

“Transition to sexual activity among adolescents. The importance of dynamics in family structure”

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ABSTRACT

The aim of this paper is to examine the influence of family structure on adolescents' onset of sexual activity. In Spain, the median age at the first sexual intercourse is 17 years old (INJUVE, 2013). According to the HBSC-2010 survey (Health Behavior in School-Aged Children), there are apparent differences in the timing of sexual debut among adolescents living in intact two-parent families (median age of 17.5), those in stepfamilies (17), those in single-parent families (17.1) and those in homoparental families (16.2). Most of these differences can be explained by some household-related factors, such as family type, previous family transitions, socio-economic level of the household, and the nature of parent-child relationships. The sample analyzed includes 3,999 adolescents aged 14-20 residing in Spain. Using event history analysis, we identify the main family-related factors that influence the timing of sexual debut among adolescents enrolled in school. We document that adolescents living in stepfamilies and mother-headed families have earlier transitions to sexual activity than their counterparts. Nevertheless, when we control for as the household socio-economical level and the quantity and quality of parent-child relationships, the effect of family structure on timing of sexual debut is greatly reduced or disappears. In sum, the influence of family structure is explained to a great extent by socio-economical resources and the quality of family interactions.

INTRODUCTION

In Spain, 88.4% of adolescents between 15 and 18 years old have already had a sexual relationship, and 17.3% of them reported not having used any contraceptive method in their last relationship (Youth Survey – 2012). The average age at first sexual intercourse has not changed much and currently lies at around 17 years, and contrary to the past, when there was a large gender gap, nowadays there is not a make difference between boys (17.8) and girls (17.3) (INJUVE, 2013). Sexual precocity can bring future problems for adolescents, such as unplanned pregnancy (Delgado et al., 2011) or exposure to STDs. According to the Youth Survey 2012 survey sponsored by the Spanish Youth Institute (INJUVE), 7% of young people aged 15-24 have had an unwanted pregnancy, and 25% of them experienced this situation before age 17. Unprotected sexual behavior is a cause of concern for social policies, because it is relatively high among adolescents: only 66.6% of young people perceived having sex without a condom

as very risky, 12% declared that they were willing to take that risk, and above 10% declared not using condoms because they knew enough to the other person.

The great importance of these behaviors initiated during adolescence leads us to analyze the main factors that influence them, inter alia the family context. The family is of great importance as the main context of socialization of individuals (Bonell et al., 2006). The literature highlights the influence of the degree of control and support provided by the parents (Griffin et al., 2000) and the socio-economic status of household (Lammers et al., 2000). However, the type of family as well as its previous history might be also crucial for defining the lifestyles of adolescents (Brown and Rinelli, 2010).

BACKGROUND

The family is the first context of socialization for children, so it is one of the main elements to study if we are to understand the relevant transitions to adulthood such as the onset of sexual activity (Sturgeon, 2008). First, in order to analyze the influence of family structure, we need to look at the different family types and also the processes through which they become established. Regarding single-parent families, a lower degree of parental control, derived from the presence of only one parent in household (*father-absence or mother-absence hypothesis*, Gennetian, 2005), has been highlighted (Whitbeck et al., 1999). In stepfamilies, parent-child relationships could be disturbed due to increased conflicts having to do with the entry of the resident parent's new partner in the household (*conflict theory*, Biblarz et al., 1999). Homoparental families, in turn, may not get to develop the social skills needed for successful social integration (*lack of complete social acceptance*, Biblarz and Scatey, 2010). These arguments lead us to test the main hypothesis: “*The onset of sexual activity among adolescents is earlier when living in non-traditional families*”.

These relationships might change if we take into account prior family transitions, the gender of the household head, and the involvement of the non-residential parent. In general, adolescents whose parents are divorced experience increased levels of stress, reduce their contact with the absent parent and suffer from parental conflict (Amato, 2000). However, in those cases where children keep a warm and smooth relationship with the non-resident parent, the initial disadvantages of undergoing a family transition can disappear (Parra, 2007). In addition, the gender of the household head is also important. The literature highlights the relative advantage of living with the mother (Demuth and Brown, 2006). However, when the transition to sexual activity is analyzed in this kind of non-traditional families, an earlier sexual initiation has been observed, because children tend to have a more permissive image of sexual relationships outside marriage (Albrecht and Teachman, 2003). Finally, the contact with the non-residential parent is considered very important to normalize the family situation after transition. Nevertheless, in

stepfamilies this contact might produce more instability in the household, if it involves conflicts between mother, father and stepfather (Gennetian, 2005). We will examine different classifications of families which consider all these dimensions.

We will also take into consideration the household characteristics. The literature highlights the mediating role of socio-economic level (Lammers et al, 2000), as well as the quantity and quality of parent-child relationship (Alexander et al., 2005). There is abundant literature that shows that, in general, the disadvantages of non-traditional families are reduced when we also control for the socio-economic level of the household (Miller, 2002) and the nature of parent-child relationships (Wu and Thomson, 2001). In addition, for the study of adolescent risk behavior, it is important to take into account the disciplinary style of parents as a measure of the quality of family environment (Cavanagh, 2008).

The main studies about paternal disciplinary styles highlights the advantages of the democratic style, where the parents control teen behavior, but also allow some autonomy (Griffin et al., 2000). The key to this type of discipline is a combination of high parental support and control. The excessive control (typical in authoritarian parents) is as negative as the lack of control (typical in permissive styles and negligent styles – permissive and negligent) (Adalbjarnardottir and Hafsteinsson, 2001), because it may lead adolescents to adopt risk behaviors as rebellion against the family situation (Kuntsche and Huendig, 2006). In this paper, we will try to confirm whether the parental disciplinary style characterized by control and support delays the onset of sexual activity among adolescents (Arranz et al., 2010; Baumrind, 1996).

METHOD AND VARIABLES

In order to analyze the influence of family structure on the timing of first intercourse among adolescents, we use the HBSC-2010 Survey (Health Behavior in School-Aged Children), a WHO collaborative cross-national survey in 43 countries¹. The HBSC-2010 Spanish survey has a sample of 11,111 adolescents between 10 and 20 years old. However, in order to examine the transition to sexual activity we limit our analysis to sample to 3,999 adolescents aged 14 to 20, because questions on sexual activity were not included in the questionnaires of those younger.

The dependent variable under study is the transition rate of first sexual intercourse. In our sample, 1,354 (33.9%) of adolescents have experienced this event. In order to incorporate the exposure time of all respondents, we use life tables and event history analysis. The independent variables are classified into four groups: (1) type of family (we will consider four different classifications of family type highlight specific dimensions, like prior family transitions, gender of the household head, and contact with non-resident parent), (2) socio-demographic

¹ HBSC (<http://www.hbsc.es>)

characteristics of adolescents, (3) family socio-economic level, and (4) characteristics of parent-child relationships².

- *Type of family:*
 - (1) Intact two parents' families, stepfamilies, single-parent families, homoparental families, and others.
 - (2) Intact two parents' families, stepfamilies by divorce, stepfamilies by death, single-parent families by divorce, single-parent families by death, homoparental families, and others.
 - (3) Intact two parents' families, stepfamilies formed by biological mother and stepfather, stepfamilies formed by biological father and stepmother, mother-headed single-parent families, father-headed single-parent families, homoparental families, and others.
 - (4) Intact two parents' families, stepfamilies with contact with the nonresidential parent, stepfamilies with contact with the nonresidential parent, single-parent families with contact with the nonresidential parent, single-parent families with contact with the nonresidential parent, homoparental families, and others.
- *Socio-demographic characteristics of adolescents:* gender, age, immigrant's condition (native Spanish vs. first or second generation), number of siblings in the household and adopted adolescent.
- *Family's socio-economic level:* family purchasing power, mother occupation SES, highest education level in the household, and level of risk of social exclusion in the neighborhood.
- *Characteristics of parent-child relationships:* disciplinary style of the mother, disciplinary style of father, adolescent's level of satisfaction with the family relationships.

In order to measure the effect of the independent variables on the transition to sexual activity, we use *event history analysis*. This type of analysis allows us to study processes of change from one state (source - j) and another (target - k), taking into account the duration of the episode (Bernardi, 2006). To sum up, the equation of model is:

$$r(t)_{jk} = \exp(\beta X_i) * q(t)$$

² In the Appendix we present a detailed explanation of the transformation and construction process of the variables.

RESULTS

Descriptive Analysis

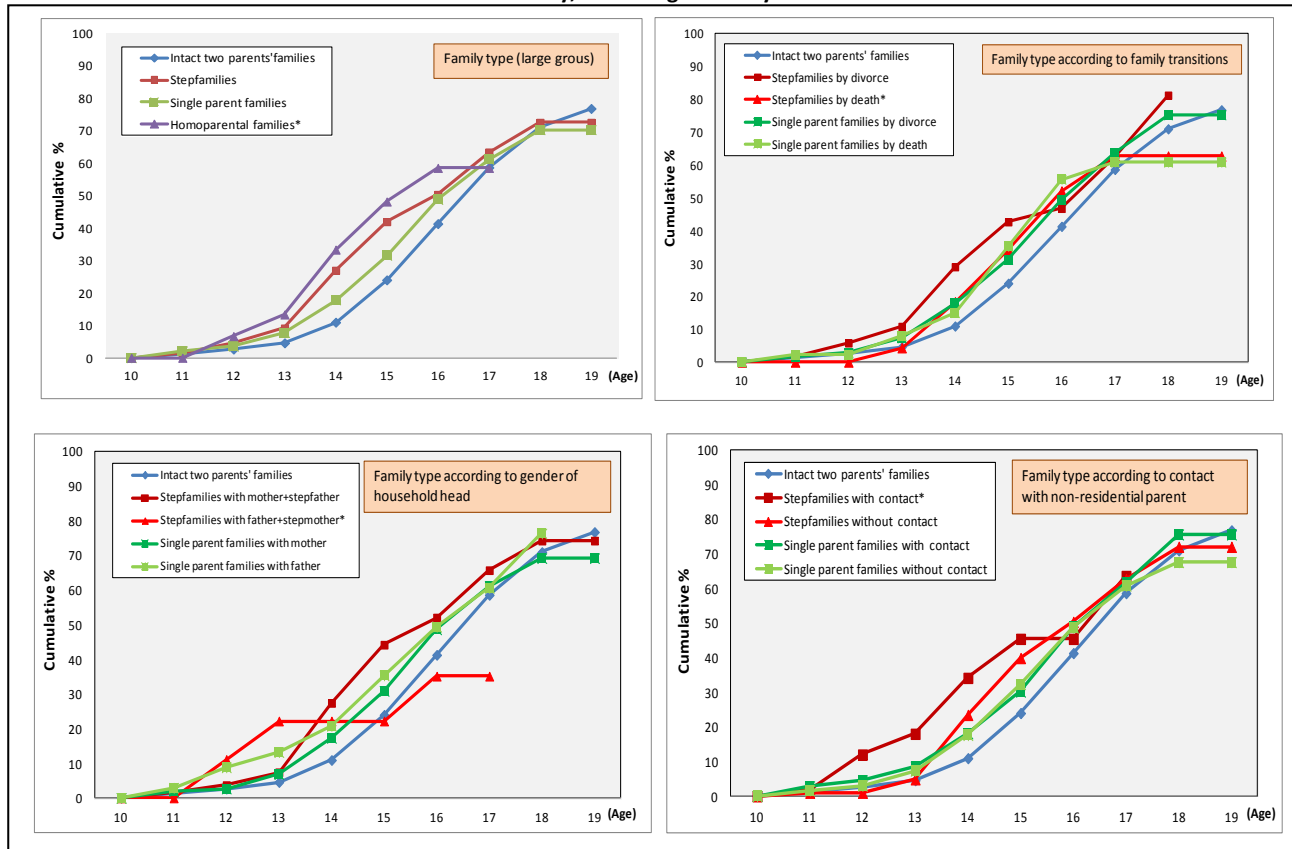
According to the HBSC-2010 International Report (Table 1), the percentage of 15 years-old adolescents who have already had sexual activity is lower in Spain than survey's average in Europe. Only Germany, the Netherlands, and the Czech Republic show lower percentage for boys; and Greece, Portugal, and Russia for girls. Although explaining cross-national differences is beyond the scope of this paper, it is possible that divergences in family composition and on the impact of family structure have some bearing on observed international differentials on adolescents' sexual initiation.

Table 1. International comparison of the percentage of 15-year-old who have had sexual intercourse

	Boy	Girl
SPAIN	23	20
Germany	20	24
Greece	39	18
France	32	23
England	26	32
Italy	26	22
Netherlands	19	22
Portugal	27	18
Czech Republic	22	26
Russia	37	18
Sweden	31	32
HBSC AVERAGE	29	23

Source: International Report HBSC-2010

Box 1. Life table estimates of transition to sexual activity, according to family structure



Source: HBSC-2010

Figure 1 represents life table estimates of the cumulative proportion of adolescents who make the transition to sexual activity by successive ages, according to the four classifications of family type we presented in the last page. First, within large group of families we can see that there are not big differences at the oldest age but there are differences between 13 and 17 years-old, so that I can confirm that the initiation of sexual intercourse is earlier in non-traditional families, especially in homoparental families. Nevertheless, to analyze this kind of family we need to take into account that in the HBSC-2010 survey there are only 15 adolescents who belong to them, so we must be cautious in our conclusions. Second, in family type according to gender of household head, the initiation of sexual activity is earlier in adolescents who live in stepfamilies formed by the mother and a stepfather, because the sample of stepfamilies formed by the father and a stepmother is less than 50 individual and we need to be cautious in our conclusions. However, in the other family classification there are not sizable differences between adolescents who live in traditional families and those in non-traditional families, because stepfamilies by divorce and stepfamilies with contact with the non-resident parent have a small sample (less than 50 individuals).

Table 2 presents adolescents' median ages at first sexual intercourse, estimated with life tables, according to several group of variables: type of family, adolescent socio-demographic characteristics, family socio-economic level, and parent-child relationships. Regarding the influence of family structure, our main focus of interest, we observe sizable differences between adolescents who live in traditional families and those in non-traditional families. In general, adolescents living in nontraditional families have their first sexual relationship earlier than adolescents who live in traditional families. Adolescents living in stepfamilies and homoparental families seem to have a particularly earlier sexual initiation (median age of 17 and 16.2 compared to 17.5 of their counterparts in intact two parents' families). However, when the previous family transitions, gender of the co-resident parent, and contact with the non-residential parent are considered, we also observe that the death of a parent, living in a stepfamily formed by the mother and a stepfather, or in a single-parent family headed by the father, as well as having no contact with the non-resident parent are all associated with earlier sexual activity.

In Table 2, we can also identify a number of socio-demographic variables that are associated with earlier sexual initiation. Males, first generation immigrants, biological children, and only child have younger median ages at first sexual intercourse. The gender gap in sexual initiation, which used to be large two decades ago, is currently relatively small (median age of 17.3 among boys and 17.6 among girls). The transition to sexual activity among native adolescents and second-generation of immigrant is also similar, which might suggest a high level of social integration of immigrants' children born in host society.

Table 2. Descriptive analysis – Life table of explanatory variables

	N	%	Median age at first sexual intercourse	
Types of families	Type of family (1)			
	Intact two parents' families	3227	80.7	17.5
	Stepfamilies	153	3.8	17.0
	Single parent families	476	11.9	17.1
	Homoparental families	15	0.4	16.2
	Other types of families	126	3.2	16.9
	Type of family (2) - family transitions			
	Intact two parents' families	3227	80.7	17.5
	Stepfamilies by divorce	120	3.0	17.2
	Stepfamilies by death	23	0.6	16.9
	Single parent families by divorce	313	7.8	17.0
	Single parent families by death	88	2.2	16.7
	Single-parent families by other ways	75	1.9	18.0
	Homoparental families	15	0.4	16.2
	Other types of families	126	3.2	16.9
	Type of family (3) - gender of household head			
Intact two parents' families	3227	80.7	17.5	
Stepfamilies with mother+stepfather	135	3.4	16.7	
Stepfamilies with father+stepmother	18	0.5	17.0	
Single parent families with mother	408	10.2	17.1	
Single parent families with father	68	1.7	17.0	
Homoparental families	15	0.4	16.2	
Other types of families	126	3.2	16.9	
Type of family (4) - contact with non-residential				
Intact two parents' families	3227	80.7	17.5	
Stepfamilies with contact	50	1.3	17.3	
Stepfamilies without contact	103	2.6	17.0	
Single parent families with contact	177	4.4	17.1	
Single parent families without contact	299	7.5	17.1	
Homoparental families	15	0.4	16.2	
Other types of families	126	3.2	16.9	
Socio-demographic characteristics	Sex			
	Boy	1918	48.0	17.3
	Girl	2079	52.0	17.6
	Immigrant condition			
	Spanish	3424	85.6	17.5
	First-generation immigrant	351	8.8	16.9
	Second-generation immigrant	200	5.0	17.7
	Missing	24	0.6	17.0
	Siblings			
	0	664	16.6	17.1
1	2401	60.1	17.5	
2 or more	911	22.8	17.4	
Missing	21	0.5	17.5	
Type of children				
Biological	3961	99.1	17.4	
Adopted	36	0.9	17.9	
Family's socio-economic level	Family purchasing power			
	High	1669	41.8	17.5
	Medium	1973	49.4	17.3
	Low	347	8.7	17.6
	Missing	8	0.2	17.1
	Mother occupation SES			
	High	651	16.3	17.7
	Medium	491	12.3	17.4
	Low	1593	39.9	17.1
	Inactive	885	22.1	17.7
	Looking for employment	226	5.7	18.0
	Missing	151	3.8	17.6
	Education level			
High	1506	37.7	17.6	
Medium-Low	2468	61.7	17.3	
Missing	23	0.6	16.8	
Risk of social exclusion level in neighborhood				
High	1030	25.8	16.9	
Medium	1865	46.7	17.5	
Low	1063	26.6	17.7	
Missing	39	1.0	16.9	
Parent-child relationships	Disciplinary style of the mother			
	Democratic	957	23.9	17.7
	Authoritarian	1142	28.6	17.6
	Permissive	444	11.1	17.2
	Negligent	1364	34.1	17.1
	Does not have or see mother	45	1.1	16.2
	Missing	45	1.1	18.0
	Disciplinary style of the father			
	Democratic	500	12.5	17.7
	Authoritarian	683	17.1	18.3
	Permissive	382	9.6	16.8
	Negligent	2157	54.0	17.3
	Does not have or see father	209	5.2	16.9
	Missing	66	1.7	17.6
Satisfaction with the family relationships				
Medium-Low	1229	30.7	17.0	
High	2768	69.3	17.6	
TOTAL	3999	100	17.4	

There are also some characteristics of the household associated with earlier sexual initiation, such as mother's low educational or occupational SES, and high level of risk of social exclusion in the neighborhood³. For instance, the median age at first sexual intercourse among adolescents who live in a neighborhood with high risk of social exclusion is 16.9, compared in better neighborhoods. However, family purchasing power does not seem to have a sizable influence.

Regarding the influence of parent-child relationships, we can observe that, a non-authoritarian (permissive or negligent) disciplinary style, the lack of contact with the mother or the father, as well as the low satisfaction with family relationships are all associated with earlier sexual initiation. However, we also observe that an authoritarian disciplinary style of the father is associated with delayed sexual initiation.

Multivariate Analysis

As we have seen in the descriptive analysis, adolescents who live in non-traditional families experience an earlier sexual initiation than adolescents who live in an intact two parents' family. This result confirms those obtained in prior studies (Bonell et al., 2006; Sturgeon, 2008). However, previous studies have also noted that these disadvantages often weaken or disappear when we control for the characteristics of both adolescents and the household (Wu and Thomson, 2001). The weakening of the effect of family structure, after controlling for the socio-economic status of the household and parental disciplinary styles suggest the important mediating role of these variables (Arranz et al., 2010). In order to test whether these mediating mechanisms also explain the earlier sexual initiation of adolescents living in non-traditional families in Spain, we performed a Cox regression analysis, incorporating the different groups of variables stepwise.

Table 3 presents the odd ratios of different family types on sexual initiation. We present four different classifications of family structure, in order to highlight different dimensions of family dynamic. The explanatory variables are included in the analysis stepwise⁴; in order to test their mediating role in the association between family type and onset of sexual activity. Model 1 mirrors the life table results: adolescents who live in stepfamilies and single-parent families have an earlier sexual initiation. The effect of family structure on sexual initiation is reduced one we control for the socio-demographic characteristics of the adolescent and the socio-economic level of the household, but it is only when we control for the quantity and quality of

³ To see the construction of this variable you can read it in the Appendix.

⁴ The explanatory variables which are introduced in each model are:

Model 1: type of family.

Model 2: socio-demographic characteristics of adolescents.

Model 3: socio-economic level of the household.

Model 4: quantity and quality of parent-child relationship.

parent-child relationships that differentials among family types become statistically insignificant.

This result confirms those obtained in previous studies. It suggests that most disadvantages in non-traditional families are due to lower economic resources (Sigle-Rushton and McLanahan, 2002), and also to conflicts in parent-child relationships or parent-parent relationships (Wagmiller et al., 2010).

Table 3. Odds ratios for the influence of family structure on the transition to sexual activity from Cox Models

	N	%	COX MODELS			
			1	2	3	4
Type of family (1)						
(Intact two parents' families)	3229	80.7	(1.00)	(1.00)	(1.00)	(1.00)
Stepfamilies	153	3.8	1.57 ***	1.44 **	1.38 *	1.25
Homoparental families	15	0.4	1.81	1.65	1.50	1.51
Single parent families	476	11.9	1.28 **	1.22 *	1.23 *	1.17
Type of family (2)						
(Intact two parents' families)	3229	80.7	(1.00)	(1.00)	(1.00)	(1.00)
Stepfamilies by divorce	120	3.0	1.61 **	1.46 **	1.38 *	1.24
Stepfamilies by death	23	0.6	1.34	1.27	1.23	1.1
Single parent families by divorce	313	7.8	1.32 **	1.26 *	1.31 **	1.25 *
Single parent families by death	88	2.2	1.35	1.31	1.25	1.14
Homoparental families	15	3.2	1.81	1.65	1.49	1.51
Type of family (3)						
(Intact two parents' families)	3229	80.7	(1.00)	(1.00)	(1.00)	(1.00)
Stepfamilies with mother+stepfather	135	3.4	1.64 ***	1.50 **	1.44 **	1.35 *
Stepfamilies with father+stepmother	18	0.5	1.01	0.97	0.94	0.67
Single parent families with mother	408	10.2	1.26 **	1.20 *	1.21 *	1.18
Single parent families with father	68	1.7	1.41	1.32	1.35	1.12
Homoparental families	15	0.4	1.81	1.65	1.49	1.52
Type of family (4)						
(Intact two parents' families)	3229	80.7	(1.00)	(1.00)	(1.00)	(1.00)
Stepfamilies with contact	50	1.3	1.91 **	1.75 **	1.64 *	1.44
Stepfamilies without contact	103	2.6	1.46 *	1.34	1.30	1.13
Single parent families with contact	177	4.4	1.29 *	1.22	1.27	1.25
Single parent families without contact	299	7.5	1.28 *	1.21 *	1.21	1.09
Homoparental families	15	0.4	1.81	1.65	1.49	1.48

(p.value<0.001***) (p.value<0.01**) (p.value<0.05*)

In the second panel of Table 2 (type of family 2), we have examined the importance of prior family transitions. Compared to those adolescents living in intact two-parent families, adolescents living in single-parent families or stepfamilies after a divorce have a significantly earlier sexual initiation. Controls weaken the effect of family structure, but in the final model differentials between adolescents who live in single-parent families after a divorce and adolescents in intact two parents' families remain statistically significant. This result is congruent with some previous studies (Amato, 2000).

In the third panel of Table 2 (type of family 3), we focus on the influence of the gender of the co-resident parent in non-traditional families. We observe that the adolescents who live with their biological mother stepfamilies and in single-parent families have an earlier onset of sexual activity than adolescents who live with their father in these kinds of families. However, once we control for the socio-economic status of the household and for parent-child relationships, the effect of mother-headed single-parent families is no longer significant, and the effect of stepfamilies formed by the mother and a stepfather remains significant.

Finally, we consider the difference between adolescents who have contact with their non-residential parent and those who do not. The results are somewhat unexpected. For adolescents living in single-parent families, whether they have contact with the non-resident parent does not seem to influence the timing of their sexual initiation. In contrast, the contact with the non-resident parent does have an important influence among adolescents living in a stepfamily, although not in the expected way: adolescents who have contact with their non-resident parent have a significantly earlier sexual initiation. The conflict between parental figures might explain the disadvantages that these adolescents face (Wagmiller et al., 2010). However, once the quality and quantity of parent-child relationship are controlled (model 4), differences lose their statistical significance. This result allows us to confirm the mediating effect of the quality of family interactions within and beyond the household (Calhoun and Friel, 2001).

In order to show the specific effect of the control variables, we present the complete model for type of family 1 in Table 4. Many of the results are congruent with the life table analysis. For instance, the onset of sexual activity is earlier in boys, immigrants of first generation, those with mothers with low SES occupation, with low educated parents, or living in a high risk neighborhood. However, some differentials observed in the life table, such as number of siblings or adopted child, are not statically significant, once the rest of the variables are controlled for. The result that low family purchasing power is negatively associated with early sexual debut is also unexpected. This result might be due to the skewed distribution of this variable in HBSC-2010 (only 8.7% of adolescents report that their families have low purchasing power). With regard to parent-child relationships, the multivariate results are in line with the life table results: adolescents who report a permissive or negligent disciplinary style of the father, and those who are less satisfied with family relationships have an earlier sexual initiation.

Table 4. Odds ratios for the transition to sexual activity from Cox Model

		N	%	COX MODELS (EHA)*			
Family structure	Type of family						
	(Intact two parents' families)	3229	80,7	(1,00)	(1,00)	(1,00)	(1,00)
	Stepfamilies	153	3,8	1.57 ***	1.44 **	1.38 *	1.25
	Homoparental families	15	0,4	1.81	1.65	1.5	1.51
	Single-parent families	476	11,9	1.28 **	1.22 *	1.23 *	1.17
Socio-demographic characteristics	Sex						
	Boy	1918	48,0		1.14 *	1.12 *	1.12 *
	(Girl)	2081	52,0		(1,00)	(1,00)	(1,00)
	Immigrant condition						
	(Spanish)	3424	85,6		(1,00)	(1,00)	(1,00)
	First-generation immigrant	351	8,8		1.37 ***	1.36 **	1.33 **
	Second-generation immigrant	200	5,0		1.03	1.02	0.99
	Number of siblings						
	(0)	665	16,6		(1,00)	(1,00)	(1,00)
	1	2401	60,0		0.85 *	0.87	0.87
	2 or more	912	22,8		0.96	1.00	1.00
	Type of children						
(Biological)	3963	99,1		(1,00)	(1,00)	(1,00)	
Adopted	36	0,9		0.8	0.81	0.86	
Family's socio-economic level	Family purchasing power						
	(High)	1671	41,8			(1,00)	(1,00)
	Medium	1973	49,3			0.97	0.96
	Low	347	8,7			0.80 *	0.78 *
	Mother occupation SES						
	(High)	651	16,3			(1,00)	(1,00)
	Medium	491	12,3			1.2	1.19
	Low	1594	39,9			1.26 *	1.25 *
	Inactive	885	22,1			1.04	1.05
	Looking employment	227	5,7			0.9	0.93
	Education level						
	(High)	1506	37,7			(1,00)	(1,00)
	Medium-Low	2493	62,3			1.14 *	1.15 *
Risk of social exclusion level in neighborhood							
High	1030	25,8			1.55 ***	1.47 ***	
Medium	1866	46,7			1.18 *	1.13	
(Low)	1064	26,6			(1,00)	(1,00)	
Parent-children relationships	Disciplinary style of the mother						
	Authoritarian	1142	28,6				0.92
	(Democratic)	957	23,9				(1,00)
	Permissive	446	11,2				1.05
	Negligent	1364	34,1				1.00
	Not have or see mother	65	1,6				1.64
	Disciplinary style of the father						
	Authoritarian	683	17,1				1.12
	(Democratic)	500	12,5				(1,00)
	Permissive	383	9,6				1.58 **
	Negligent	2158	54,0				1.27 *
	Not have or see father	220	5,5				1.26
	Satisfaction with the family relationships						
	(High)	2770	69,3				(1,00)
Medium-Low	1229	30,7				1.26 ***	
-2 log likelihood				20961.56	20936.27	20869.83	20825.62
Degrees of freedom				4	12	25	36
Chi-square				27.41 ***	54.75 ***	122.77 ***	167.46 ***

* In the analysis we have included the missing values, but we do not represent them in the table.

(p.valor<0.001***) (p.valor<0,01**) (p.valor<0,05*)

In order to explore further the importance of parent-child relationships, we present models for the different classifications of family type separately for each parenting style (Table 5). We can observe that the disadvantages associated with living in nontraditional families are stronger in those households that impose great control on their teens (authoritarian). Adolescents in non-traditional families with authoritarian parenting styles have a significantly earlier sexual initiation than their counterpart in traditional families. In contrast, when non-authoritarian styles prevail, there are no statistically significant differences between traditional and non-traditional families.

Table 5. Interaction analyses – Differences between disciplinary style of parents

	COX MODELS (EHA)			
	Complete sample	Authoritarian styles	Non-authoritarian styles	Mixed styles
Type of family (1)				
(Intact two parents' families)	(1.00)	(1.00)	(1.00)	(1.00)
Stepfamily	1.32 *	2.52 ***	0.94	1.84 *
Single-parent	1.21 †	1.46 *	1.10	1.26
Others types	1.29 †	1.45	1.28	1.16
Type of family (2)				
(Intact two parents' families)	(1.00)	(1.00)	(1.00)	(1.00)
Divorce	1.29 **	1.95 ***	1.08	1.51 **
Others transitions	1.29 †	1.33	1.14	0.81
Type of family (3)				
(Intact two parents' families)	(1.00)	(1.00)	(1.00)	(1.00)
With mother	1.24 **	1.70 ***	1.07	1.35 †
With father	1.21	1.40	0.97	1.50
Others types	1.29 †	1.45	1.29	1.16
Type of family (4)				
(Intact two parents' families)	(1.00)	(1.00)	(1.00)	(1.00)
With contact	1.32 *	1.28	1.18	1.50 *
Without contact	1.19 *	1.80 ***	0.99	1.23
Others types	1.29 †	1.46	1.28	1.16

(p.value<0.001***) (p.value<0.01**) (p.value<0.05*) (p.value<0.1†)

CONCLUSIONS

During adolescence, individuals experiment a great deal of change in their lives, which will have a great influence of their adulthood. One of the most important transitions is the beginning of sexual activity (Scott et al., 2011). The main aim of this paper was to examine the influence of family structure on the timing of adolescents' first sexual intercourse. Following previous studies in other societies, we hypothesized that adolescents living in nontraditional families would have an earlier sexual initiation (Lammers et al., 2000). The literature also highlights that the main mediating factors that explain this relationships are the socioeconomic status of the household and the quality and the quantity of parent-child relationships (Sturgeon, 2008). The combination of high control and strong support by parents may reduce the likelihood of early

intercourse or risky sexual behaviors like unprotected intercourse (Bonell et al., 2006). Accordingly, we examined the importance of these variables as mediating factors in the association between family structure and early onset of sexual activity.

Our life table results confirmed that onset of sexual activity occurs earlier when adolescents live in non-traditional families. However, when we talk about the observed effect of living in a non-traditional family, we also have to look at prior family transitions, the gender of the co-residential parent, and the degree of contact with the non-residential parent. In order to discern between the impact of current family structure and the cumulative impact of prior family transitions, which reflect the degree of instability of children's family life courses, we would need longitudinal data, which are not available in Spain. In this paper, we have built four classifications of family type, taking into account current structure, prior family transitions, gender of the co-residential parent and contact with non-residential parent, in order to explore the importance of sometimes overlooked dimensions of family structure.

In the descriptive analysis, we have documented that there are differences in the onset of sexual activity among adolescents in Spain who live in traditional and non-traditional families. In particular, sexual initiation is earlier among adolescent living in stepfamilies and single-parent families after a divorce, in stepfamilies and single-parent families where the adolescent lives with the mother and in stepfamilies where the adolescent remains in contact with the biological father.

However, these differentials are attenuated once we control for the socioeconomic status of the household and parenting styles. Most differentials among family types lose their statistical significance, except for single-parent families after divorce, and stepfamilies with mother and stepfather. This result confirms the important mediating influence of family's socioeconomic status and parenting styles (Aunola et al., 2000). The interaction analysis suggests that differentials among family types are only significant when an authoritarian parenting style prevails. If a non-authoritarian parenting style is governs parent-child interactions, differentials by family structure on the onset of sexual activity are not statistically significant.

During adolescence, the individual needs to receive parental control to reduce the likelihood of risky behaviors like early sexual initiation or unprotected sexual behavior. Nevertheless, in this developmental stage, the family context is not the only source of influence; the peer group has a great relevance (Fernández, 2004). In HBSC-2010 there are some variables about the behavior of friends and schoolmates, but unlike HBSC-2006, respondents were not asked about friends' sexual activity. Another limitation is the cross-sectional nature of the survey, which does not allow us to examine the timing and context of all family transitions. It would be particularly interesting to know the age of children when the family structure changes (for example, when they lived a parental divorce), because the consequences of these family transitions might differ for children and teenagers (Amato, 2000). Previous studies have shown that, the adoption of

risky behaviors in adolescents might be produced as an insurgent response (Kuntsche and Huendig, 2006).

In future analyses we would like to examine the differences across countries. The HBSC Survey is carried out in 41 countries, so we can compare the influence of family structure in different societies and cultures. In those societies with strong welfare systems and egalitarian policies, the economic disadvantages of single-parent families might not exist. Also, the quality and quantity of parent-child relationships may be better in countries where the family has a central role in the individual's life. In addition, a cross-national comparative analysis would allow us to use a multilevel model explore whether differences in the onset of sexual activity linked to family type might be explained by societal characteristics.

BIBLIOGRAPHY

- Adalbjarnardottir, S. and Hafsteinsson, L. (2001). "Adolescents' perceived parenting styles and their substance use: Concurrent and longitudinal analyses" *Journal of Research on Adolescence*, 11(4): 401-423.
- Albrecht, C. and Teachman, J. (2003). "Childhood living arrangements and the risk of premarital intercourse" *Journal of Family Issues*, 24(7): 867-894.
- Alexander, C., Astone, N., Bandeen-Roche, K., Ensminger, M., Mekos, D. and Roche, K. (2005) "Parenting influences on early sex initiation among adolescents: how neighborhood matters", *Journal Family Issues*, 26(1): 32-54.
- Amato, P. (2000). "Consequences of divorce for adults and children" *Journal of Marriage and Family*, 62(4): 1269-1287.
- Arranz, E., Oliva, A., Martín, J.L. and Parra, A. (2010). "Análisis de los problemas y necesidades educativas de las nuevas estructuras familiares" *Intervención Psicosocial* 19(3): 243-251.
- Aunola, K., Stattin, H. and Nurmi, J. (2000). "Parenting styles and adolescents' achievement strategies" *Journal of Adolescence*, 23(2): 205-222.
- Baumrind D. (1996) "Effects of authoritative parental control on child behavior", *Children Development*, 37: 887-907.
- Bernardi, F. (2006). *Análisis de la historia de acontecimientos*. Madrid. CIS. Cuadernos Metodológicos.
- Biblarz, J., Raftery, A. and Bucur, A. (1999). "Family structure and social mobility" *Social Forces*, 75(4): 1319-1341.
- Biblarz, T. and Stacey, J. (2010). "How does the gender of parents matter?" *Journal Marriage and Family*, 72(1): 3-22.
- Bonell, C., Allen, E., Strange, V., Oakley, A., Copas, A., Johnson, A. and Stephenson, J. (2006). "Influence of family type and parenting behaviours on teenage sexual behaviour and conceptions" *Epidemiol Community Health*, 60(6): 502-506.
- Brown, S. and Rinelli, L. (2010). "Family Structure, Family Processes, and Adolescent Smoking and Drinking" *Journal of Research on Adolescence*, 20(2): 259-273.
- Cavanagh, S. E. (2008). "Family structure history and adolescent adjustment" *Journal of Family Issues*, 29(7), 944-980.

- Davis, E. and Friel, L. (2001). "Adolescent sexuality: Disentangling the effects of family structure and family context", *Journal of Marriage and Family*, 63(3), 669-681.
- Delgado, M., Zamora, F., Barrios, L. and Cámara, N. (2011) Pautas anticonceptivas y maternidad adolescente en España. Consejo Superior de Investigaciones Científicas, Fundación Española de contracepción, Madrid.
- Demuth, S. and Brown, S. (2004). "Family structure, family processes, and adolescent delinquency: the significance of parental absence versus parental gender" *Journal of Research in Crime and Delinquency*, 41(1): 58-81
- Fernández, M. L. (2004). Determinantes del inicio de las relaciones sexuales en adolescentes españoles. *Cuadernos de medicina psicosomática y psiquiatría de enlace*, (71), 67.
- Gennetian, L. (2005). "One or two parents? Half or step siblings? The effect of family structure on young children's achievement" *Journal of Population Economics*, 18(3): 415-436.
- Griffin, K., Botvin, G., Ssheier, L., Diaz, T. and Miller, N. (2000). "Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Moderating effects of family structure and gender" *Psychology of Addictive Behaviors*, 14 (2): 174-184.
- Health Behavior in School-Aged Children (HBSC): <http://www.hbsc.es>
- INJUVE (2013). Informe de la Juventud en España 2012. Madrid, Ministerio de Sanidad, Servicios Sociales e Igualdad.
- Kuntsche, E. and Kuendig, H. (2006). "What is worse? A hierarchy of family-related risk factors predicting alcohol use in adolescence" *Journal Substance use & misuse*, 41(1): 71-86.
- Lammers, C., Ireland, M., Resnick, M. and Blum, R. (2000) "Influences on adolescents' decision to postpone onset of sexual intercourse: a survival analysis of virginity among youths aged 13 to 18 years", *Journal Adolescent Health*, 26(1): 42-8.
- Maccoby, E. and Martin, J. (1983). "Socialization in the context of the family: Parent-child interaction" *Handbook of child psychology*, 4: 1-101.
- Miller, B. (2002). "Family influences on adolescent sexual and contraceptive behavior", *Journal of Sex Research*, 39(1), 22-26.
- Organización Internacional del Trabajo (OIT): <http://www.ilo.org/public/spanish/bureau/stat/isco/docs/resol08.pdf>
- Ochaita, E. and Espinosa, M. (2003). "Las prácticas sexuales de los adolescentes y jóvenes españoles" *Estudios de Juventud*, 63: 49-62.
- Parra, A. (2007). Relaciones familiares y bienestar adolescente. Un viaje de cinco años con un centenar de chicos y chicas a lo largo de su adolescencia. Colección Acción Familiar, CINCA. Madrid.
- Scott, M., Wildsmith, E., Welti, K., Ryan, S., Schelar, E., and Steward-Streng, N. (2011). "Risky adolescent sexual behaviors and reproductive health in young adulthood", *Perspectives on Sexual and Reproductive Health*, 43(2), 110-118.
- Sigle-Rushton, W. and McLanahan, S. (2002). "Father absence and child well-being: a critical review" *Russell Sage Found*: 116-155.
- Sturgeon, S. (2008). The relationship between family structure and adolescent sexual activity. Washington, D.C.: The Heritage Foundation.
- Wagmiller, R., Gershoff, E., Veliz, P. y Clements, M. (2010). "Does Children's Academic Achievement Improve when Single Mothers Marry?" *Sociology of Education*, 83(3): 201-226.
- Whitbeck, L., Yoder, K. and Hoyt, D. (1999). "Early adolescent sexual activity: a developmental study", *Journal Marriage Family*, 61(4): 934-46.
- Wu, L. and Thomson, E. (2001). "Race differences in family experience and early sexual initiation: dynamic models of family structure and family changes" *Journal of Marriage and the Family*, 63(3): 682-696.

APPENDIX. Construction of the explanatory variables

Family structure: the question “type of main household” allows us to distinguish between: intact two-parent family, stepfamily, single-parent family, homoparental family, and other types of families⁵. The HBSC-Survey also provides three more classifications of family structure.

- First, we consider the reason why the parents do not live together and build a new type of family, analyzing the importance of family transitions. This information allows us to classify non-traditional families according to their prior situation: divorce, death or other reason into these families.
- Second, in HBSC-2010 we could distinguish non-traditional families by gender of householder. However, it was only possible in stepfamilies and single-parent families because of the reduced sample of homoparental families (15 adolescents).
- Thirdly, we talk about the importance of contact with nonresidential parent. The facility of communication with mother and father, and the previous classification could lead us to distinguish between adolescents who have contact with nonresidential parent and adolescents who do not have this kind of contact.

Immigrant condition: we have combined the country of origin of children, their mothers and fathers. Firstly, we have recoded the original variables to only distinguish between native and foreign people. Secondly, we have considered three categories: native (when they were born in Spain and also their parents), first-generation of immigrant (when they were born in other country and also their parents) and second-generation of immigrant (when they were born in Spain, but their parents were born in other country).

Family purchasing power: it summarizes the following variables: having a family vehicle, having an own room, going on vacation with family during the last year and having a computer in the household. The scale that we produced is divided into three categories: 0-3 low level, 4-6 medium level, and 7-9 high level.

Mother occupation SES: is built with three variables: “Does your mother have a job?”, “What type of work does your mother do?” and “Why does your mother not have a job?”. These questions allow us to distinguish between high, medium or low occupational status⁶, and inactive or unemployment status of the mothers.

Risk of social exclusion level in neighborhood: it is an index of the following items regarding the adolescents’ neighborhood: “there are youth people who create problems”, “there are mid-aged people who produce problems”, “there are areas of waste and garbage”, “there are abandoned buildings”, “most of people try to take advantage of you”, “you can talk to everyone”, “children are safe playing in the street”, “you can trust people”, “there are good

⁵ The missing values and the no-response cases are eliminated from the data base (N=222).

⁶ This classification is linked with CIUO-88: high (groups 1 and 2), medium (group 3) and low (groups 5 and 6) [<http://www.ilo.org/public/english/bureau/stat/isco/>].

places to spend your free time”, “you can ask your neighbors for help or favors”, and “you feel safe”. The scale that we produced (1-33) is divided into three categories: 1-13 low level, 14-18 medium level, and 19-33 high level.

Disciplinary style of the mother/father: Maccoby and Martin (1983) created a classification for disciplinary style with two dimensions: control and support of parents. From these dimensions they distinguished four categories: authoritarian (high control and low support), democratic (high control and support), permissive (low control and high support) and negligent (low control and support). Following this idea, we have built the same categories. The variable of *parental control* is composed by three items which refer to the knowledge of mother/father about the adolescents’ life: “Who are your friends?”, “What do you do after school?”, and “What do you do in your free time?”. The scale that we produced (1-9) is divided into two categories: 1-8 low control, and 9 high control. The variable of parental support is composed by four items: “my mother/father help me when I need it”, “my mother/father is affectionate with me”, “my mother/father understand my problems”, and “my mother/father makes me feel better when I am sad”. The scale that we produced (1-12) is divided into two categories: 1-11 low support, and 12 high support.

Satisfaction with the family relationships: this variable is a cutoff at the median of the distribution (9), and creates a dummy that differentiates between a high level of satisfaction (9-10) from other values (0-8 and missing).