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First Romantic Relationships:  
An Explorative Study**

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# **Italian Adolescents' First Romantic Relationships: An Explorative Study**

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## Abstract

Recently collected retrospective data (from 2000-2001) on Italian university students are analyzed to find out the most significant factors that accelerate or delay the entrance into a first couple relationship for teenagers. Intensity regression analysis is used to test factors that either proved to be noteworthy from previous analyses or are supposed to be significant from a theoretical point of view. Unobserved heterogeneity is included in the model to take into account the characteristics of individuals that are not measured or that are not measurable. The following results arise: age is highly significant, with a decreasing hazard after age 19. The influence of family, a strong institution in Italy, is noticeable. Poor communication with parents is negatively associated with entrance into the first romantic relationship while tolerance of a son's behaviors is positively associated.. The social life of a young person also shapes this event: shyer adolescents had a lower relative risk compared to their contemporaries who had many leisure interests and a wider friendship network. As expected, lower satisfaction with self-appearance exerts a negative weight on the hazard. Finally, unobserved heterogeneity is not found to be significant in the model.

## 1. Introduction

Adolescence is a time of great change in the course of an individual's life. Young people are subject to biological, psychological, and social changes. Their quest for autonomy from authorities like parents, family, and school coincides with this life stage. Adolescents begin to discover themselves, become self-aware, and seek their place in the world (Erikson, 1968; Sebal, 1992; Steinberg and Sheffield Morris, 2001).

Adolescents spend an increasing amount of time with their friends and a decreasing amount of time with their parents (Larson and Richards, 1991). Thus, teenagers often influence each other greatly. (Susman et al., 1994). They start to develop their own personal beliefs and ways of life, sometimes resisting the rules set by their parents, arguing for less strictness, and sometimes simply accepting rules. Nevertheless, the role of parents is still important, and influences adolescents' relationships with their peers (Brown et al., 1993).

Young people often join *cliques*, small groups of peers that are based on friendship and shared activities (Steinberg and Sheffield Morris, 2001). During middle adolescence (around ages 14-15), cliques change from being single-sex to mixed-sex, and many adolescents become intimate friends with members of the opposite sex. In late adolescence (around age 16-18), cliques often become groups of dating couples (Brown, 1990; Richards et al 1998). Finally, dyadic romantic relationships form in this context of adolescent development (Furman et al., 1999; Furman, 2002). However, as Steinberg and Sheffield Morris (2001: 95) affirm: "*Researchers interested in adolescent development have paid shockingly little attention to the nature and function of teenagers' romantic relationships, despite the well-documented fact that, by middle adolescence, most adolescents have had a boyfriend or girlfriend [...], seldom do they examine individuals at the beginning stages of experimentation with intimate, sexual relationships*".

One of the few works that analyzes the entrance into first romantic relationship is from Ongaro and Billari (2002). The authors estimate a logistic model, taking into account three sorts of covariates that are related to (1) individual background (as in age and area of residence), (2) parents and family, and (3) the respondent's biological and psychological development. Their results showed that current age, having a deceased parent, attending discos often, practicing sports regularly, the size of friendship networks, having had the first kiss and the gender of friends are significant in shaping this process. Geographical area and father's education are significant for females only.

Other studies, all sampling American high school students, show that having friends of the other gender increases the likelihood of entering a romantic relationship (Furman et al., 1999; Connolly et. al., 2000). In addition, the affective relationship with parents, whether close or not, is

known to influence individual behaviour toward romantic relationships. Couple relationships may be related to other characteristics of adolescents such as antisocial or bullying behaviour, health status, or sensitivity toward being rejected (Furman, 2002: 180). Still, as stated previously, very little is known about this topic of research.

In the last decade of the 20<sup>th</sup> century, socially normative rules concerning young people's behaviors have become more permissive and tolerant in Italy as in many other western countries (See Buzzi et al., 1997 for Italy; Ford, 1999 for the United Kingdom; and Hogan et al., 2000 for the United States). Young people's attitudes and behaviors toward the opposite sex are rapidly changing, especially for females.

For these reasons, this explorative analysis promises to enlighten the field. Estimating an event history model, the role of several casual factors will be tested for significance. These causal factors range from the respondents' personal background and relationship with parents, to religiosity, school achievement, and social life.

The dataset that is used to perform the analysis is the Italian module of the "International Survey on Affectivity and Sex". These data, which will be presented more thoroughly in the next section, allow for a deep exploration of adolescent behaviors. The survey involved nine nations from four different continents. Thus, when all the datasets are available, it will be possible to perform larger comparative analyses of young people's behaviors.

Fortunately, some of them are already accessible. Table 1, for example, shows the percentage of respondents who had first romantic relationships and first intercourse in six countries. As one can see, nearly 90% of the sample of Italian university students answered that they had had a romantic relationship. This is the highest percentage found. Hence, two interesting analyses are yet to be performed: to uncover which determinants are involved in this common event for Italian adolescents and to identify the characteristics of the 13% who never had a romantic relationship.

Table 1. Percentage of respondents who answered that they had had a first romantic relationship and first intercourse.

Country	Had relationship	Had intercourse	Number of cases
Bulgaria	82%	84%	1119
Italy	87%	66%	4792
Japan	73%	59%	976
Poland	77%	56%	1220
Romania	80%	57%	1305
Russia	77%	75%	1704

## 2. Data

The analyses rest on the Italian dataset of “The International Survey on Affectivity and Sex”. This survey was carried out by means of anonymous self-filled questionnaires during the winter of 2000 and spring of 2001. Nearly 5,000 first- and second-year university students, enrolled in 23 Italian faculties of Economics and Statistics, participated in this survey. Homogeneous faculties were selected to allow for territorial comparison.

The survey focused on the sentimental and sexual life of university students and provides exceptionally detailed, life course-based information. The respondents were unmarried females (58.3%) and males (41.7%) aged between 18 and 26 years. The median age was about 20.5..Most were residents of North-Central Italy (65%), who lived with their own parents (66.1%). The questionnaire contained about 200 closed questions in its 16 pages and took roughly 30 minutes to complete. Most questionnaires were completed during a one-hour lesson under the discreet surveillance of a researcher.

The questionnaire gathered information on the personal and parental background of the respondent, the quality of the relationship between the respondent and his/her parents, the respondent’s religion (including church attendance of both students and their parents), health status (physical and psychological) and body characteristics (height, weight, satisfaction of self appearance), school performance, leisure (sport activity, voluntary work, disco attendance, etc.), risky behavior (smoking, drugs, alcohol, driving quickly, etc.), friendship network, first sexual intercourse, romantic relationships, living arrangements, opinions and sexual behavior related to STDs. A final section dealt with opinions and attitudes concerning various situations of specific sentimental and sexual behaviour. The information refers to different stages of the respondent’s adolescence (ages 11-13, 14-15 and 16-18) (Dalla Zuanna and Crisafulli, 2002).

### 2.1 Data quality

A questionnaire filled out by the respondent, with no interference from the interviewer, is almost unavoidable when asking delicate and intimate questions such as those concerning aspects of sentimental and sexual behaviour (Lauman et al., 1994; Buzzi, 1998). Still, the use of this sort of questionnaire has serious problems: it is difficult to implement complex questions and has a higher risk of non-response.

Because all the respondents were university students, the problems related to language and comprehension of questions should be minor. Furthermore, almost no one refused to fill in the questionnaire, as 80% of them were completed during a one-hour class under the surveillance of a researcher (after the students were given a gentle but explicit request to be aware of their responsi-

bility for the success of the research) . Note that in Italy the refusal rate is usually 30% in face-to-face interviews and often even as high as 50% in postal surveys (Dalla Zuanna and Crisafulli, 2002).

Another positive aspect of this study was the very low non-response rate. Generally, non-response problems are more acute when individuals are asked about their life-course. In this survey, however, the missing answers were usually lower than 5% for quantitative questions and not much higher for questions concerning the timing of events. Only 7.3% of the respondents who had experienced at least one couple relationship did not report the year of the beginning of this first relationship, while 24.9% did not report the month (Rosina et al., 2002).

## **2.2 Data selection and preparation**

The Italian sample of this survey consists of all students who were enrolled in the first two years of the faculties of Economics and Statistics in Italian public universities. A sample of these students, weighted according to the geographical distribution of students, was selected. Nearly 70% of this sample was successfully interviewed, bringing the total number of collected questionnaires to 4,998. After collection, the quality of the questionnaires and the characteristics of the respondents were checked. During this data entry process, respondents with a missing birth year were not included in the dataset (Unfortunately the characteristics of those individuals were not counted, recorded or analyzed).

Since the study was restricted to young people who were adolescents in the 1990s, all respondents that were born before 1975 were not included in the final dataset. Thus, the sample was reduced to 4,792 individuals. The sample was further reduced by deleting all individuals for whom it was not possible to determine if they had a romantic relationship or not. The following hypothesis was formulated in order to save some records. If the answer to the question: «*Did you ever have a steady relationship?*» was missing, it was checked if:

- The respondent answered that he/she had sexual intercourse with someone he/she was in a steady relationship with. In this case, it was supposed that this person had at least one steady relationship.
- The respondent answered that he/she lived regularly with someone he/she was having a steady relationship with. In this case, it was supposed that this person had at least one steady relationship.
- The respondent answered that he/she never had any sexual experience and that he/she never lived regularly with someone he/she was having a steady relationship with. In this

case, it was supposed that the respondent never had a steady relationship (at least the sort of middle adolescence relationship we are interested in).

Nevertheless, it was necessary to delete 98 cases for which it was impossible to know if they ever had a romantic relationship. Thus, the final sample consisted of 4694 young people. These 98 respondents were slightly different from our general sample: they were mostly less religious males living in the southern part of Italy, in small towns rather than in cities who were less talkative with their parents. However, they were not different from the average characteristics of other respondents according to family background, school, leisure time, and risky behaviors.

When the exact date of the first romantic relationship was missing, a window was built (which was possible through using aML software for analysis) between the tenth birthday and the beginning of the last romantic relationship. This last question had less missing answers. Finally, if this answer was also missing, the window for the event was built between the tenth birthday and the interview date.

It was also presumed that none of the respondents had their first romantic relationships before the age of 10 years. However, 40 respondents said that they in fact had their first romantic relationship before this. It was supposed that they probably did not understand the question well or that the kind of relationship they were involved in was not what we were interested in. Also in this case a window was built, either between the tenth birthday and, if known, the beginning of the last romantic relationship, or between the tenth birthday and the interview date. If the month of birth was missing, we replaced it according to the frequency distribution of known values (30 birth months were entered in this way).



### 3. Methods

#### 3.1 Event history models

Since these data were collected for the explicit purpose of allowing time data analysis, event history analysis was performed. These models are best suited to these data because they permit censored data and time varying explanatory variables. It was supposed that each individual in the sample was exposed to the risk of having a romantic relationship from the tenth birthday onward. If a young person had no relationship, he/she is censored at the time of the interview.

The intensity regression model equation is:

$$\ln h_i(t) = y(t) + \sum_k \alpha_k x_{ik} + \sum_m \beta_m w_{im}(t) + V_i \quad (1)$$

where  $h_i$  is the intensity, that is the log-hazard of entering a romantic relationship for a young person  $i$  at time  $t$ , while  $t$  is the time elapsed since the tenth birthday and  $y(t)$  is the baseline log-hazard that is specified according to a piecewise continuous linear Gompertz function, so it can pick up the effect of this duration on the intensity.

To be more exhaustive,  $y(t)$  is a vector of  $v_n + 1$  spline variables whose coefficients are allowed to differ between intervals separated by  $v_n$  nodes. Denoting the nodes as  $v_p(t)$ , it is possible to define the spline variable for the  $p$ -th interval as:

$$Y_p(t) = \max[0, \min(t - v_p, v_{p+1} - v_p)] \quad (2)$$

This kind of baseline allows for a variety of patterns for the duration dependence in the hazard function (Aassve et al., 2003).

The  $\{x_{ik}\}$  are the time-constant covariates<sup>1</sup>. The  $\{w_{im}\}$  are the time-varying covariates<sup>2</sup>, whose values change at discrete times and are constant in the time between these changes. Respectively,  $\alpha$  and  $\beta$  are the regression parameters. (See, for instance, Beise and Volland, 2002). They will be described in section 3.3.  $V_i$  represents unobserved heterogeneity, if there is any. Two models will be estimated, the first one without, and the second with unobserved heterogeneity.

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1 These are: sex, geographical area, elder siblings, closeness to father and to mother, reaction to school and family rules, importance of religion, father's and mother's attendance to religious functions, parents allowing late arrival on Saturday and other nights, parents' education, body mass index and health diseases.

2 These are: talking about sentimental experiences, school achievement, attendance to religious functions and religious groups, sex of friends, parents' age, involvement in sports activities, disco attendance, whether the respondent was pleased with his/her looks, smoking, getting drunk, using marijuana, ecstasy or similar drugs.

### 3.2 Unobserved heterogeneity

The presence of unobserved heterogeneity (i. e. individual characteristics that cannot be directly asked in a questionnaire or cannot be measured) in the process of entrance into first marriage is well known. For example, health-related selection mechanisms for the first marriage are effective in many countries, such as the United States and Japan (Hu and Goldman, 1990; Fu and Goldman, 1994; Fu and Goldman, 1996; Goldman et al., 1995). It is also known that one's health status influences the likelihood of having a romantic relationship during adolescence (Caltabiano, 2002).

Therefore, whether there are any unobserved characteristics present in the process of entrance into the first romantic relationship was tested. To take these unobserved characteristics into account and check their possible impact on the hazard, a normally distributed random effect with a mean of zero and a variance of sigma square was included in the second of the models.

An estimated standard deviation of sigma significantly different from zero will point out that there are unmeasured individual characteristics which influence the entrance into the first couple relationship. It is known that the estimation of a hazard model based on single spell data can be severely biased, in particular when the estimated value of sigma is small. Nevertheless, by using several time-varying covariates, as in the model specified above, the accuracy of estimates certainly improves (Aasave et al., 2003). The software aML, version 1.04 (L. A. Lillard and C. W. A. Panis, 2000), was used to run all models.

### 3.3 Explanatory variables

Here the explanatory variables used in this explorative analysis are listed, described, and grouped into three categories: variables that cover personal background (such as geographical area where the respondent lived during high school), variables that cover a respondent's access to opportunity structures to meet potential partners, (e. g., sex of friends or disco attendance), and variables that cover a respondent's attributes that make him/her more, or less, attractive in the partnership market, such as the health status during respondent's adolescence.

#### 1) Personal background:

*Age and sex* of the respondent.

*Geographical area* where the respondent lived during high school. In Italy territorial differences (e.g., the North being more open minded, versus the South, which is supposed to be a more traditional social context) are very important determinants of sexual behaviour, particularly for females (Billari and Borgoni, 2002).

*Closeness to parents:* whether the respondents felt close to their father and/or mother and whether they used to talk with their parents about personal, sentimental experiences. It is well known that the quality of the relationship with parents influences many aspects of young people's attitudes, such as the age before which adolescents think they should not have sexual intercourse. For females, in particular, a good relationship with the mother delays the age at first sexual intercourse (Blake et al., 2001; Karofsky et al., 2001; Rodgers, 1999).

*Elder siblings:* these influence the timing of younger siblings' first intercourse because they are "orientational" for them (Widmer, 1997; Udry et al., 1995). It would be interesting to test whether this also applies to timing of first romantic relationships.

*School achievement and reaction to school rules* during high school. (The respondents was asked whether they accepted them, whether they accepted them but judged them to be strict, or whether they refused them and often complained to teachers). Research has shown that adolescents who dated frequently exhibited consistently and significantly lower levels of academic achievement (Quatman et al., 2001). Moreover, lower educational goals and achievement are positively associated with initiating sexual intercourse at a younger age (Schvaneveldt et al., 2001).

*Importance of religion for the respondent.*

*Respondent's attendance to religious functions.*

*Parents' attendance to religious functions* when the respondent was thirteen year old. The Catholic religion, which is very prevalent in Italy, states that people should be married before having sexual intercourse. It does not, however, discourage romantic relationships (although it used to in the distant past). It could be hypothesized that young people, who are closest to religious principles may find it difficult to meet a partner who accepts delaying sexual intercourse, and for this reason they have a lower likelihood to enter into a couple relationship. Therefore, the kind of role that the Catholic religion plays in this process, if it does in fact play a role, will be tested.

## 2) Opportunity structures

*Sex of friends:* having a relevant network of other-sex friends is related to the likelihood of having a romantic relationship (Feiring, 1999).

*Rules set by parents* during adolescence (the respondent was asked if she/he agreed without arguing, tried to persuade the parents to be less strict, or fought with them) and whether parents permitted their children to arrive home late on Saturday night and/or other nights. These variables evaluate the role of family rules toward teenagers' behaviors. Adolescents who have strict parents could have fewer possibilities both to meet a partner and to keep him/her (Hovell et al., 1994).

The *education of father and mother* were included in the model as proxies for the socio-economic status of the family. More educated parents would probably be more open minded and less strict towards their children's behaviors. Thus, they could easily consent to their children's having a boyfriend/girlfriend. However, higher social status parents may also not be very present at home due to their job/careers, leading in some cases to relational disorders (Caltabiano, 2002), and may have less controls on their children life.

*Parents' age:* This variable supposes that younger parents are more permissive and tolerant regarding their sons' and daughters' behaviors.

*Involvement in sport activities and disco attendance.* Adolescents who are involved in social life and take part in many activities are probably more mature and open to relationships with other people. Hence, they are more likely to have a romantic relationship. Conversely, adolescents that are not involved in this sort of leisure activities are more introverted and less exposed to the hazard of entering a romantic relationship. Moreover, young people who are more religious could be more *involved in religious groups*, (groups that have become prevalently sex-mixed in the last decades), than their contemporaries. Consequently, they have more opportunities to meet a partner.

### 3) Respondent's value on the partnership market

*Body max index.*

Whether the respondents were *pleased with how they looked* or not.

*Smoking, getting drunk, using marijuana*, ecstasy or similar drugs.

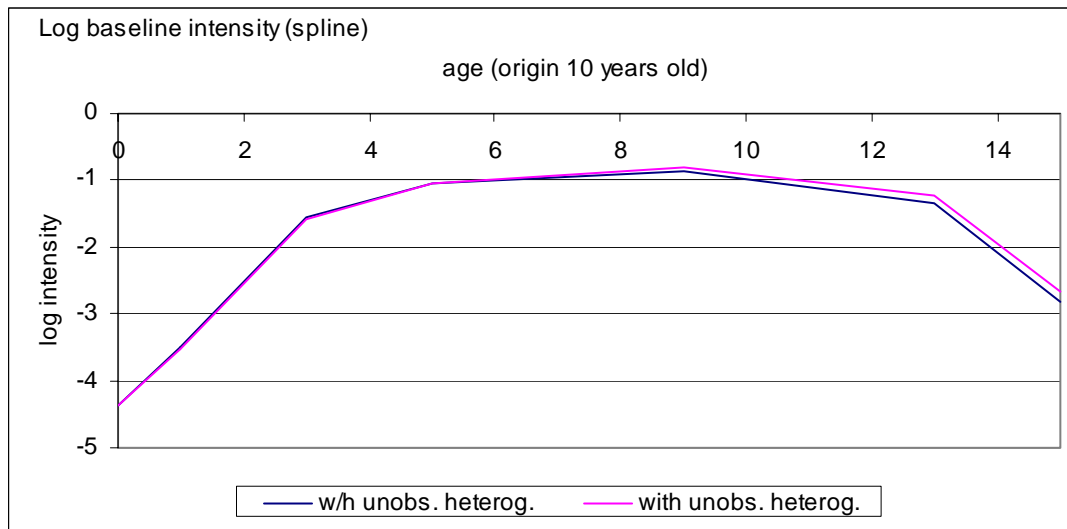
All these variables were included to verify whether a mate selection process exists according to the entrance into the first romantic relationship. Therefore, physical characteristics are included in the model, like body mass index (an index used by WHO to measure obesity) and self reported diseases. If this selection effect is active, young people with worse health status and/or physical appearance should be less likely to find a partner. Moreover, young people with an unhealthy or risky life style, like heavy smoking, drinking, and drug use, should also be less likely to start a relationship.

Of course, the other causal direction is also possible: young people, who cannot find a partner may get depressed, stressed, and ill. Furthermore, adolescents engaged in risky behaviors might also be less interested in having a steady partner because they prefer occasional ones.

## 4. Results

In the first model, the hazard of entering the first romantic relationship was estimated without including any unobserved heterogeneity while the second model did include this. In figure 1,  $y(t)$ , the baseline hazard for age, is plotted.

Figure 1. Baseline hazard for age (4694 cases).



The hazard increases until age 15. It remains almost stable between 15 and 23, but starts to decrease slightly at the age of 19 until the age of 23, when it decreases quickly.

Table 2. Baseline. (4694 cases).

<b>Baseline</b>		<b>Model 1</b>	<b>Model 2</b>
<i>Age:</i>	10-11 years old	0,85 ***	0,85 ***
	11-12 years old	0,97 ***	0,98 ***
	13-14 years old	0,26 ***	0,26 ***
	15-18 years old	0,04 **	0,06 **
	19-22 years old	-0,11 **	-0,11 *
	23-25 years old	-0,73	-0,72
<i>Intercept</i>		-4,36 ***	-4,38 ***

(Note: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ )

The following three tables summarize the estimated relative risk for covariates in the model without (model 1) and with unobserved heterogeneity (model 2).

Table 3. Covariates on personal background. (4694 cases).

		Model 1	Model 2
<b>Covariates</b>		<b>Relative risk</b>	<b>Relative risk</b>
Sex:	Male	1.00	1.00
	Female	1.38 ***	1.39 ***
Geographical area:	North	0.95	0.95
	Centre	1.00	1.00
	South	1.06	1.06
	Abroad	0.66 **	0.65 **
	None	1.00	1.00
Elder siblings:	Only elder sister	0.97	0.97
	Only elder brother	1.02	1.02
	Both of them	1.03	1.03
	Not very present	0.92	0.92
Closeness to father:	Distant	1.00	1.00
	Close	0.93 *	0.93 *
	Not very present	1.01	1.01
Closeness to mother:	Distant	1.00	1.00
	Close	0.90 **	0.90 *
	Never	0.66 ***	0.65 ***
Talking about sentimental experiences:	Yes, but only to a certain extent	1.00	1.00
	Yes, in deep	1.08	1.09
	Never meet them	1.63	1.63
	Poor	1.00	1.00
School achievement:	not so good	0.93	0.93
	Good	1.00	1.00
	Very good	0.96	0.96
	Accepted them	0.92 **	0.92 **
Reaction to school rules:	did not complained although thought they were too strict	1.00	1.00
	Thought they were too strict and often complained	1.15 ***	1.15 ***
	None	0.91	0.91
Importance of religion:	Very little	0.99	0.99
	Fairly	1.00	1.00
	Very important	0.86 ***	0.86 ***
	Never	0.94	0.94
Respondent's attendance to religious functions:	Sometimes during the year	1.00	1.00
	Almost every week	0.94	0.94
	Never	0.86 *	0.86 *
Father's attendance to religious functions:	Sometimes during the year	0.87 *	0.87 *
	Once a month	1.00	1.00
	Almost every week	0.88	0.88
	Never	1.17 *	1.17 *
Mother's attendance to religious functions:	Sometimes during the year	1.09	1.09
	Once a month	1.00	1.00
	Almost every week	1.05	1.04

(Note: \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1)

Several characteristics in the personal background of the respondent play an essential role in shaping the hazard of entering a romantic relationship. For instance, females have a significantly higher hazard than males. The same holds for young people having an elder brother, while the presence of an elder sister slightly decreases the hazard. However, the  $t$  statistic of this variable is not significant.

As expected, closeness to parents, especially to the mother, is a determinant, which significantly reduces the hazard of entering a romantic relationship. A significantly lower hazard characterizes the teenagers that do not talk to their parents about their sentimental experiences. Also noticeable is that the best students have a lower relative risk, even if it is not significant (Tucker et. al. 2000). On the other hand, students that refused school rules and teachers' control have a higher risk.

As expected, adolescents that are more religious have a significant lower risk of entering a couple relationship. While fathers that are less religious decrease the likelihood of having a partner, mothers that are not at all religious increase it. Perhaps this is because these mothers are more permissive toward their sons and daughters.

Table 4. Covariates on opportunity structures. (4694 cases).

		Model 1	Model 2
<b>Covariates</b>		<b>Relative risk</b>	<b>Relative risk</b>
Sex of friends:	None	0.85	0.84
	All of the same sex	1.00	1.00
	More males	1.75 ***	1.76 ***
	More females	1.36 ***	1.37 ***
	Half and half	1.73 ***	1.75 ***
Reaction to rules set up by parents:	Agreed without arguing	0.85 ***	0.84 ***
	Tried to persuade them to become less strict	1.00	1.00
	Fought with them	1.08 *	1.09
Parents allowed arriving late on Saturday nights:	Never	0.95	0.95
Parents allowed arriving late other nights:	Sometimes	1.00	1.00
	Often or very often	1.16 ***	1.17 ***
	Never	1.05	1.04
Father's age when he finished education:	Sometimes	1.00	1.00
	Often or very often	0.89 **	0.89 **
	6-12	0.88 **	0.88 **
	13-15	1.00	1.00
	16-21	1.07	1.07
Mother's age when she finished education:	22 or more	1.02	1.02
	6-12	0.94	0.94
	13-15	1.00	1.00
	16-21	0.97	0.97
	22 or more	0.92	0.92
Father's age:	30-40	1.00	1.00
	40-50	0.90	0.90

	50 or more	0.88	0.88
	Deceased	1.00	1.00
Mother's age:	30-40	1.00	1.00
	40-50	1.06	1.06
	50 or more	1.13 *	1.14 *
	Deceased	0.64	0.64
Sport activity:	Never	0.93	0.92
	Sometimes	1.00	1.00
	Often or very often	1.17 ***	1.17 ***
Disco attendance:	Never	0.76 ***	0.76 ***
	Sometimes	1.00	1.00
	Often or very often	1.01	1.02
Attendance to religious groups	Never	0.98	0.98
	Sometimes	1.00	1.00
	Often	0.93	0.93
	Very often	1.05	1.06

(Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1)

Sport activity and disco attendance seem to play a similar role: adolescents that are popular and that are involved in many activities are the most likely to find a partner.

Table 5. Covariates on respondent's value on the partnership market. (4694 cases).

		Model 1	Model 2
<b>Covariates</b>		<b>Relative risk</b>	<b>Relative risk</b>
Pleased by self appearance	No	0.66 ***	0.65 ***
	Not really	0.82 ***	0.82 ***
	Quite	1.00	1.00
	Yes	1.04	1.05
Body mass index	< 16	0.90	0.89
	16 – 18	1.09	1.09
	18 – 22	1.00	1.00
	22 – 26	0.98	0.99
	26 – 45	0.78 ***	0.77 ***
Diseases (baseline = no)	Serious eating problems	1.15 ***	1.15 ***
	Insomnia	0.92	0.92
	Acne	0.95	0.96
	Sight or hearing difficulties	0.90	0.89
	Heavy sweating on the palms of the hand	0.89 **	0.89 **
	Bad breath	1.01	1.01
Smoking	Never	0.76 ***	0.76 ***
	1-6 cigarettes per day	1.00	1.00
	More than 6 cigarettes per day	0.91	0.92
Getting drunk	Never	1.00	1.00
	Sometimes or often	1.28 ***	1.29 ***
Using marijuana	Never	1.00	1.00
	Sometimes or often	1.11	1.12
Using ecstasy or other synthetic drugs	Never	1.00	1.00
	Sometimes or often	0.63 *	0.62 *

(Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1)



Furthermore, the respondent's value on the partnership market, determined especially by his/her physical characteristics, influences the hazard of entering a romantic relationship,. Both the body mass index and self-appearance proved to be very significant. Young people that either have a very low stature (and thus a small BMI) or are obese (and thus have a large BMI) have a lower probability to start a relationship. All the diseases included in our model have a negative effect on the hazard, except bad breath and eating disorders (anorexia and bulimia). It is known that eating problems are related to early dating behaviour and sexual experiences (Kaltiala-Heino, 2001). Therefore, they might also be related to affective disorder, which leads to many short and unsuccessful relationships. Further studies are necessary to better comprehend this relation.

Smoking (but not being a heavy smoker) and drinking exert a positive role. Almost certainly, these young people have a wider social network and thus have more opportunities to meet a partner. It is also possible to suppose that these two behaviors are clues for a strong personality, especially in the case of young males. Their correlation with an early onset of sexual intercourse is well known (see for instance Sen, 2002).

Finally, the consumption of marijuana was not significant, while the use of ecstasy or other synthetic drugs reduces the hazard. However, the causal relationship involved here is not clear. Perhaps these adolescents are less likely to find a partner because they have narrow or non-existent social networks and are, on account of the drug use, less attractive potential partners for a first-time couple relationship.

It is important to note that there is no information on the length of the relationships examined. Thus, it is not possible to say if the relationships were short and occasional nor is it easy to explain the role of these determinants correctly. A first idea is that most girls in Italy do not have their first intercourse outside a romantic relationship. For this reason, male adolescents have to enter a relationship to have their first sexual intercourse. Remember that a lower age at first sexual intercourse is positively associated with risk behaviors.

Table 6. Unobserved heterogeneity

<b>Unobserved heterogeneity</b>	Model 2
<i>Sigma</i>	0.2287

Unobserved heterogeneity turned out not to be significant (Table 6). It may be that the most relevant determinants of entrance into romantic relationships were indeed included in the model. After all, in the simpler models estimated before the final models shown here, unobserved heterogeneity was very significant. Upon enhancing the model, it slowly lost all significance. However, the most

probable explanation is that the heterogeneity was not normally distributed, as it was supposed to be according to this model. Further analysis will certainly enlighten our understanding of this aspect.

## 5. Final remarks

In this explorative analysis, the possible causal factors of the entrance into romantic relationships for Italian adolescents were studied. Current age, sex, and number of friends, relationship with parents, religiosity both of the adolescent and the parents, sport activity, disco attendance, and self appearance proved to be the most significant factors affecting entrance into initial couple relationships. Therefore, it is the whole context in which an Italian teenager lives (family, friends, school, church and free time) that shapes both his/her attitudes towards couple relationships and his/her opportunities for entering one. In addition, physical characteristics also affect the respondent's value on the partnership market and thus his/her hazard of entering a romantic relationship.

Some variables in the model did not turn out to be significant: the geographical area, having elder siblings and the parents' age (except for elder mothers).

Characteristics of the 13% of respondents who never had a romantic relationship included being closer and shyer young people, generally more depressed and unsure of themselves, dissatisfied with their physical appearance and often with strict parents. They are also more apt to be very religious, brilliant in school, respectful of rules set by parents and the school, (and thus subject to greater social control), and not prone toward risky behaviors. These findings proved to be relevant. However, the author believes that the full picture of this process will be more definite when it becomes possible to perform a more accurate analysis using separated models for males and females.

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## References

- Aasave A., Billari F. C., Michielin F., Panis C. (2003). *A Monte Carlo study of (simultaneous) hazard models with flexible baseline and normally distributed error terms*. Paper presented at the PAA 2003 Annual Meeting, Minneapolis (USA), 1-3 May 2003.
- Billari F. C., Borgoni R. (2002). Spatial profile in the analysis of event histories: an application to first sexual intercourse in Italy. *International Journal of Population Geography*, 8, 261-275.
- Beise J., Volland E. (2002). A multilevel event history analysis of the effects of grandmothers on child mortality in a historical German population. (Krummhörn, Ostfriesland, 1720-1874). *Demographic Research*, 7 (13), 469 – 498.
- Blake S. M., Simkin L., Ledsky R., Perkins C., Calabrese J. M., (2001). Effects of a Parent-Child Communications Intervention on Young Adolescents' Risk for Early Onset of Sexual Intercourse. *Family Planning Perspectives*, 33 (2), 52-61.
- Brown B. B., Mounts N., Lamborn S. D., Steinberg L. (1993). Parenting practices and peer group affiliation in adolescence. *Child Development*, 64, 467-482.
- Brown B.B. (1990). Peer groups and peer cultures, in Feldman S. S., Elliott G. R., (Eds.): *At the Threshold: The Developing Adolescent*. Cambridge, MA: Harvard University Press, pp. 171-196.
- Buzzi, C. (1998). *Giovani, affettività e sessualità*. Bologna: Il Mulino.
- Buzzi, C. Cavalli A., De Lillo A. (Eds.), (1997). *Giovani verso il duemila*. Bologna: Il Mulino.
- Caltabiano M. (2002). *Salute e Corporeità*. Paper presented at the International Workshop on Affectivity and Sex of University Students, Milazzo (Italy), 20-22 June 2002.
- Connolly J., Furman W., Konarsky R. (2000). The role of peers in the emergence of romantic relationships in adolescence. *Child Development*, 71, 1395-1408.
- Dalla Zuanna G., Crisafulli C. (2002). *L'indagine sugli studenti universitari italiani. Presupposti teorici e raccolta dei dati*. Paper presented at the International Workshop on Affectivity and Sex of University Students, Milazzo (Italy), 20-22 June 2002.
- Erikson E. (1968). *Identity, Youth, and Crisis*. New York: Norton.
- Feiring C. (1999). Other-Sex Friendship Networks and the Development of Romantic Relationships in Adolescence. *Journal of Youth and Adolescence*, 8 (4), 495-512.
- Ford N. J., Halliday J., Little J. (1999). Changes in the sexual lifestyles of young people in Somerset, 1990-1996. *British Journal of Family Planning*, 25 (2), 55-58.
- Fu H. S., Goldman N. (1994). *Are healthier people more likely to marry? An event history analysis based on the NLSY*. Office of Population Research, Princeton, New Jersey, Working Paper 94-95.
- Fu H. S., Goldman N. (1996). Incorporating health into models of marriage choice: demographic and sociological perspectives. *Journal of Marriage and the Family*, 55, 191-204.
- Furman W., Brown B., Feiring C. (Eds.), (1999). *Contemporary Perspectives on Adolescent Romantic Relationships*. New York: Cambridge University Press.
- Furman W. (2002). The emerging field of Adolescent Romantic Relationships. *Current Directions in Psychological Science*, 11 (5), 177-180.
- Goldman N., Takahashi, S., Hu Y. (1995). Mortality among Japanese singles: a re-investigation. *Population Studies*, 49 (2), 227-239.
- Hogan D. P., Sun R. J., Cornwell G. T. (2000). Sexual and fertility behaviours of American females aged 15-19 years: 1985, 1990, and 1995. *American Journal of Public Health*, 90 (9), 1421-1425.

- Hovell M., Sipan C., Blumberg E., Atkins C., Hofstetter C., Kreitner S. (1994). Family Influences on Latino and Anglo Adolescents' Sexual Behaviour. *Journal of Marriage and the Family*, 56 (4), 973-986.
- Hu Y., Goldman N. (1990). Mortality differentials by marital status: an international comparison. *Demography*, 27 (2), 233-250.
- Kaltiala-Heino R., Rimpel M., Rissanen A., Rantanen P. (2001). Early puberty and early sexual activity are associated with bulimic-type eating pathology in middle adolescence. *Journal of Adolescent Health*, 28 (4), 346-352.
- Larson R., Richards M. H. (1991). Daily companionship in late childhood and early adolescence: changing developmental contexts. *Child Development*, 62, 284-300.
- Karofsky P. S., Zeng L., Kosorok M. R., (2001). Relationship between adolescent-parental communication and initiation of first intercourse by adolescents. *Journal of Adolescent Health*, 28 (1), 41-45.
- Laumann E. O., Gagon, J. H., Michael, R. T., Michaels S. (1994). *The social organization of sexuality. Sexual practices in the United States*. Chicago: The University of Chicago Press.
- Ongaro F. (2001). *First sexual intercourse in Italy: a shift towards and ever more personal experience?* Paper presented at the XXIV IUSSP General Population Conference, Salvador, Brazil, 18-24 August 2001.
- Ongaro F., Billari F. C., (2002). *Relazioni di coppia e prime relazioni sessuali*. Paper presented at the International Workshop on Affectivity and Sex of University Students, Milazzo (Italy), 20-22 June 2002.
- Quatman T., Sampson K., Robinson C., Watson C. M. (2001). Academic, motivational, and emotional correlates of adolescent dating. *Genetic, Social, and General Psychology Monographs*, 127 (2), 211-234.
- Richards M.H., Crowe P. A., Larson R., Swarr A. (1998). Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Development*, 69, 154-163.
- Rodgers K. B., (1999). Parenting Processes Related to Sexual Risk-Taking Behaviors of Adolescent Males and Females. *Journal of Marriage and the Family*, 61 (1), 99-109.
- Rosina A., Zaccarin S., Caltabiano M. (2002). *Analisi della qualità delle risposte nella prospettiva di rilevazione di dati sensibili*. Paper presented at the International Workshop on Affectivity and Sex of University Students, Milazzo (Italy), 20-22 June 2002.
- Schvaneveldt P. L., Miller B. C., Berry E. H., Lee T. R. (2001). Academic Goals, Achievement, and Age at First Sexual Intercourse: Longitudinal, bidirectional influences. *Adolescence*, 36, 767-787
- Sebald H. (1992). *Adolescence: a social psychological approach*. Englewood Cliffs. NJ: Prentice-Hall.
- Sen B. (2002) Does alcohol-use increase the risk of sexual intercourse among adolescents? Evidence from the NLSY97. *Journal of Health Economics*, 21 (6), 1085-1093.
- Steinberg L., Sheffield Morris A. (2001). Adolescent Development. *Annual Rev. Psychol.*, 52, 83-110.
- Steinberg L. (1999). *Adolescence*. Boston: McGraw-Hill. 5th ed.
- Susman S., Dent C., McAdams L., Stacy A., Burton D., Flay B. (1994). Group self-identification and adolescent cigarette smoking: a 1-year prospective study. *Journal of Abnormal Psychology*, 103, 576-580.
- Tucker Halpern C., Joyner K., Udry J. R., Suchindran C., (2000). Smart teens don't have sex (or kiss much either). *Journal of Adolescent Health*, 26 (3), 213-225.

- Udry J. R., Kovenock J., Morris N. M., Van den Berg B. (1995). Childhood precursors of age at first intercourse for females. *Archives of Sexual Behavior*, 24 (3), 329-337.
- Whitbeck L. B., Simons R. L., Kao M. (1994). The Effects of Divorced Mothers' Dating Behaviors and Sexual Attitudes on the Sexual Attitudes and Behaviors of Their Adolescent Children. *Journal of Marriage and the Family*, 56 (3), 615-621.
- Widmer E. D. (1997). Influence of Older Siblings on Initiation of Sexual Intercourse. *Journal of Marriage and the Family*, 59 (4), 928-938.