

Age at first child: intra-generational distances in Uruguay

Verónica Filardo

Universidad de la República, Uruguay

Abstract

One of the paradigmatic events of the transition to adulthood is having the first child since an adult role par excellence is that of father or mother. The age at which the first child is had, influences the trajectories (labor, education) of young people; although also differences are marked by gender, educational attainment, region of residence and conjugal experience. This paper studies the beginning of the reproductive life of adolescents and young people in Uruguay, using a set of techniques of data analysis and using as a source the National Survey of Adolescents and Youth applied to urban youth in Uruguay in 2013.

Key words: Age at first child; Uruguay, young people.

Resumen

Edad al primer hijo: distancias intra-generacionales en Uruguay

Uno de los eventos paradigmáticos de la transición a la adultez es tener el primer hijo ya que un rol adulto por excelencia es el de padre o madre. La edad en que se tiene el primer hijo adquiere relevancia, dado que influye en las trayectorias (laborales, educativas) de los jóvenes; aunque se marcan diferencias por género, nivel educativo alcanzado, región de residencia y experiencia conyugal. En este documento se estudia el inicio de la vida reproductiva de los adolescentes y jóvenes del Uruguay, haciendo uso de un conjunto de técnicas de análisis de datos y utilizando como fuente la Encuesta Nacional de Adolescencia y Juventud aplicada para jóvenes urbanos del Uruguay en 2013.

Palabras clave: Edad al primer hijo; Uruguay, jóvenes.

INTRODUCTION

Having the first child implies beginning to perform the role of mother or father, which is considered one of the par excellence adult roles. Biological reproduction is hugely influential in the people's lives. It implies a responsibility (guardianship) in the development of a child as well as the exercise of care activities implied in child-care. Exercising this role needs time and abilities. Biological reproduction is also social reproduction, has demographic effects and on the children's conditions of life, to the extent that the household's attributions exercise influence on the trajectories (educational, labor and civil).

This way, the "first child" is a transcending event in the sociology of transition to adulthood (Casal, 1996, 2006), and indubitably paradigmatic to interpret the adolescents and youths' life projects. This is so, because of all the events comprised in the transition to adult life (leaving the educational system, first stable job and leaving the household of origin), it is —particularly for women— the one that admits reversibility the least.¹ Nowadays, the reversibility of states is frequent: one can enter and leave the labor market, have a partner and stop having a partner, return to the educational system even after several years out of it.² Returning to the household of origin is possible after experiencing autonomy and even long periods in such situation. However, regardless of *how* that role of mother of father is exercised, once the child is born the "state" (of being a parent) remains over time.

The beginning of reproductive life has implications in the exercise of sexual and reproductive health of the adolescents and youths³ and as a consequence in public policies. In like manner, regarding the exercise of other rights after having children, such as education and labor.⁴ When approaching the various behaviors of the youths, there appear various aspects to consider: the decision of having children (when and how many) has cultural influences that have been systematically studied and demonstrated

¹ It is at least very infrequent the reversibility of the state of "being a mother" (entering, leaving and suspending this role) once the first child is born.

² This is why in the analysis of transitions the first time occurrence of the event is considered ("first child", "first stable job", "and the first departure of the household of origin", "the first departure from the educational system"). The relevance of the distinction between "event" (first time occurrence) and "state" (situation at the moment of surveying) becomes relevant; for example, age at the event of the first steady job and the state of being working at the time of the survey.

³ For example, right to decide when and how many children to have.

⁴ Thus public programs such as Sistema Nacional de Cuidados become relevant.

and which remit to one of the most relevant cleavages of socioeconomic inequality among the youths of one same newly-born cohort. As it has been extensively worked in Uruguay with data from the National Survey on Youths (ENAJ 2008) (Filardo, 2010, 2012), in 2013 the intra-generational fragmentation this event displays in function of gender, educational level and their combined effect appears again.

In this document the beginning of the Uruguayan youth's reproductive life is studied resorting to a set of techniques of data analysis using as a source the National Survey on Adolescence and Youth applied to urban youths from Uruguay in 2013.⁵

In the first place, there is a description of the phenomenon occurrence among the studied population, answering the following questions: how many youths aged between 20 and 29 have children⁶? Are there significant differences in the fact of having the first child if region of residence, sex, educational level, marital experience and birth cohort are considered?

Secondly, by means of survival tables, we study the intensity of the event according to age and considering the same cut-off variables. The sort of questions that appear in this section are illustrated: does having children at a certain age depend on the educational level accomplished? Are there differences between men and women at the age of occurrence? Do youths living in the capital have their first child at similar ages as youths who live in the rest of the country?

In the third place, the analysis of the calendars is presented; this means the age at which the event of having the first child takes place and the determination that on this certain variables have. The age at the beginning of reproductive life is not a lesser factor, as it is an event that alludes to a non-reversible state, moreover it is highly determinant of the trajectories in other dimensions after it occurs. However, reasonably the determination has no proportional effects for any occurrence age; it is likely that incidence varies with the subjects' age at the first child and/or with the age of the child. It is likely that it does not affect to the same extent men and women either. On the other side, the decision of having children and when, as analyzed in background studies, has argumentations and significations

⁵ The first National Survey on Youth was carried out in Uruguay in 1990 by CEPAL-INE. The National Survey on Adolescence and Youth (ENAJ) in 2008 was in charge of INFAMILIA-INJU-MIDES, and in 2013 it was carried out by INJU-MIDES. ENAJ population is defined as adolescents and youths from 12 to 29 years who live in particular households in localities with more than 5000 inhabitants. In 2008, 5017 youths were surveyed and in 2013, they were 3824.

⁶ This age section is taken since one of the cut-off variables is the educational level accomplished and so the population between ages that theoretically admit access to university (normatively the conclusion of middle education is at 18 years).

very different in function of the educational level accomplished by the subjects (Filardo et al., 2011). The analyses drawn from ENAJ 2008 data show that —on the other side— calendars also vary in function of the educational capital and gender.

The (biunivocal) relationship between the calendar of the age at the beginning of parenthood and the youths' vital temporalities cannot go unmentioned. As a graphic example: two out of three university women in the case of having children, they have them after 30, age at which a large proportion of women with lower educational levels are already grandmothers. This implies that the way life has been lived and the roles performed up to 30 years of age for some youths produces abysmal differences; at the same age as some women have been pregnant, given birth and raised some children and probably have grandchildren, other women have invested on educational capital (have been students). These are different projects that lead to a way to internalize vital time in an utterly different manner. This refers to how “chronologic age” is lived in different social cultural spaces.⁷

The two previous points allow approaching to the “gaps” between youths: sex gap also operates differently according to the educational level. The largest distances occur among the youths with the poorest educational levels and are shorter in the case of those who accomplish tertiary education. Therefore, gender relations have different connotations for ones and for the others. On the other side, it is evinced that the most noticeable inequalities between youths take place among women (in function of the schooling years) and only at some educational levels between men and women.

DESCRIPTIVE ANALYSIS

According to data from ENAJ 2013, 34 percent of the urban youths aged between 20 and 29 in Uruguay have had at the time of the survey. At these ages, youths who live in the rest of the country (42 percent) have had their first child at a larger proportion than those who live in the capital (27 percent), and women (42 percent) more than men (26 percent). The educational level shows that a low percentage of youths who have had their first child takes place among youths who accomplish tertiary level (nine percent v 64 percent of those with the poorest education); as they grow older the percentage of children of youths with children increases⁸ and the

⁷ On the topic of social time, see Leccardi and Rampazi (1993) and (Filardo, 2010, 2013).

⁸ In this table age corresponds with the cohorts of births, whose grouping respects the age sections built for the analysis of ENAJ 2013.

marital experience (either current or past) implies an increase in the number of children regarding those who remain single.⁹ For all the variables, differences are significant¹⁰ (Figure 1).

The age at the beginning of reproductive life is a key factor. Survival tables allow studying the temporary dimension in an event's occurrence, in this case the first child. This way, it is possible to determine the existence of differences in various sectors of youths (if it takes place at the same ages, if it is early or later in life, or if there is a greater heterogeneity in the ages at which they are parents for the first time). Figure 2 represents the accumulated percentage at each age for those who, being the population at risk, have experienced the event (it is the complement of the survival series at a certain age).¹¹

It is observed that at 20 years of age, 19 percent of the youths have had a child; 39 percent at 25; and about a half at 29 years.

INEQUALITY AND INTENSITY IN CALENDARS

As pointed out in numerous occasions,¹² the variable sex as an indicator of gender is central for the analysis of the transitions as these are specified for men and women. Because of this it is necessary to identify differences in view of considering them to design and implement public policies. However, to study inequalities in the processes of adulthood transition considering the sex variable, in spite of being necessary it is not enough.

There is sufficient evidence in Uruguay that allows verifying that the largest differences in the transition processes take place *among women according to educational level*, and that these are more marked than those between men and women. The analyses that consider sex exclusively, overlook these differences as they homogenize each category and do not allow observing where inequalities are. Owing to this, the analysis of these processes (and many others) shall *simultaneously* contemplate sex and educational level (Figure 3 and Figure 4).

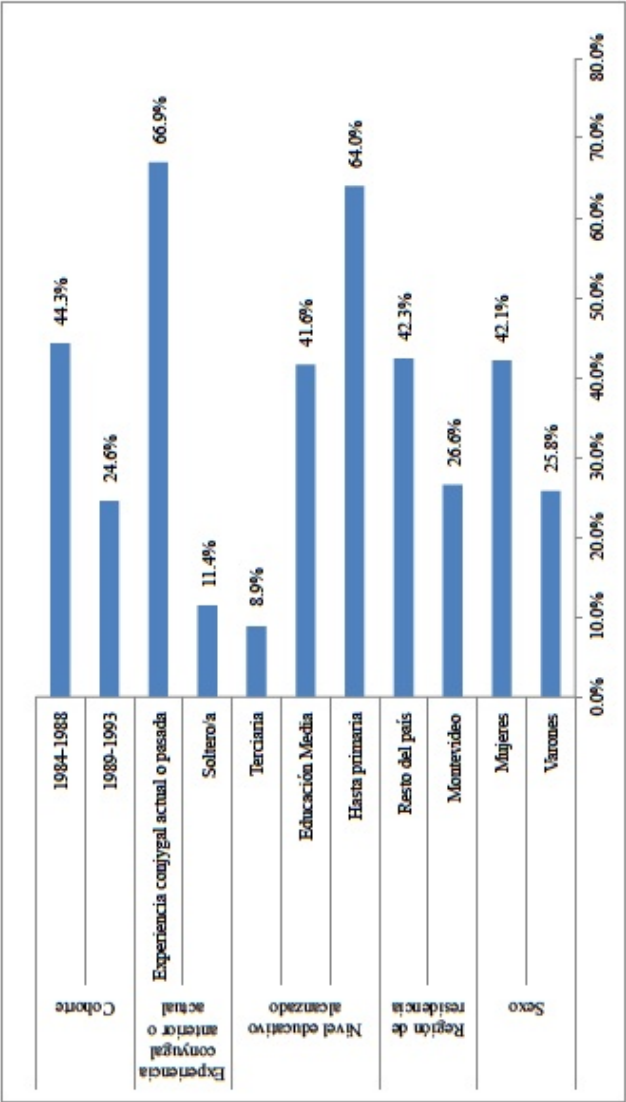
⁹ The answers to the question, 'what is your current marital status?' have been modified in marital status variable as follows: 1. Singles; 2 with marital experience (present or past). The last category comprehends: married, free union, divorced, separated and widowed. The distribution in the two categories for the total of youths from 20 to 29 years is 66 percent single and 34 percent past or present marital experience.

¹⁰ Chi-squared significance tests and derived coefficients with ($P < 0.05$).

¹¹ Usually, they are known as life or survival tables and in this case the function $(1-St_i)$ is graphed.

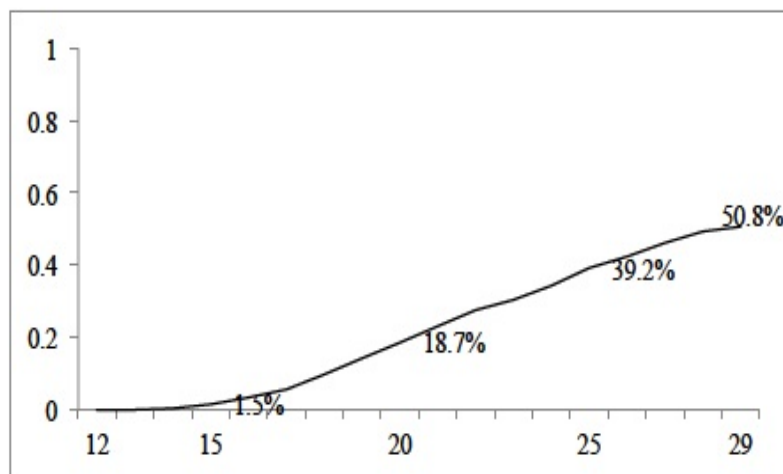
¹² See Filardo, 2010, 2012.

Figure 1: Percentage of youths (20 to 29 years) with children according to place of residence, sex, educational level, birth cohort and marital experience (present or past)



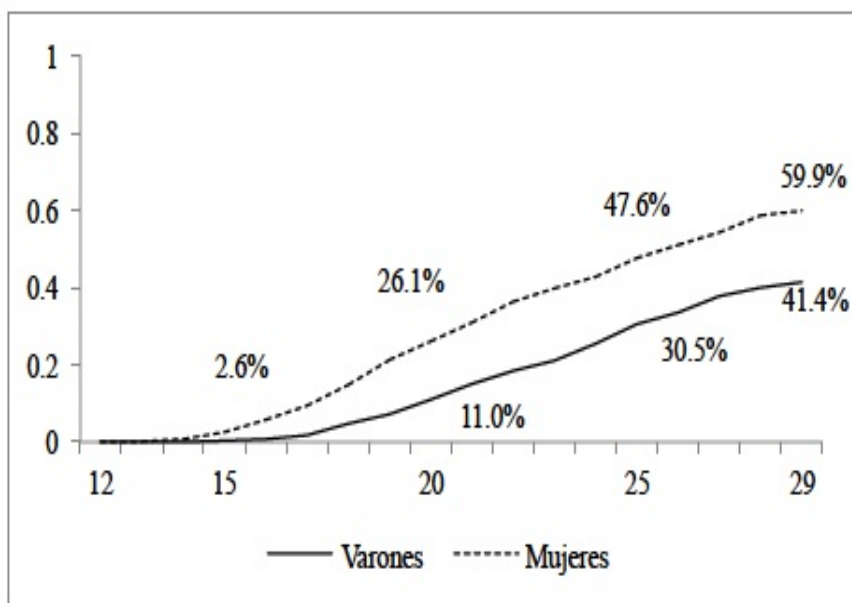
Source: ENAJ, 2013.

Figure 2: Age at first child in youths from 20 to 29 years. Uruguay 2013 (accumulated percentage at each age)



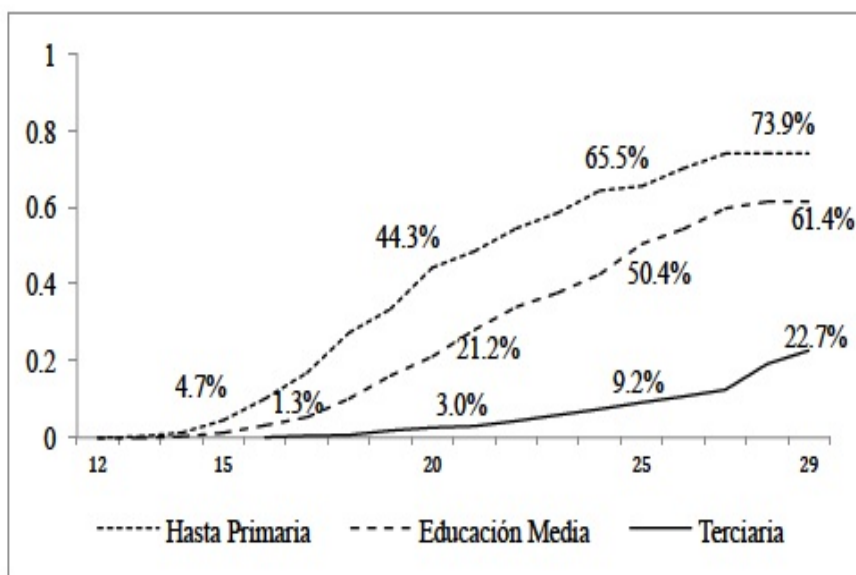
Source: ENAJ, 2013

Figure 3: Age at first child by sex according to educational level (accumulated percentage at each age)



Source: ENAJ, 2013.

Figure 4: Age at first child by educational level (accumulated percentage at each age)



Source: ENAJ, 2013.

The analysis comprehends the population from 20 to 29 years of age so that, theoretically, everyone had the chance to accomplish tertiary education.¹³ As of 2008, when the General Law on Education (Ley General de Educación, N° 18.437) was approved, in Uruguay it was compulsory to undergo 14 years of formal education.¹⁴ The tables presented below indicate the calendars of the total population—in function of sex and educational levels—and for each educational level the differences registered for men and women.

By using Kaplan-Meier estimator considering the event of having the first child and the age of occurrence, by educational level, the median of the age at first child is 22.7 years for those with elementary as the highest

¹³ The theoretical age to approve middle education is 18 years; population under this age cannot have tertiary education. By means of this criterion it is assured that (theoretically) all the subjects are in the risk population of having reached both university and non-university tertiary education.

¹⁴ Which correspond to two years of initial education; six elementary; three of basic cycle of middle education and three to five of the upper cycle of middle education. However, according to data from the Continual Survey on Households in 2013, urban youths (localities with more than five thousand inhabitants) between 20 and 29 years in Uruguay distributed: 14 percent had started middle education; 41 had concluded middle education; three percent still attends this educational level; and, 42 percent had dropped out at this level.

schooling, 25 for those with secondary, and 28.3 years for those who accomplish tertiary level. The differences in distributions taking as a factor educational level are significant¹⁵ and it is same for the variable sex as a factor. Women have a median age of 24.7 and men of 26.7 at first child.

If the region is considered as the factor, differences between the youths' calendars according to their residing in Montevideo or the rest of the country also presents significant differences, there is a delay in the age at the beginning of reproductive life of those who live in the capital (median age at first child is 26.5) regarding those who live in the rest of the country (median age at first child is 24.9). Marital status (single or with marital experience) yields significant differences on the time of the event. In the case of single the median age is 27.81 years and for those with marital experience, it is 22.88. Differences are also significant in this factor (Figure 5 and Figure 6).

Following, we present Figure 7a, Figure 7b and Figure 7c with the series (1-Sti) by sex for each of the variables considered to have main effects: educational level, region of residence and marital status at the age at first child.

DISCRETE-TIME LOGISTIC REGRESSION MODELS

What determines the calendars?

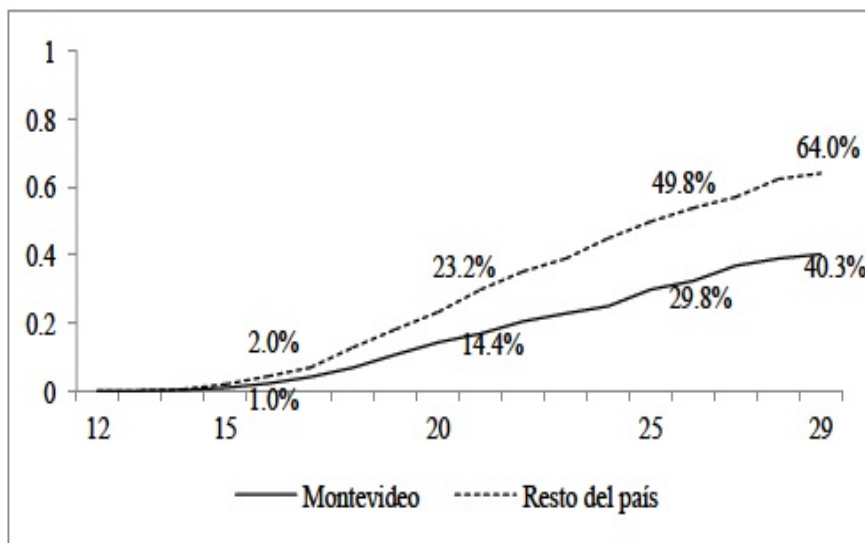
We have noticed some variables that influence the age at which youths have their first child in Uruguay in 2013. However, of the information presented before, which of the variables influence the most or if they explain the same cannot be distinguished.

Therefore, we will advance adjusting a discrete-time logistic model, considering in the first place the age at first child as the dependent variable and then we will include independent variables we consider fixed in time such as gender, place of residence, marital experience (regardless of current marital "status"¹⁶) and educational level.

¹⁵ Log Rank tests all have Sig = 0.0000.

¹⁶ To the extent the variable dichotomizes single youths (who have not left the role of children and those who have present or past marital experience (had answered free union, divorced, separated, widowed). Having children is conceptually dissociated from the "marital status" since they can correspond to previous relationships.

Figure 5: Age at first child by region of residence (accumulated percentage at each age)



Source: ENAJ, 2013.

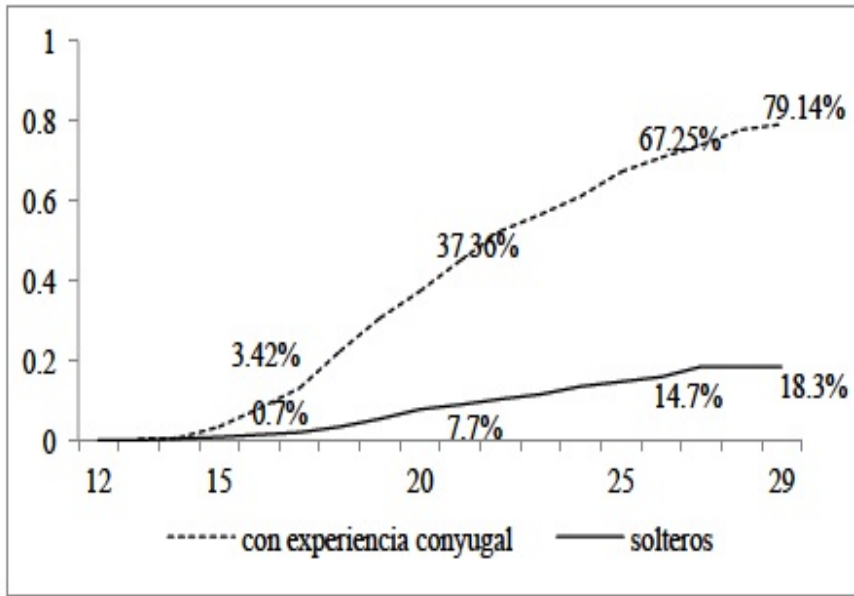
The inclusion of the educational level variable has to be substantiated¹⁷ as a variable fixed in time to study the timing to have the first child. As shown for 2008, the sequence of the events at leaving the educational system and the first child display considerable distance, both for women and men. This allowed stating that the departure from educational system was far in time from the beginning of reproductive life (for the particular case of women), this way adolescent pregnancy as a reason for the truncation of their educational trajectories is not an acceptable argumentation for the youths and adolescents in Uruguay in 2008.¹⁸ Against this background, it is possible to consider the educational level as a variable *fixed in time* to study the factors associated to the age at first child¹⁹ (Figure 8).

¹⁷ This variable was built considering that in order to reach an educational level there must be at least one year approved. This is to say, attending is not enough, but approving one year. As an instance: to be classified in middle education, one year of the basic cycle had to be approved; for primary, the same; and for tertiary, one year of university, normal school or non-university tertiary studies.

¹⁸ This does not mean the inexistence of cases for the reason to be valid. However, in academic terms the sequence of educational system abandonment and later (more than a year at least) having a child is absolutely prevailing (Filardo, 2010; 2012).

¹⁹ However, it is expected to compare these results with those obtained from considering an independent variable *changing time*, which conceptually not only is possible, but politically desirable (the fact that women do not cut their educational trajectories after becoming pregnant, that upbringing does not nullify the possibility of studying, that reproductive and educational or labor projects are not incompatible).

Figure 6: Age at first child by marital experience (accumulated percentage at each age)



Source: ENAJ, 2013.

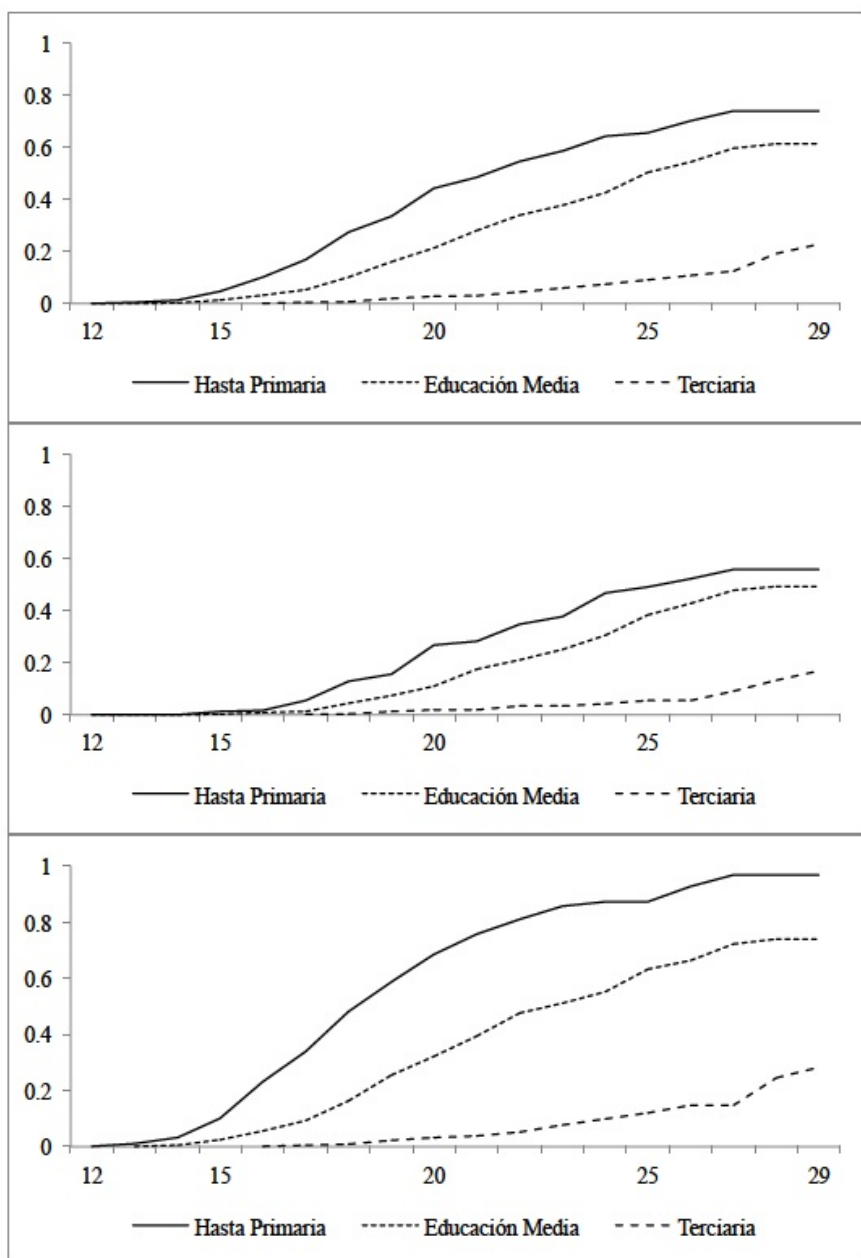
The discrete-time logistic regression model is specified according to the equation:

$$\ln(p_{it}/1 - p_{it}) = \alpha_{it} + \beta_{it} X_i$$

p_{it} is the conditional probability that the individual i has their first child at the age t , considering that the maximum t is 29 years, taking the demographic definition of ENAJ 2003. Then, this means a truncation (*right-censoring*). The age at first child is recoded in four sections.

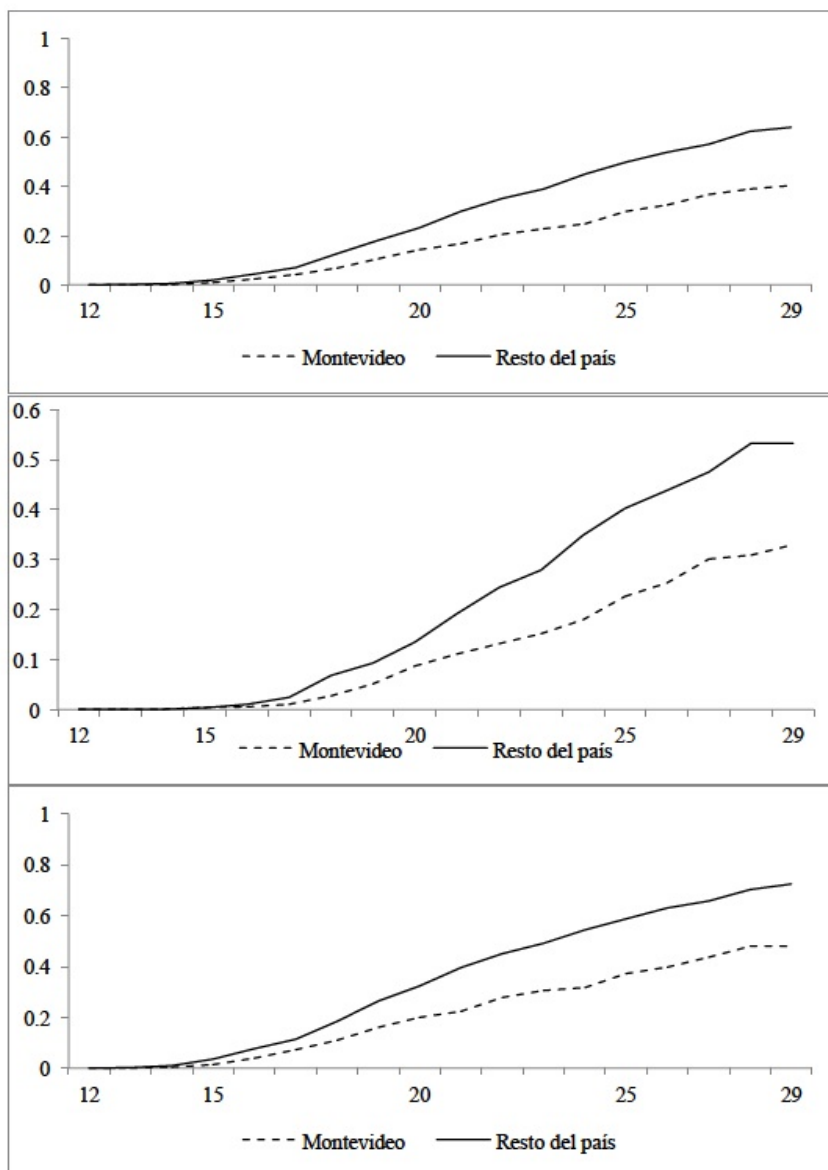
Coefficients α_{it} represent the variation in the probability of having the first child at age t (conditioned to not having had a child before), while the series of coefficients β_{it} is associated to the vector of variables X and represent the variation in the conditional probability of experiencing the event associated to such variables.

Figure 7a: Age at first child by educational level and sex. Youths from 15 to 29 years 2013. (Accumulated percentage by age)



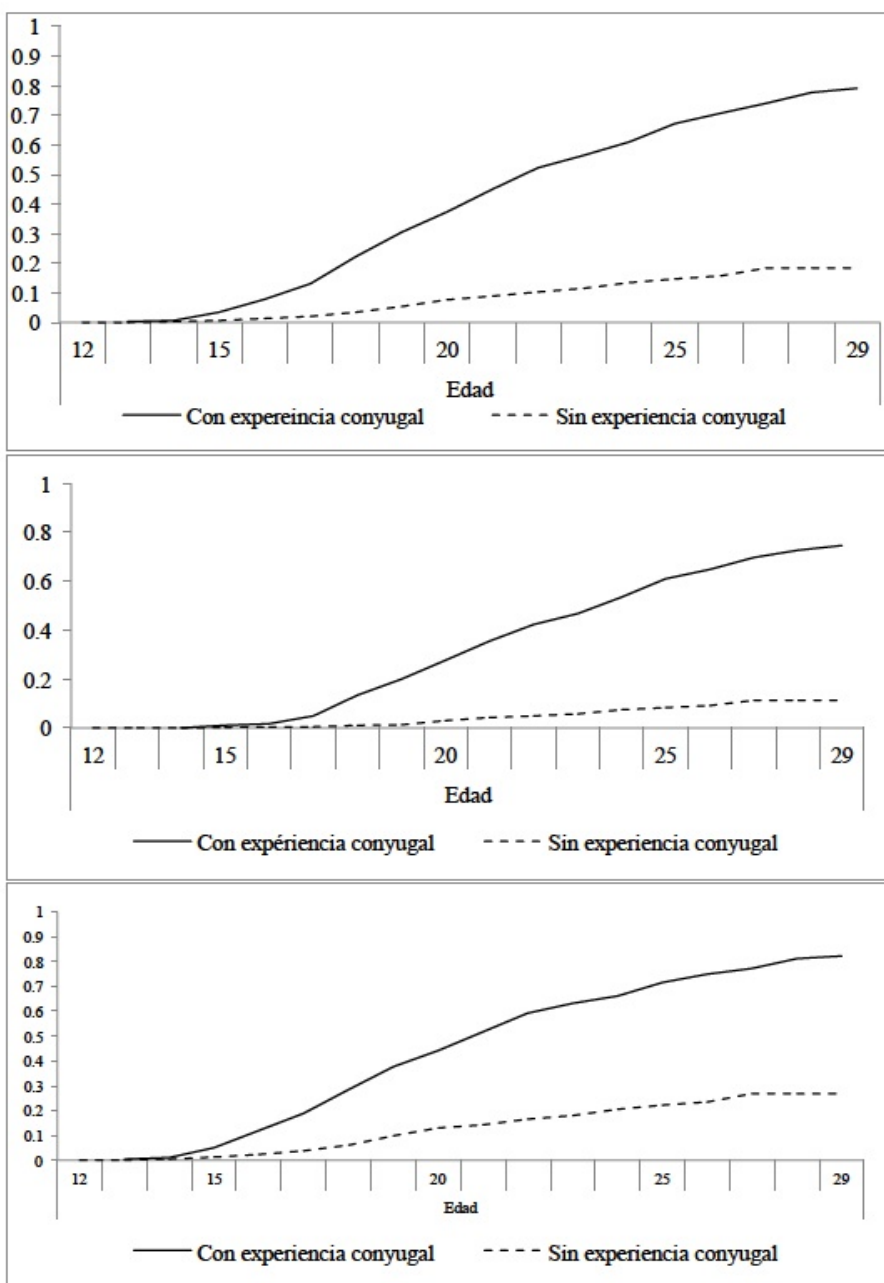
Source: ENAJ 2013.

Figure 7b: Age at first child by region of residence and sex. Youths from 15 to 29 years 2013. (Accumulated percentage by age)



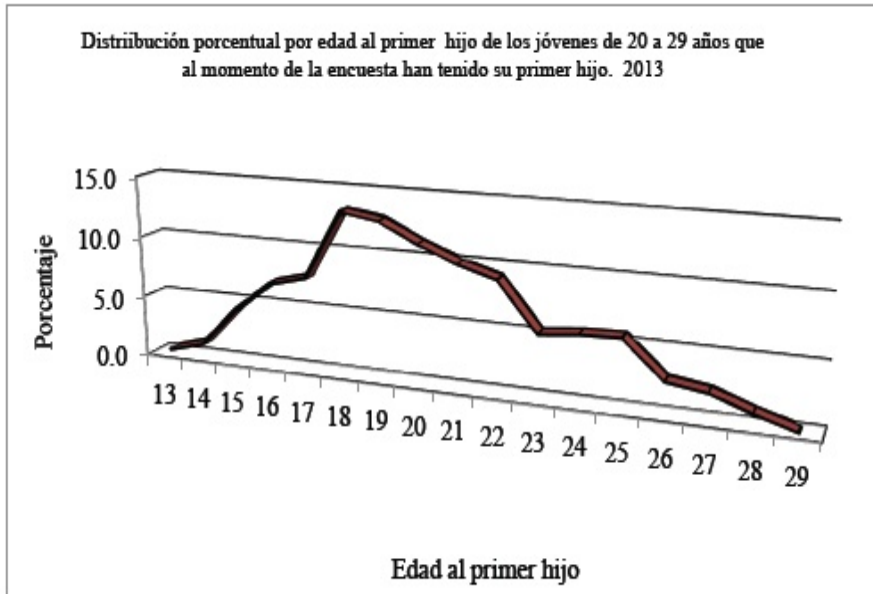
Source: ENAJ 2013.

Figure 7c: Age at first child by marital status and sex. Youths from 15 to 29 years 2013. (Accumulated percentage by age)



Source: ENAJ 2013.

Figure 8: Percentage of young people who have children by age at first child



Source: ENAJ, 2013.

Dependent variable (and children) = age at first child and the values taken are:²⁰

- t_r -1 up to 17 years.
- t_r 2: from 18 to 21 years.
- t_r_3 from 22 to 25 years.
- t_r_4 from 26 to 29 years.

Independent variables:²¹

- región_e = region of residence (1. Montevideo 0. Rest of the country).
- sexoentr = sex of the respondent (1. Man 0. Woman).
- sitcony = past of present marital status: (0. With marital experience 1. Without marital experience (single)).
- nived_mc: accomplished educational level, at least a year approved at the level.

²⁰ The variable t is codified to decrease the number of dummy variables implied by considering each simple age from 13 to 29 years.

²¹ Considered fixed and model I only includes the main effects (without interactions).

(1. up to elementary; 2. Middle education; 3 tertiary).

Model I is significant in global terms; it has a reasonable adjustment quality since the value of Pseudo R^2 is 0.2042. The coefficients of all the variables included are significantly different from 0 (to 95 percent).

Yhijos	Odds Ratio	Std. Err.	z	P>z	[95% Conf. Interval]
_It_r_18-21 ^a	6.863.721	0.8210509	16.10	0.000	5.429218-8.677246
_It_r_22-25 a	8.802.165	1.180.104	16.22	0.000	6.768137-11.44748
_It_r_26-29 ^a	8.823.605	1.801.394	10.67	0.000	5.913818-13.1651
_Inived_mc_EM	0.5253555	0.0616618	-5.48	0.000	0.4173942-0.6612417
_Inived_mc_Ter	0.089223	0.0164971	-13.07	0.000	0.0621-0.1281923
_Isexoentr_V	0.4508489	0.0438731	-8.19	0.000	0.3725621-0.5455862
_Isitcony_Sol	0.1823563	0.0202029	-15.36	0.000	0.1467634-0.2265811
_Iregion_e_M	0.8069069	0.0772549	-2.24	0.025	0.6688483-0.9734624
_cons	0.0571749	0.008043	-20.34	0.000	0.0433975-0.0753263

Pseudo R2	0.2042
Prob>Chi2	0.0000

To the extent that the category utilized as a reference is to have children before 17 years of age, the probability of having the first child over the rest of the considered age sections (values of the four categories of variable t_r) increase regarding having the first child before 17 years of age.²² On the other side, the older the greater the increase is, however the growth rate stops at 27 years. Having a child between 18 and 21 years of age increases the odds in relation to have a child before 17 5.8 times; while having a child between 22 and 25 years increases the odds 7.87 times. This differential is still positive and of the same magnitude in case of having a child between 26 and 29 years of age.

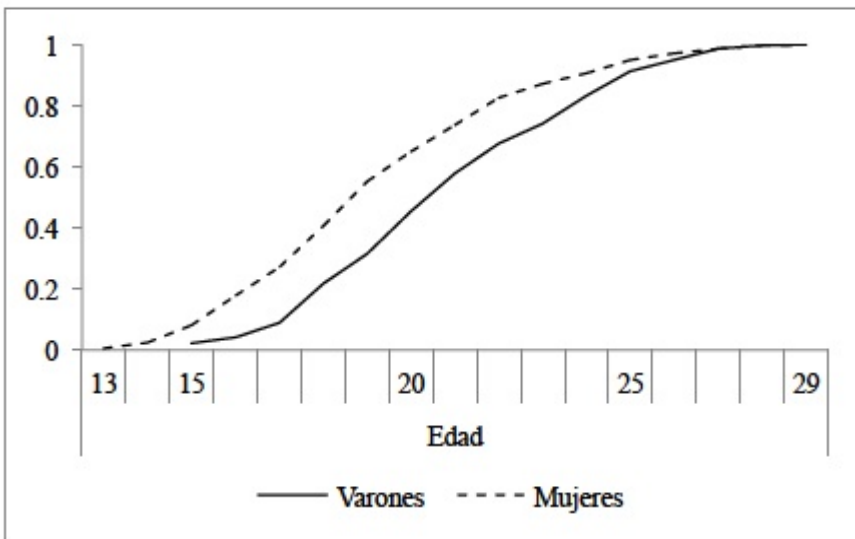
The accomplished educational level produces substantive variations in the age at first child. *If the rest of the independent variables considered remain constant*, the probability of having a child at a certain age is lower if middle education is accomplished than if the highest educational level is elementary (the odds decrease 48 percent) and at tertiary level it is 91 percent taking elementary as a reference.²³

²² Maintaining other independent variables included in the model constant.

²³ It shall be borne in mind that this model supposes proportional odds, which means that the variation that educational level produces is the same for any age at first child. This supposition is softened in model II, as interaction terms are included

Being a man regarding being a woman reduces the possibility of having a child at every age section (the odds decrease 55 percent), while remaining single regarding living or having lived with a couple implies a lower probability of having the first child at the ages considered (odds 82 percent lower). Living in Montevideo reduces the probability of having a child at any of the sections considered (a reduction of 19 percent) compared with living in the urban rest of the country (Figure 9 and Figure 10).

Figure 9: Age at first child by sex. Youths with children (accumulated percentage for each age)



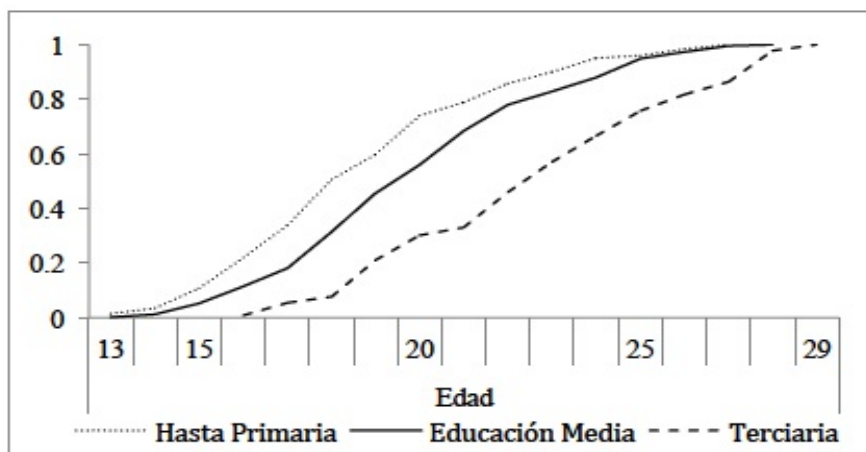
Source: ENAJ, 2013.

IMPACTS VARY OVER TIME

Well now, model I supposes proportional risks, this is to say constant over the entire trajectory of the variable age at first child. This supposition can be relatively demanding and restrictive. As indeed it is shown below, considering only *those who have children*, the distance between the men's and women's calendars reduces as of 24 years of age.

On the other side, the interval of ages at first child in which women concentrate is lower and earlier than that for men. The same occurs with the accomplished educational level; since the differences registered, for instance, between youths with middle education—marked up to 22 years—start to decrease from that age and disappear at 26 years of age. The differences that exist acquire a maximum value at 22 years decreasing from such age.

Figure 10: Age at first child by educational level. Youths with children (accumulated percentage for each age)

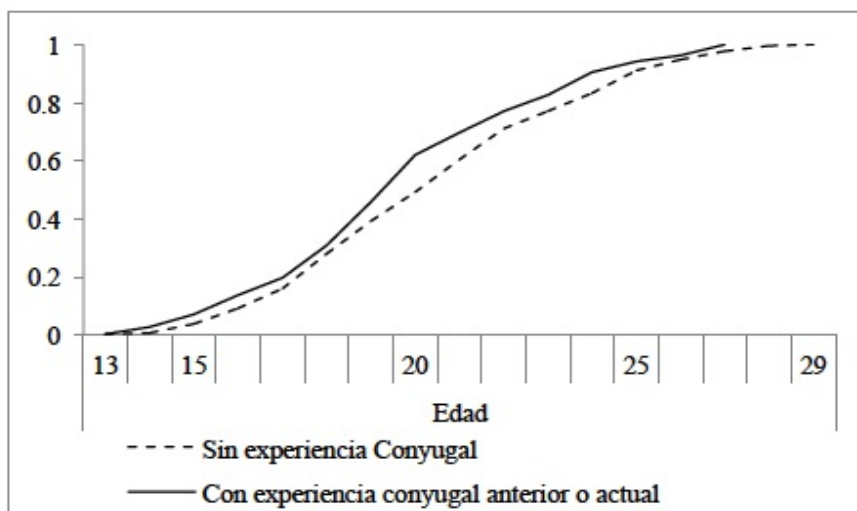


Source: ENAJ, 2013.

It is noticed that among those with a first child, there are relevant differences in the age at which they had them and the educational level accomplished. Not only is there lesser dispersion of ages between those less and more educated, but also a displacement in ages is noticed, in such manner that the beginning of paternity/maternity occurs later as educational levels increase (tables 1 and 2). These data agree with previous qualitative works on the reproductive attitudes and behaviors around differenced “projects”, which structure around family and children in particular for the case of women with lower educational levels and the academic, professional and labor projects that require postponement and to the extreme, the suppression of the reproductive project by those at university or with tertiary studies (Planel and Napiloti, 2011). In this work two different *equations* are stated to decide to have a child from a qualitative approach in which the significations associated with demographic sectors of both genders and all educational backgrounds between 18 and 45 years.

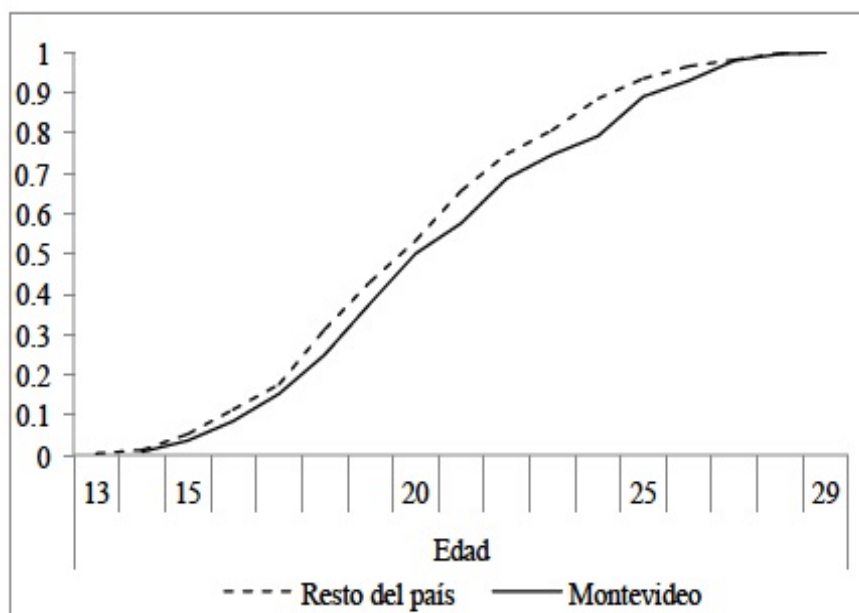
Figure 11 and Figure 12 reproduce for the variables marital experience and regions of residence the survival tables only for those who have a first child, as a way to visualize the suitability of the supposition of risk proportionality. In these two cases, even if the curves are not perfectly superposed, distances are short and relatively constant in the domain of the age at first child. As noticed in Table 1 and Table 2 dispersion is similar (interquartile range) and over the same ages.

Figure 11: Age at first child by marital status. Youths with children (accumulated percentage for each age)



Source: ENAJ, 2013.

Figure 12: Age at first child by region of residence. Youths with children (accumulated percentage at each age)

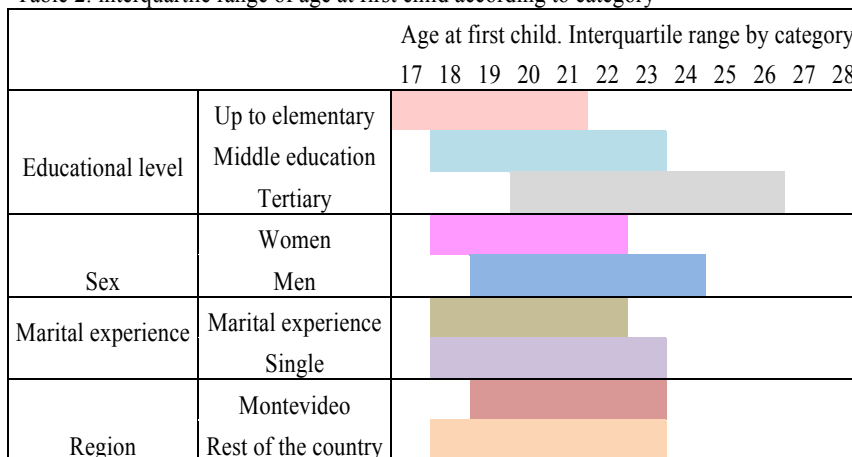


Source: ENAJ, 2013.

Table 1: Age calendar at first child. Quartiles and interquartile range of youths with children according to educational level, sex, region of residence and marital experience, 2013					
		Q1	Q2	Q3	Range Q3 - Q1
Educational level	Up to elementary	17	19	21	4
	Middle education	18	20	23	5
	Tertiary	20	23	26	6
Sex	Women	18	20	22	4
	Men	19	21	24	5
Marital experience	Marital experience	18	20	22	4
	Single	18	20	23	5
Region	Montevideo	19	20	23	4
	Rest of the country	18	20	23	5

Source: ENAJ, 2013.

Table 2: interquartile range of age at first child according to category



Source: ENAJ, 2013.

Model II

In order to loosen the supposition of the proportionality risk of the previous model, we included the combined effect of sex and age sections in which the first child is born and educational level and age at first child in the first four sections defined. The model maintains the main factors, educational level, sex, marital status and regions as well as time.

The following results come from the adjustment.

yhijos	Robust				
	Odds Ratio	Std. Err.	z	P>z	[95% Conf. Interval]
_It_r_18-21	4.095,943	0.9443541	6.12	0.000	2.606767 6.435845
_It_r_22-25	3.740.006	1.143592	4.31	0.000	2.053989 6.809993
_It_r_26-29	3.729.186	2.120947	2.31	0.021	1.223206 11.36917
_Inivded_mc_EDM	0.3493647	0.070725	-5.19	0.000	0.2349431 0.5195118
_Inivded_mc_Terc	0.0365505	0.0208967	-5.79	0.000	0.0119191 0.112084
_It_rXniv_18-21_edm	1.65032	0.4415203	1.87	0.061	0.9768797 2.788017
_It_rXniv_18-21_terc	1.782977	1.19914	0.86	0.390	0.4771672 6.662247
_It_rXniv_22-25_edm	2.078447	0.6809107	2.23	0.026	1.093655 3.950001
_It_rXniv_22-25_terc	4.016.075	2.646006	2.11	0.035	1.104039 14.60896
_It_rXniv_26-29_EdM	1.616317	0.8970462	0.87	0.387	0.5446465 4.796653
_It_rXniv_26-29_Terc	5.922113	4.853319	2.17	0.030	1.188217 29.516
_Isexoentr_1	0.2271413	0.0589392	-5.71	0.000	0.1365916 0.3777183
_It_rXsex_18-21_V	2.084318	0.6215173	2.46	0.014	1.16184 3.739224
_It_rXsex_22-25_V	2.539.543	0.8017647	2.95	0.003	1.367795 4.715093
_It_rXsex_26-29_V	2.742787	1.256383	2.20	0.028	1.117593 6.731321
_Iregion_e_1	0.8032466	0.0749656	-2.35	0.019	0.6689716 0.9644731
_Iisitcony_1	0.18589	0.0204409	-15.30	0.000	0.1498498 0.2305983
_Cons	0.0893395	0.0140167	-15.39	0.000	0.0656895 0.121504

Pseudo R2	0.2084
Prob>Chi2	0.0000

Model II is significant with a pseudo R^2 of 0.208 maintaining good fit. The independent variables that were included in the previous model are still significant ($P < 0.05$) and the odds retain their sign. However, it is worth noticing that the odds of each of the age sections in spite of remaining significant, modify their magnitudes, being their values relatively similar and lower than in the previous model, which suggests that the differential effects noticed in model 1 were due to interactions.

The dummy variables' odds that represent interactions allow noticing that the higher educational level, the lower possibility of having children, however the variation is not constant, but the diminution changes in function of the age at first child. If we start from the supposition of proportional risks, the model estimates that reaching middle education reduces the possibility of having children 65 percent regarding having elementary for *every* age section. However, as noticed in the analysis of the odds ratio, the variation differs according to the section, except for the one from 26 to 29 years in which no significant differences are noticed ($P = 0.387$). This way, it is also noticed that odds decrease less in the category from 22 to 25. For the case of tertiary education, the constant estimated value reduced the probability of having children regarding having elementary in 97 percent; once again, at this level it is verified that the odds ratio for interactions over the age at first child vary. Even if there are no significant differences in the section from 18 to 21 years ($P = 0.320$), the odds decrease less in the sections of older ages. This suggests the idea of postponement of maternity at this educational level and in spite of the distances, the tendencies to close the gaps at these ages suggest that in the case of utilizing another information source for longer age ranges, the closing of the gaps will remain as a tendency. This, on the other side, makes us mention that "postponing" the beginning of reproductive life by those with the most educational capitals does not necessarily imply the cancelation of the reproductive project, which can take place obviously after 29 years of age. The beginning takes place later and a lower fertility rate has been documented²⁴ (to a large extent owing to this reason, not the only one nevertheless) even though it is possible that the intensity of the event of first child by the end of fertile ages is milder for the ones with more education. However, this does not come directly from the information presented, a product of the definition of the population in ENAJ 2013 that reaches 29 years of age as most, and it is needed to deepen into other information sources to broaden the range of age.

²⁴ Filardo *et al.* (2011).

Regarding the interaction between sex and age section at first child, the supposition of proportionality yielded a reduction in the odds of 82 percent for men. All the odds of the interactions with the categories of age section at first child are significant, however being positive, the magnitude of growth varies, progressively decreasing as age advances. As shown in graph 8, the curves that represent the accumulated percentages by sex of those with a child according to the age they have that child close as the age at which they become mothers/fathers advances. Again, in this case, it is mentioned that probably the tendency to close the gap between sexes remains and even accelerates at ages older than 29.

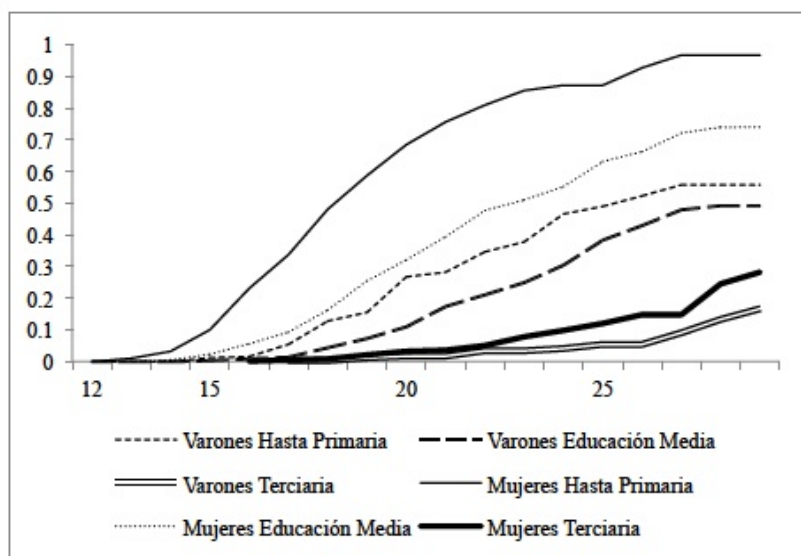
MODEL THAT INCLUDES INTERACTION BETWEEN SEX AND EDUCATIONAL LEVEL

Figure 13 represents the accumulated percentage at the age of first child by sex and accomplished educational level. It allows visualizing if distances between men and women for all educational levels are the same, or else, they vary by level, which becomes the combined affect of sex and educational level accomplished at the first child.

It is clearly noticed that gaps between men and women at the ages at first child are lower to the extent the educational level is higher. To test if these differences observed in the graph are significant, a model is adjusted to include (in addition to the main factors) the interaction between sex and educational level. The following results are obtained:

This model allows observing how educational level and sex affect simultaneously, so as to prove that if the combined effect of these variables is significant. Indeed, by adding the model of the main effects the interaction between sex and educational level, in the first place it is noticed that they are significant at 95 percent ($P < 0.05$), and secondly—in function of the growth of the odds in the interactions that correspond to higher education levels and being a man—the gaps between men and women close when comparing the middle educational level with elementary and more so comparing tertiary with elementary.

Figure 13: Age at first child by educational level and sex, urban youths, 20 to 29 years. 2013. (Accumulated percentage at each age)



Source: ENAJ, 2013.

Resultado del Modelo III

yhijos	Odds Ratio	Robust			[95% Conf. Interval]	
		Std. Err.	z	P>z		
_It_r_2	6.998.009	0.8460622	16.09	0.000	5.521.586	8.869.213
_It_r_3	9.027.417	1.230.629	16.14	0.000	6.910.773	1.179.235
_It_r_4	9.081.843	185.177	10.82	0.000	6.089.977	1.354.354
_Isexoentr_1	0.2994193	0.0641354	-5.63	0.000	0.1967674	0.4556239
_Inived_mc_2	0.4170328	0.067187	-5.43	0.000	0.3041134	0.57188
_Inived_mc_3	0.0661699	0.0147169	-12.21	0.000	0.0427902	0.1023238
_Iregion_e_1	0.8065601	0.0770619	-2.25	0.024	0.6688206	0.9726663
_Isitcony_1	0.1827174	0.0202305	-15.35	0.000	0.1470735	0.2269996
_IsexXniv_V_Ed. Med	1.644.264	0.3959924	2.06	0.039	1.025.592	2.636.142
_IsexXniv_V_Terc	2.212.184	0.8611178	2.04	0.041	1.031.528	474.418
Cons	0.0684143	0.01075	-17.07	0.000	0.0502802	0.0930886
Pseudo R2	0.2054					
Prob>Chi2	0.0000					

FINAL NOTES

In 2013, at 29 years more than a half of urban youths aged between 20 and 29 have had their first child.²⁵ However, it is shown that the intensity of the event at 29 years is greater at lower educational levels (almost three quarters of those with low educational level and under a quarter of those with tertiary). The same occurs by sex, 60 percent of the women and 41 percent of men have had a child at 29. In the capital the intensity of the event of a first child is lower than in the rest of the country: 40 percent of those who live in Montevideo and 64 percent in the rest of the country have become parents by 29. For its part, the fact of having lived or been living with a partner²⁶ defines differences in the intensity of the event; 78 of those with marital experience have had their first child by 29 compared with 18 percent of those who have not lived with a partner by such age.

The age at which reproductive life begins becomes transcendent as it is a non-reversible transition event and that noticeably impacts the trajectories in various dimensions (educational, labor and civil). On the other side, it expresses “life projects” that are differentially distributed among the set of youths, according to sections that combine cultural aspects, educational capitals and socioeconomic statuses. The reproductive project is central fundamentally among less educated women and with less socioeconomic resources, while in women better positioned at the social structure the educational-labor-professional project is privileged. The age of the first child also changes vital times and role performance, which to the extent that calendars distance, mark heterogeneities between youths. The way time is signified and invested at a certain age—in this case, it corresponds to *youth* from the perspective of the life cycle—leads to differences in the vital trajectories (future performance in various spheres). At the ages this study comprehends, how time is *invested* (on educational capitals, raising children, labor experience²⁷) refers to the distances in the youths’ conditions of life, it enables forecasting individual trajectories and evinces the existence of very different “social times” that coexist and produce significant inequalities at these ages that will probably increase in the future.

A series of techniques of history have been applied to determine the factors that influence the age at which youths have their first child. Survival tables (or the complement that corresponds to those who experience

²⁵ ENAJ population comprises youths between 12 and 29 years of age who live in non-collective households and population centers with more than five thousand people in Uruguay.

²⁶ Regardless of the sort of familial arrangement.

²⁷ Health care, alimentary and consumption patterns, etc. may be included.

the event at each age) allow studying the intensity and the calendar²⁸ of the event of the first child. Discreet-time logistic regression models have been applied to study the factors that associate with the event occurrence in time (having the child at a certain age). The sequence is as follows: in the first place only time is considered; secondly, the main effects of the four independent variables considered (sex, educational level, region of residence and marital experience), being all significant and with good fit. This model supposes proportional odds, which means that the variation produced by the independent variables is constant for any age at first child. The supposition is restrictive for the analysis of the calendars shows at the sections of older ages the convergence of all variables (at the *summit ages of fertility*). Therefore, the models that considered interaction terms were adjusted. This way, it is proven that the interaction sex-age at first child and the interaction education-age at first child are significant in the determination of the events' occurrence probability. This means that the effects of sex and educational level differ according to the age at first child. This is to say, the supposition of odds proportionality does not stand; the effect of sex and educational level vary over the domain of the variable age at first child. One of the hypotheses tried (in model III) is the effect of the interaction educational level and sex (gender indication) in the study of Uruguayan youths. For some years now, there has been evidence of the combined effect of these two variables as one of the central axes to understand inequalities between youths. As a matter of fact, it has been repeatedly stated (Filardo, 2010, Filardo, 2011, Filardo, 2012) that the most relevant differences take place in women according to educational level (even more than between men and women as a set). Which indicates that the analyses that consider only sex or educational level as a cut-off variable lack the capacity to account for the central of inequality in this population. In the last model it is noticed that the interaction is significant and that gaps between sexes decrease as educational level increases. Men and women with greater educational capitals follow similar reproductive patterns, while relevant differences are noticed between sexes among the less educated. As it was in 2008, in 2013 distinguishable are the distances that both in intensity and calendar for the event of first child are recorded *among women* according to the schooling they accomplish.

²⁸ Applied in particular only to those who have a first child.

BIBLIOGRAPHICAL REFERENCES

Cabrera, Mariana y Aguiar, Sebastián, 2010, *Segundo Informe de la Encuesta Nacional de Adolescentes y Jóvenes (ENAJ) en el Uruguay*. INFAMILIA INJUMIDES. Montevideo.

Casal, Joaquim, 1996, “Modos emergentes de transición a la vida adulta en el umbral del siglo XXI: Aproximación sucesiva, precariedad y desestructuración”, en *Reis*, 75-96, pp. 295-316.

Casal, Joaquim; García, Medino, Rafael, Quesada, Miguel, 2006, “Aportaciones teóricas y metodológicas a la sociología de la juventud desde la perspectiva de la transición”, en *Papers*, 79, pp. 21-48.

Filardo, Verónica, 2008, “Temporalidades juveniles”, en *El Uruguay desde la sociología VI*, Departamento de Sociología-Facultad de Ciencias Sociales-Universidad de la República. Montevideo, pp. 119-134.

Filardo, Verónica, 2010, *Transiciones a la adultez y educación*. Cuaderno núm. 5 UNFPA. Montevideo.

Filardo, Verónica, 2011, “Distancias intra-generacionales. Jóvenes en Uruguay 1990-2008”, en *Mirada Joven*. Cuaderno núm. 1, INJUMIDES Montevideo.

Filardo, Verónica, 2012, “Brechas de fecundidad: desear, proyectar y tener hijas”, en *El Uruguay desde la Sociología* núm. 10. pp 141-162. Departamento de Sociología. FCS UDELAR. Montevideo.

Filardo, Verónica y Paniel, Anaclara, 2012, “Entre susanitas y mafaldas: el Estado. Análisis de políticas públicas y la fecundidad en Uruguay”, ponencia presentada en el Congreso AUCIP, 2012 Montevideo.

Filardo, Verónica, Paniel, Anaclara y Napiloti, Romina, 2011, *Sobre la brecha de fecundidad en Uruguay. Ecuaciones para tener hijos y Políticas Públicas*. Informe del Proyecto Actitudes y Comportamientos Reproductivos en Uruguay. Convenio OIM, Comisión Sectorial de Población, OPP y FCS. Montevideo.

Leccardi, Carmen y Rampazi, Margarita, 1993, “Past and future in young women’s experience of time”, in *Time Society*, vol. 2, pp. 353-379.

Rama, Germán y Filgueira, Carlos, 1991, *Los jóvenes del Uruguay. Esos desconocidos, Análisis de la Encuesta Nacional de Juventud*, CEPAL- INE. Montevideo.

CURRICULAR INFORMATION OF THE AUTHOR

Veronica Filardo

Doctor in Sociology from the University of Granada, Spain. Master in Sociology from the University of the Republic, Uruguay, and Master in Local and Regional Development from the Catholic University of Uruguay. Titular professor of the Faculty of Social Sciences in the University of the Republic. Montevideo-Uruguay. Coordinator of the Group of Urban and Generational Studies. Member of the National System of Researchers (SNI-ANII).

E-mail address: filardo.veronica@gmail.com

Article received on 7 august 2015 and accepted on 2 september 2016.