not differ between "other" types of protection and condom use. However, the former are rarer and related to later sexual debuts in our sample. On the other hand, and contrary to our expectations, the effect of the father's social class does not seem to be moderated by the type of sexual debut.

Based on Model 6, survival curves have been predicted to provide a substantive interpretation of the results. Fig. 2 shows predicted survivals at specific values of parental education and type of first sexual intercourse, holding the father's social class to "medium".<sup>7</sup> For sexual intercourses protected with condom, we compare children with lower-secondary and upper-secondary educated parents (to account for the non-linear effect of parental education). In the case of unprotected sexual intercourses, we compare children with lower-secondary and tertiary educated parents. Regarding unprotected first sexual intercourse, the predicted 75th percentile duration to the event is approximately eight months longer for children of highly-educated parents, compared with children of the least educated parents. Regarding condom-protected first sexual intercourse, the median duration is, instead, approximately eight months longer for children of less educated parents, compared with children of upper-secondary educated parents.

As mentioned, we did not formulate precise hypotheses concerning how the effects of factors potentially driving the influence of parental SES should differ based on the type of first sexual intercourse. However, Model 7 confirms that the inclusion of all the intervening variables, and their interactions with the type of intercourse, reduces the magnitude of the coefficients associated with parental SES, especially those associated with parental education, without altering the overall pattern of results.<sup>8</sup>

## 5. Conclusions

In this paper we analyzed how university students' timing and type of sexual debut are influenced by parental SES. The literature, which has

<sup>5</sup> We checked that the effects of parental SES go in the same direction for both males and females, and the same holds for all the intervenient variables considered in Models 3A and 3B. We did not implement separate models by sex, however, because this would result in a too small number of cases with certain characteristics, which would be especially problematic for the analyses that distinguish between different types of sexual debut.

<sup>6</sup> All models have also been estimated with parental education as only indicator of parental SES: shifting from Model 1 to Model 4 the coefficient for upper-secondary educated parents reduced by 45%, whereas the one for tertiary educated parents reduced by 65% (full results available upon request).

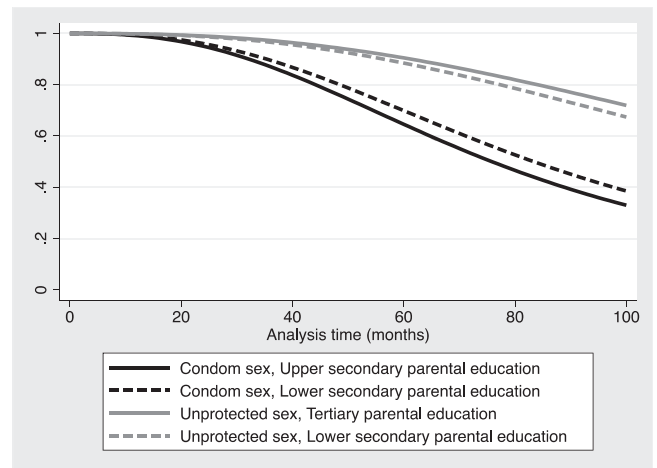
<sup>7</sup> Obtaining predicted survival curves and their confidence intervals after parametric competing-risks event-history models is not straightforward. However, the main effects of parental education and the relevant interaction coefficients ("Unprotected # Upper-secondary" and "Unprotected # Tertiary") in Model 6 in Table 2, on which Fig. 2 is based, are all highly statistically significant. Also, Cumulative Incidence Functions calculated after competing-risks Cox models show virtually identical differences by parental education.

<sup>8</sup> Greater communication about sex only increases the hazard of protected sexual debut, whereas the index of parental permissiveness particularly accelerates first unprotected sexual intercourse. The full results of Model 7 are available in the online appendix.

**Table 2**  
Log-logistic competing-risks models for the analysis of the transition to first sexual intercourse.

	M5	M6	M7
Type (Condom)			
Unprotected	0.570*** (0.0137)	0.484*** (0.0374)	0.383*** (0.0728)
Other	1.071*** (0.0212)	1.060*** (0.0587)	1.080*** (0.114)
Area			
Nord Est	0.105*** (0.0177)	0.105*** (0.0177)	0.105*** (0.0169)
Nord Ovest	0.0179 (0.0174)	0.0178 (0.0174)	0.0288* (0.0166)
Sud	0.0354** (0.0144)	0.0358** (0.0144)	-0.0280** (0.0140)
Survey (2000)			
2017	-0.203*** (0.0180)	-0.203*** (0.0180)	-0.163*** (0.0176)
Gender (Male)			
Female	0.0477** (0.0193)	0.0482** (0.0193)	-0.0328* (0.0188)
Survey # Gender			
2017 # Female	-0.0472** (0.0240)	-0.0477** (0.0239)	-0.0532** (0.0229)
Parental education (Up to low-sec)			
Upper-secondary	-0.0625*** (0.0156)	-0.0946*** (0.0196)	-0.0551*** (0.0189)
Tertiary	-0.0319* (0.0185)	-0.0784*** (0.0232)	-0.0243 (0.0226)
Father's social class (Low)			
Medium	-0.0320** (0.0154)	-0.0291 (0.0194)	-0.0181 (0.0185)
High	-0.118*** (0.0175)	-0.110*** (0.0221)	-0.0870*** (0.0211)
Does not work	-0.0408 (0.0783)	0.00253 (0.0990)	-0.0213 (0.0937)
Type # Parental education (Unprotected # Up to low-sec)			
Unprotected # Upper-secondary		0.113*** (0.0342)	0.0843** (0.0332)
Unprotected # Tertiary		0.162*** (0.0413)	0.125*** (0.0404)
Type # Parental education (Other # Up to low-sec)			
Other # Upper-secondary		-0.000348 (0.0538)	0.0216 (0.0523)
Other # Tertiary		0.0168 (0.0631)	0.0328 (0.0617)
Type # Father's social class (Unprotected # Low)			
Unprotected # Medium		-0.0178 (0.0352)	-0.0231 (0.0335)
Unprotected # High		-0.0263 (0.0402)	-0.0319 (0.0384)
Unprotected # Does not work		-0.0817 (0.180)	-0.0744 (0.170)
Type # Father's social class (Other # Low)			
Other # Medium		0.0223 (0.0525)	0.0165 (0.0502)
Other # High		-0.00628 (0.0587)	-0.00229 (0.0561)
Other # Does not work		-0.194 (0.235)	-0.154 (0.223)
Constant	4.505*** (0.0240)	4.531*** (0.0269)	4.790*** (0.0449)
Observations	10,255	10,255	10,255
Events	7586	7586	7586

\*p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01. Standard Errors in parentheses. Model 7 is augmented with all intervening variables included in Model 4 in Table 1.



**Fig. 2.** Predicted survival curves by parental education and type (protected with condom vs unprotected) of first sexual intercourse. Predictions refer to the first 100 months of observations when most of the events occur.

mainly focused on the US or Anglo-Saxon European contexts, has thus far offered a clear-cut finding: Children of high-status parents postpone their sexual debut. These studies are based on a variety of sampling and analytical procedures: qualitative interviews with university students (e.g. Kim & Ward, 2007; Chanakira, O’Cathain, Goyder, & Freeman, 2014), convenience samplings or samplings from specific subpopulations (e.g. Cavazos-Rehg, Spitznagel, & Bucholz, 2010), samples of adolescents living in a specific US county (e.g. Longmore, Eng, Giordano, & Manning, 2009) or from nationally representative samples (e.g. Santelli et al., 2000). All of these studies, notwithstanding their differences, report a consistent picture, i.e. that higher parental SES reduces the risk of early and unprotected sexual debut. The standard explanation underlying this robust evidence is a “parental control” mechanism, that is, high-SES parents would exert more effective behavioral monitoring and control, leading to a postponed sexual debut of their children. High-SES parents are well aware of the risks associated with an early sexual debut, including unintended pregnancies which may put their children’s school and labor market careers at risk.

We added, however, that from a theoretical point of view, an opposite mechanism can be hypothesized. If high-SES parents hold more liberal attitudes toward sexuality and family, this may translate into more permissiveness toward their children’s sexual experiences, but also better communication about sex and its risks. Thus, children of high-SES parents may even be more precocious than their low-SES counterparts, at least when it comes to first *protected* sexual intercourse. Depending on whether the “parental control” or “cultural openness” mechanism prevails, one could find a postponing or an anticipating effect of higher parental SES on children’s timing of sexual debut.

Which of the two mechanisms prevail, we argued, is likely to depend on the social context. In this paper, we analyzed the role of the family of origin in shaping children’s sexual debut in Italy. Italy has been characterized by a relatively slow and delayed transition to adulthood compared to other high-income countries (Billari & Rosina, 2004). In contrast to the US and other Anglo-Saxon contexts, teenage childbirths are extremely rare in Italy, and later sexual debut has a normative status (Barbagli, Dalla Zuanna, & Garelli, 2010). Also, the role of parental normative pressures on children’s decisions concerning family and sexual life is likely to be more important in Italy due to the strength of family ties and obligations (Guetto et al., 2016; Vignoli & Salvini, 2014). Hence, we argued that the “cultural openness” mechanism may gain the



upper hand over the “parental control” mechanism there, so that higher parental SES could accelerate the timing of first sexual intercourse, especially if protected with a condom.

Using data from the two releases of the Sexual and Emotional Life of Youths survey (carried out in 2000 and 2017), we found empirical support for our hypothesis, as higher parental education and, especially, social class were found to exert a positive effect on children’s risk of first sexual intercourse. To gain a deeper understanding of the role of parental SES in Italy, we followed a twofold strategy: first, we included potentially mediating factors in the models, trying to distinguish between those related to parental control and those related to cultural openness; second, we distinguished between protected and unprotected first sexual intercourse in a competing-risks setting. Among the potentially mediating factors, those more directly related to the parental control mechanism—parental divorce, having been raised by a working mother, and lower parent-child relationship quality—were all found to accelerate children’s sexual debut, but they did not account for a substantial share of the effects of parental SES. In line with our hypotheses, low parental religiosity, greater communication about sex and parental permissiveness, factors related to the cultural openness mechanism, were not only found to accelerate the sexual debut, but also to have stronger mediation effects. These results are consistent with the argument that higher-SES Italian parents tend to be more open toward their children’s sexuality. The competing risks analysis provided additional evidence in this regard. Parental education has been found to only increase children’s risks of first protected sexual intercourse, whereas the effect on first unprotected intercourse is negative, which is consistent with the literature-based argument that higher parental SES favors a more effective monitoring of children’s risky behavior. In a nutshell, the overall positive effect of parental education on children’s risk of sexual debut is largely due to the limited diffusion of unprotected sexual relations during adolescence and young adulthood in the Italian setting compared to the North American one.

These results notwithstanding, our work is not without limitations. Although for stylistic purposes we used expressions such as “effect” or “influence,” the present paper is of a largely descriptive nature. Second, our understanding of the mechanisms underlying the effects of parental SES remains limited. For instance, the father’s social class came out as a more important predictor of children’s timing of sexual debut compared with parental education, and a higher social class has been found to influence an earlier sexual debut irrespective, to a large extent, of other characteristics of the family of origin and parenting practices that have been included in the models as potentially intervening variables, and regardless of the type of first intercourse. A possible reason may be that, due to data constraints, our intervenient variables were of limited scope, especially those related to the cultural openness mechanism—e.g., we could not include any direct measures of parental attitudes and values—or were only imperfectly measured. Also, we could not account for the fact that high-class children enjoy better housing conditions—e.g. larger spaces and availability of second houses—which provide for more opportunities to engage in sexual activity.

In addition, although our work suggests how social origins influence the sexual debut of youths in Italy, our sample is not representative of the universe of Italian youths, which prevents us from a generalization of our findings. It is difficult to speculate on the unobserved mechanisms underlying selection processes, but two alternative scenarios are

possible. On the one hand, if children of low-SES families have enrolled to university partly because they avoided risky sexual behavior, evidence in favor of the cultural openness mechanism may have been less strong, compared with the parental control mechanism, if the data were nationally representative. The overall limited diffusion of (very) early sexual intercourse and teenage childbirths in Italy may make this scenario less likely, however. More generally, children of low-SES families that enroll to university could be selected on some personality traits, such as risk aversion, that reduce their hazard of early sexual activity. On the other hand, the selection process may go in the direction of making low-SES parents/children more similar to high-SES parents/children—e.g. as “open” as high-SES parents towards sexuality and having similar parenting practices—which may imply that we are underestimating the positive effects of parental SES on the timing of sexual debut. The possible coexistence of selection mechanisms of opposite sign suggests that results for non-university students could not differ dramatically. It is worth noting that international studies on youth sexuality often focus on specific sub-samples of the population, too. Hence, the comparison of our findings with those of the prevalent Anglo-Saxon literature—although to be interpreted with caution—may not be hampered by sample selectivity.

The relationship between individuals’ sexual experiences and the social structure surrounding them suggests that experiences at one stage of life will have consequences on subsequent stages of life (James-Hawkins, 2019). A study of sexual debut is important in understanding not only sexual and affective behavior of youths, but also the transition to adulthood and the ensuing course of family life (Carpenter, 2001; Manning, Giordano, & Longmore, 2006, 2008). Early and unprotected sexual experiences can bring to adverse outcomes for adolescents’ future prospects, and may have important implications in terms of social inequalities. This is especially the case in countries where early sexual intercourse is relatively more common among socioeconomically disadvantaged social groups and associated with increasing risks of teenage childbearing. In such contexts, such as the North American and Anglo-Saxon ones, early sexual intercourse can contribute to the intergenerational reproduction of socioeconomic dis(advantage), contributing to the “diverging destinies” of children belonging to families with different socioeconomic resources (McLanahan, 2004). In this paper, however, we found a clear accelerating effect of higher parental SES on the sexual debut of their children in Italy, in a context of widespread postponement of sexual debut. Although effect sizes were small to moderate, this result not only disputes the well-established, but mainly North American- and Anglo-Saxon-driven, finding that children with higher parental SES postpone their sexual debut, but it also suggests that the inequality implications of differences by social origins in the timing and type of sexual debut of the Italian youth are less relevant. Whether and how the recent declines in early, unprotected sexual activity and teen birth rates in countries like the US (Kearney & Levine, 2015), on the one hand, and the ongoing changes in sexual behaviors of young Italians, on the other hand, may bring to a convergence in parental SES effects is food for future comparative studies.

## Appendix A

See [Tables A1](#) and [A2](#).

**Table A1**  
Distributions of person-months (exposures) and events according to all categorical variables.

	Person-months	Failures	Abs. rate	95% CI	
Area					
Center	507,294	2100	0.00413961	0.0039663	0.0043205
North - East	342,858	1254	0.00365749	0.0034606	0.0038656
North - West	364,029	1398	0.00384035	0.0036442	0.004047
South	728,889	2834	0.00388811	0.0037476	0.0040339
Survey					
2000	838,074	2633	0.00314173	0.003024	0.0032641
2017	1,104,996	4953	0.00448237	0.0043593	0.004609
Gender					
Male	905,412	3738	0.00412851	0.0039983	0.004263
Female	1,037,658	3848	0.00370835	0.003593	0.0038274
Parental education					
Up to low – sec	431,397	1439	0.00333567	0.0031677	0.0035126
Upper – secondary	992,544	4011	0.00404113	0.003918	0.0041681
Tertiary	519,129	2136	0.00411458	0.0039437	0.0042928
Father's social class					
Low	398,157	1464	0.00367694	0.0034933	0.0038702
Medium	972,291	3630	0.00373345	0.003614	0.0038569
High	562,941	2450	0.00435214	0.0041832	0.0045279
Doesn't work	9681	42	0.00433839	0.0032062	0.0058705
Working mother					
No	685,833	2341	0.00341337	0.0032779	0.0035545
Yes	1,257,237	5245	0.00417185	0.0040605	0.0042863
Parental divorce					
No	1,833,360	7063	0.00385249	0.0037637	0.0039434
Yes	109,710	523	0.00476711	0.0043756	0.0051937
Good relation with at least one parent					
No	170,661	633	0.00370911	0.0034311	0.0040096
Yes	1,772,409	6953	0.00392291	0.0038318	0.0040162
Parental church attendance					
Never	1,344,672	5565	0.00413856	0.0040312	0.0042487
At least one parent	598,398	2021	0.00337735	0.0032333	0.0035279
Moments of intimacy at home					
No problem	1,457,184	4768	0.00327206	0.0031805	0.0033663
Sometimes	288,537	1573	0.00545164	0.0051888	0.0057278
Often	133,005	805	0.0060524	0.0056484	0.0064853
Very often	64,344	440	0.00683824	0.0062282	0.007508
Type of first sexual intercourse					
Unprotected	647,690	1630	0.00251664	0.0023974	0.0026418
Condom	647,690	5447	0.00840989	0.0081895	0.0086362
Other	647,690	509	0.00078587	0.0007205	0.0008572

**Table A2**  
Log-logistic models for the analysis of the transition to first sexual intercourse, by year of the survey.

	M1		M2	
	2000	2017	2000	2017
Area (Center)				
North - East	0.0440 (0.0305)	0.133*** (0.0231)	0.0457 (0.0305)	0.133*** (0.0231)
North - West	0.0106 (0.0252)	0.0552** (0.0264)	0.0110 (0.0252)	0.0524** (0.0263)
South	0.0539** (0.0249)	0.0279 (0.0190)	0.0494** (0.0249)	0.0268 (0.0190)
Gender (Male)				
Female	0.0561*** (0.0193)	0.00979 (0.0156)	0.0513*** (0.0193)	0.00642 (0.0156)
Parental education (Up to low-sec)				
Upper-secondary	-0.105*** (0.0221)	-0.0493** (0.0229)	-0.0894*** (0.0225)	-0.0337 (0.0230)
Tertiary	-0.110*** (0.0266)	-0.0549** (0.0248)	-0.0670** (0.0292)	-0.00710 (0.0260)
Father's social class (Low)				
Medium			-0.0291 (0.0260)	-0.0362* (0.0203)
High			-0.0994*** (0.0308)	-0.125*** (0.0227)
Does not work			0.133 (0.274)	-0.0411 (0.0858)
Constant	4.320*** (0.0269)	4.056*** (0.0258)	4.350*** (0.0324)	4.092*** (0.0287)
Observations	4026	6229	4026	6229
N. Events	2633	4953	2633	4953

## Appendix B. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.jallcom.2022.163640](https://doi.org/10.1016/j.jallcom.2022.163640).

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