

# The impact of teenage childbearing on educational outcomes

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## Abstract

Based on the Survey on Social and Biological Reproduction of the Uruguayan Population: an approximation to gender and generations carried out by the Gender and Generations project in 2004, we study the effect of teenage childbearing on educational outcomes of mothers. The predicted results show that women in the sample present a 54% probability of completing 9 or more years of formal education, and only 23% for 12 or more years. Taking mother's education as a proxy of parental atmosphere, we find that daughters of those teenage mothers that completed secondary education have 38% more probability of completing 9 or more years of education, and 110% for 12 or more years. These figures grow to 50% and 220%, respectively, in the case of mothers with university level. At the same time, early motherhood of the women's mother and the number of siblings reduces the probability of educational achievements, as these variables indicate a low socioeconomic status of the household. As regards to the early motherhood of the women in the sample, it reduces the probability of completing 9 or more years of education by approximately 40%, and almost 100% in the case of 12 or more years.

## 1 Introduction

Teenage childbearing matters from many points of view, such as demographic, economic and sanitary. In the case of Uruguay, as other authors remark, it might be, in part, responsible of the poverty reproduction and social worsening (Varela, 1998[56], 1999[57], 2004[58], 2007[59]; Peri and Pardo, 2006[41]). In fact, poorer and less educated families initiate their reproductive cycle earlier in life, reaching higher fertility rates (Hobcraft and Kiernan, 2001[23]). At the same time, as younger the mother at the time of giving birth to her first child, the faster the family growth in the short term (higher number of children at the same mother's age), the higher fertility rate, and the earlier the emancipation of the children compared with those who postpone motherhood until 21 or more years old (Katzman, 1999[28]). From an economic point of view, this can be the

result of a truncation of the educational opportunities, as well as of lower future family income (Gupta, 2000[20]). In the same way, this can have social and sociological implications that might compromise the life project of teenagers beyond motherhood (Varela, 2004[58]), and sanitary consequences because of the effects it can have on the mother, the child and the whole family, imposing high costs to the society (American Society of Pediatrics, 1999[1]; Mc Anarney, 1989[36]; Maynard, 1997[35]).

In the case of Uruguay, where abortion is illegal, between 1963 and 1996 teenage fertility rates grew 33% for women aged 15-19 and 66% for those aged 10-14, as it declined for those between 20 and 29 years old. This gave a higher participation of teenagers on the overall fertility rate, as a result. Between 1996 and 2004, although the teenage fertility rate (15-19) fell down by 16%, the contribution of teenage women remains the same (Varela, 2007[59]).

In this sense, the growth that the teenage fertility rate has experienced over the last 50 years is highlighted by demographers as the most important reproductive change, being the main responsible of the maintenance of the reproductive levels, particularly until the middle nineties (Varela, 1998[56], 1999[57], 2004[58]; Paredes and Varela, 2005[40]; Varela, 2007[59]; Varela et al, 2008[60]).

All over the world, one fifth of the newborns come from mothers under 20 years of age, although there are differences between regions. United States is the developed country with the higher teenage pregnancy rates, with a maximum on the 1950's and declining in the eighties. This fact is associated with abortion legalization, reaching the rate of around 10% in the present (Singh and Darroch, 2000[52]). Also, there is a correlation between teenage pregnancy and poverty, due to the fact that 83% of the teenagers that gave birth, and 61% of the abortions come from low-income or poor families (Guttmacher Institute, 2006[21]). It is estimated that 40% of whites and 64% of blacks would have experienced at least one pregnancy at the age of 20 in the United States.

The same downward slope of adolescent pregnancy rates is observed in Europe, but England, where over the last 30 years teenage pregnancy could not be reduced, reaching the highest rates of the European Union (Kaplan et al, 2004[27]; Creatsas, 1995[10]).

In Latin America, the proportion of births to mothers under 20 years of age lies between 15% and 18%, with the same downward slope, except in Chile, where it increased by around 50% during the last 40 years.

Different analytical frameworks such as epidemiological, psychological, sociological and economic, take this issue into account. In this study we will try to determine the impact of teenage childbearing on the educational outcomes of Uruguayan women aged between 25 and 59, from an economic perspective, with data from the Survey of Social and Biological Reproduction of the Uruguayan Population: an approximation to gender and generations (UNFPA, 2006). This constitutes the first empirical evidence in Uruguay, trying to move forward in the literature by controlling the observed heterogeneity by using matching methods.

## 2 Previous literature

There is a vast literature on teenage motherhood, but few works rely on an economic perspective. Actually, most of them are based on sociological and psychological behavioral models, focusing on personal and family-related variables.

On the topic of teenage pregnancy and the economic costs of its different endings (abortion, live birth, etc) we can find the studies of Plotnik (1992[42]) and Lundberg and Plotnik (1995[33]). Using the National Longitudinal Survey of Youth of the United States, they analyze teenage pregnancy and its resolution by nested logit models. Their results show that white teenagers behave as the economic theory would predict: the costs of the different alternatives are taken into account and the rational choice perspective contributes to the understanding of premarital childbearing. Educational prospects reduce the probability of pre-marital pregnancy and increase the probability of abortion and marriage. With regard to religiosity, church attendance appears to be more important than religious denomination. Other studies consider the impact of partners, peers and family.

Zavodny (2000[63]), with data from the National Survey of Family Growth in 1995 in the United States, estimates the probability of pregnancy at the first intercourse before marriage through a logit model. Then the author investigates the resolution of the pregnancy (abortion, marital or non-marital birth), through multinomial models. The results show that the probability of pregnancy is lower for those with more educated mothers and living with both parents until the age of 14. At the same time, the author finds no evidence of an effect of partner's characteristics. This is important due to the fact that it validates previous research that focused only on woman's characteristics.

It is well documented that belonging to a low-income family, one-parent household or having a less educated mother increases the probability of teenage pregnancy (Geronimus and Korneman, 1992[18]; Zavodny, 2000[63]).

Another family aspect to be considered are the stories involved. Particularly, East (1999[11]) analyzes families with no teenage women pregnant ever, families with at least one teenager pregnant, or families where at least one teenage woman had a child in the last six months. He investigates sibling's and parent's impact in the different situations, given the fact that more than 80% of the teenagers continue living in their parent's home for at least one year after becoming a mother. Analyzing 189 households in the United States, with interviews from 1993 to 1996, he finds that in those households where there is a teenage mother or a teenage pregnancy, monitoring and communication by the child's grandmother is lower. Also, there is a raise in the acceptability of teenage sexuality, creating an environment where younger siblings might incur in risky behaviors.

Regarding peer effects, Evans et al (1992[12]) found that, controlling for endogeneity, they do not have any effect on teenage pregnancy or school drop out.

These kind of studies derived research into another important motivation:

the study of the association between educational achievement, school attainment and teenage pregnancy. Different results can be found, differing in whether fertility is treated as an exogenous variable (Waite and Moore, 1978[61]; Upchurch and Mc Carthy, 1990[55]; Forste and Tienda, 1992; Fergusson and Woodward, 2000[13]) or as an endogenous one (Moore et al, 1993[38]; Ribar, 1994a[47]; 1994b[48]; Klepinger et al, 1995[30]). The first group find strong evidence of the negative effects of early childbearing on educational achievements. However, with an instrumental variables approach controlling the endogeneity of fertility, woman's age when having their first child is not significant, maybe due to an identification problem (Angrist and Evans, 1996[3]).

In contrast, previous longitudinal works as the one of Klepinger et al (1995[30]), that followed 2795 women in the United States through 12 years, find that early childbearing reduces in three years school attainment for Whites, Blacks and Hispanic women. In the same way, Klepinger et al (1997[31]), take advantage of the availability of instruments for fertility, such as state-level fertility cost indicators and fertility control policies. They study the relationship between early motherhood, human capital investment, and wages in the adulthood. Their results show that teenage fertility reduces formal education and working experience, what leads to lower wages at the age of 25. For these authors, motherhood affects wages through the reduction of human capital and investment return rates, lowering white women wages by 23% and by 13% for blacks.

Other studies use family fixed effects (Geronimus and Korenman, 1992[18]; Hoffman et al, 1993[24]; Ribar, 1994[47]) comparing the experience of sisters; or natural experiments (Grogger and Bronars, 1993; Hotz et al, 1995[25]), finding no significant relationship, or, at least, inferior of those found in the instrumental variables approach.

When trying to determine the causal relationship, it is important to take into account life stories of the teenage women, particularly if the pregnancy takes place before or after school drop-out; as well as analyzing the selection process associated with the risk of pregnancy. In this sense, pregnancy is a more common issue among those with a disadvantaged life story, or those with behavioral problems (Quinton et al, 1993[44]; Woodward and Ferguson, 1999[62]).

In this sense, past life is controlled on Hoffman's et al (1992[24]) study, considering 428 pairs of sisters with data from the Panel Study of Income Dynamics for the United States in 1987. Results show that, when controlling for individual effects, teenage pregnancy impact is reduced.

Another line of investigation is focuses on pregnancy wantedness, considering that those women who choose to continue with their pregnancy in those countries where abortion is legal, are more and better prepared for the demands involved with childbearing. Joyce and Grossman (1990[26]) studied the impact of wanted pregnancies on the demand of early prenatal care. With data for the United States they find that contraception use and abortion is negatively associated with unwanted pregnancies and childbearing, and positively with early prenatal care and other healthy behavior aspects.

Following the same line, Plotnik (2004[43]), analyzing family formation prospects and willingness, find that young women expect to get married and have chil-

dren before men do. Also, when facing high opportunity costs, measured by educational ambitions, women want to get married and have children later in life compared with those with lower aspirations.

Finally, other studies analyze the evolution of teenage fertility rates and relate this with the development process that takes place in the respective countries, or the different policies that took place in each of them. Furstenber (1998[15]) believes that in these development processes there is a pressure in favor of later marriages, sexual freedom, higher autonomy of the youth, less parental control and gender equity. This leads to higher sexual activity rates, and, as a result, higher teenage childbearing risk. The author says that in some countries, such as Sweden and Denmark, teenage sexuality is taken as a public health policy, very different compared to the United States strategy of abstinence promotion and contraceptive use when the intercourse takes place, that failed.

Eloundou-Enyegye and Stokes (2004), based on the Demographic and Health Surveys for 38 countries in 2003, find that contextual variables explain the variation in the result related with gender equity in school drop out rates resulting from teenage pregnancy. This is the most important achievement in countries with economic and demographic intermediate structures.

However, recent studies find that the main causes of the decline of the teenage pregnancy rates in the developed countries are the use of contraceptives and postponing the first intercourse, specially for those aged between 15 and 17 (Singh and Darroch, 2000; Santelli et al., 2007[50]).

Kearney and Levine (2007[29]), analyze the impact of the relaxation of the Medicaid eligibility limits on sexual behavior and contraceptive use. This took place in times were the third part of the newborns came, between 1997 and 2002, from unwanted pregnancies, three quarters of them to teenage mothers. Despite the fact that just 22% of them live in states where the eligibility limits were relaxed, the authors provide strong evidence that this policy reduced the number of unwanted pregnancy and abortions. At the same time, they find that there is no significant effect on intercourse on the last three weeks, but it does rise the probability of contraceptive use among sexually active women.

### 3 Data and methodology

The data source comes from the Survey on Social and Biological Reproduction of the Uruguayan Population: an approximation to gender and generations carried out by the Gender and Generations project of the UNFPA between September and December 2004.

Given the objective of the present research, we decide to consider only women older than 24 years of age. This is due to the fact that it is well documented that fatherhood do not affect individual's human capital in the same way as motherhood do. The reason is that teenage childbearing is generally non-marital, giving as a result that mothers and their families take care of the newborn. The choice of age, is because younger women might still be attending the educational system.

Due to the dependent variable, and given the fact that in Uruguay 6 years of primary school and three of secondary are the compulsory ones, we decided to specify two dummy variables, *school1* that takes the value of one if the woman completed at least 9 years of education. Second, because Uruguay fell behind in the higher level of education, compared to other countries in the region (ANEP, 2005[2]; CEPAL, 2006[8]), we define the variable *school2* that takes value one if the woman completed at least 12 years of education. Results based on this variable will be specially important in the definition of human capital public policies in our country.

As regards the independent variables, it is important to notice that most of them refer to the present situation of the woman, for example, occupation, marital status, contraceptive use, etc. However, other variables such as religion, parents' education, number of siblings and more can be considered as stable over time. That is the reason why they are taken into account, as well as age, teenage childbearing and household characteristics.

The variables considered are detailed below.

The *Age* of the woman is measured by 5 binary variables, in order to capture generational differences. Actually, in Uruguay, the educational level of young women is higher as well as the number of teenage mothers and the age they have their first child. At the same time, sexual life starts earlier (Guchin and Meré, 2004[19]; Ferre et al, 2004[14]; Varela et al, 2008[60]).

*First\_child\_less20*, dummy variable that takes value "1" if the woman has her first child before 20 years old.

*Partner*, dummy variable that takes value "1" if the woman was living with her partner, or her partner and other relatives when she had her first child.

*Religion* is taken into account by the frequency of religious services attendance, excluding social events as marriages and baptisms. Also, we consider religious denomination. We specify then the variable *religiosity*, that takes value "0" if the woman says she never attend religious services, "1" if sometimes in a year, "2" if once or more per month and "3" if once or more per week. The dummy variables *catholic* and *evangelic*, take value "1" if the woman declares being practicing of those denominations, respectively.

As a proxy of woman's original household characteristics, we consider the fact that her mother was a *teenage mother*; the marital situation of her parents when she was 20 years old or less, called *parents\_couple*, which is a binary variable that takes value "1" if parents lived together; *siblings*, a continue variable from 0 to 9 according to the number of brothers and sisters of the woman; *mother\_secondary\_education* and *mother\_university\_education*, each of them taking value "1" if the mother has that educational level. The lower level is omitted.

Finally, it is very difficult to distinguish between causality and correlation, because, are teenage mothers less educated? Or is less education what gives as a result teenage childbearing? In this sense, we can find the classical endogeneity problems, that can arise as a result of omitted variables, selection bias, measurement errors and more. Estimations that do not consider this issue might result in biased coefficients, reflecting the reduced form, but not the

structural relationship between the variables. The only way to obtain unbiased estimations is with an estimation method that takes into account the correlation between mother’s education and the error term, which calls for exclusion restrictions (Bhattacharya et al, 2006[6]). Previous literature uses maternity costs and policies that affect it, as abortion laws and family planning. However, in this article, as we have a cross section dataset, we do not have regional or temporal variation, so it is impossible to follow this empirical strategy.

Alternatively, it is at least possible to control for the observable heterogeneity, using correspondence techniques as the Average Treatment of the Treated (ATT) with the propensity score. Given the fact that it is not possible to observe a woman in the two contra factual situations (educational achievement being or not a teenage mother), results of a treatment group (*teenage mother*) are compared to a “similar” control group, and differences are considered to be the result only of the treatment. If the distribution of results is independent from the treatment, conditional to the pre-treatment variables, it is possible to estimate the ATT (Rosenbaum and Rubin, 1983[49]).

In this study it is important to determine the effect of the treatment variable (*First\_child\_less20*) on the outcome variable (*school1 or school2*) controlling with a set of other variables. In order to estimate this effect, a wide range of matching methods have been proposed. The traditional ones bring together individuals that are similar in terms of the control variables. However, it is very difficult to group individuals based on a n-dimensional vector. That is, the reason why all the pre-treatment characteristics are resumed on a unique variable called propensity score ( $P(X)$ ), which is defined as the probability of receiving treatment given the pre-treatment characteristics. The method is based on the balancing property given the propensity score. If this property is satisfied, observations with the same  $P(X)$  will have an identical distribution of observable (and unobservable) characteristics, despite the fact that they received the treatment or not. In other words, for a given  $P(X)$ , exposure to treatment is random, so, treatment and control units might be, on average, observationally identical. (Rosenbaum and Rubin, 1983[49]).

We estimate the  $P(X)$  with Stata 10 (StataCorp, 2007[53]) and we use the ATT algorithm (Becker and Ichino, 2002[5]). Because the estimation is sensitive to the matching method, nearest neighbor, kernel and stratification are used in our case.

In table 1 we include the summary statistics of the variables of the model.

	Mean	Mode	Standard desviation
School1	0,504	1	0,500
School2	0,267	0	0,442
Age25-29	0,168	0	0,374
Age30_34	0,156	0	0,363
Age35_39	0,153	0	0,360
Age40_44	0,157	0	0,364
Age45_49	0,137	0	0,344
Age50_54	0,117	0	0,321
Age55_59	0,113	0	0,316
First_child_less20	0,260	0	0,439
Teenage_mother	0,403	0	0,491
Siblings	4,762	3	2,574
Partner	0,743	1	0,437
Religiosity	0,862	0	1,077
Catholic	0,352	0	0,478
Evangelic	0,083	0	0,276
Parents_couple	0,640	1	0,480
Mother_secondary_education	0,184	0	0,387
Mother_university_education	0,052	0	0,222

As it is shown on the table, 26% of women aged between 25 and 59 years old, had at least one child during their teen ages. This is comparable to what the Ministry of Social Development reports for 2004 (CIESU, 2007[9]). Due to education, 27% has 12 or more years of formal education. In this sense, the interview investigates about woman’s educational situation when becoming pregnant, asking “When you became pregnant, were you attending school?”: If the answer is “yes”, “Did you drop out school because of being pregnant or after labor?”. Of those who had their first child before being 20 years old, 20% were studying, and 75% of them left school, while 64% did not resume. At the same time, it is important to notice that 46% had their first child in their teen ages because they wanted to start a family, or desired to be a mother.

## 4 Results

In table 2 we present the results and the marginal effects of the probit models for the binary variables *school1* and *school2*.



	Table 2: Results				
	School1		School2		
	Coefficients	Marginal Effects	Coefficients	Marginal Effects	
Age30_34	0,037	0,015	-0,006	-0,002	
	-0,113	-0,045	-0,125	-0,038	
Age35_39	-0,217*	-0,086*	0,014	0,004	
	-0,117	-0,046	-0,03	-0,039	
Age40_44	-0,263**	-0,104**	0,157	0,049	
	-0,116	-0,046	-0,128	-0,041	
Age45_49	-0,225*	-0,090*	0,167	0,053	
	-0,126	-0,05	-0,139	-0,046	
Age50_54	-0,164	-0,065	0,240*	0,077	
	-0,13	-0,052	-0,143	-0,049	
Age55_59	-0,319**	-0,127**	0,390***	0,130**	
	-0,135	-0,053	-0,146	-0,053	
First_child_less20	-0,548***	-0,216***	-0,805***	-0,206***	
	-0,077	-0,029	-0,103	-0,021	
Teenage_mother	-0,134*	-0,053*	-0,212***	-0,063***	
	-0,069	-0,028	-0,079	-0,023	
Siblings	-0,121***	-0,048***	-0,117***	-0,035***	
	-0,014	-0,005	-0,016	-0,005	
Partner	0,137*	0,054*	0,031	0,009	
	-0,078	-0,031	-0,086	-0,026	
Religiosity	0,062*	0,024*	0,059	0,018	
	-0,034	-0,013	-0,037	-0,011	
Catholic	-0,139*	-0,055*	-0,168**	-0,051**	
	-0,074	-0,029	-0,082	0,025	
Evangelic	-0,521***	-0,204***	-0,565***	-0,139***	
	-0,136	-0,051	-0,171	-0,033	
Parents_couple	0,146**	0,058**	0,171**	0,051**	
	-0,069	-0,027	-0,078	-0,023	
Mother_secondary_ec	0,546***	0,207***	0,741***	0,255***	
	-0,089	-0,031	-0,089	-0,033	
Mother_university_ec	0,775***	0,273***	1,350***	0,500***	
	-0,169	-0,048	-0,156	-0,054	
Observations		1726		1726	
Pseudo R2		0,1476		0,2078	
Lr chi2(16)		351,72		424,4	
Prob.>chi2		0		0	

According to the predictions it is possible to state that women in the sample present a 54% probability of finishing at least the first cycle of secondary education and 23% of completing secondary or more. A cohort effect is present, in the sense that the proportion of women that achieve the higher levels or education increase as the cohorts are closer in time. In fact, women aged between 30 and 34 in the present have 62% of probability of completing 9 or more years of education, while this probability becomes 47% for those aged 55-59 years old.

The importance of those achievements is strongly related to the education of the mother. In the case that she completed the secondary level, the probability of completing at least 9 years of education increases 21 percentage points (38% per cent compared with the baseline), or 25 percentage points for 12 years or more. Moreover, if the mother reaches the university level the probability increases 27 percentage points for 9 years of education, and 50 percentage points for finishing the secondary level (50% and 220% compared with the baseline, respectively).

Despite the fact that early childbearing affects the level of education, the women's mother's education is included, as a proxy of the socioeconomic status of the household. The reason for this, as it is said in previous studies, is that in

Uruguay middle-class women tend to postpone childbearing, while early childbearing is present in low-class ones (Varela, 2007; Peri and Pardo, 2006[41]). The estimated marginal effects show that women that come from that type of household present between 5 and 6 percentage points lower probability of educational achievements.

Besides, being *catholic* or *evangelic* reduces the probability of educational achievements, particularly being evangelical reduces in 20 pp the probability of completing 9 or more years of education, and 14 pp of finishing secondary school. The results for catholic are not the ones usually observed in the literature, even when the marginal effect is lower (-5pp). This can be a result of the special characteristics of religiosity in Uruguay, particularly due to the difference between the religious denomination declared, and of the fact of being or not an active practicing. In this sense, *catholic* and *evangelical* are redefined, taking value “1” if the woman declares to practice one of those religions. In terms of the other variables the results remain the same, but religiosity and catholic are now non-significant. The negative effect of evangelical is still -13 pp.

Regarding our variable of interest, *first\_child\_less20*, it reduces de probability of completing 9 or more years of formal education by 22 pp (41 per cent respect to de baseline) and 21 pp for 12 or more years (almost 100 per cent). The results of the simulations show that this effect is not homogeneous among cohorts: it is stronger for those aged between 55 and 59 years.

However, as it is mentioned in the previous section, this variable can have the typical endogeneity problems. For that reason we can only talk about a negative correlation between teenage childbearing and its consequences on school attendance.

Given that unavailability of instrumental variables, the observable heterogeneity is controlled by matching methods. Results (Table 3) show that the average treatment on the treated (being a teenage mother) on school1 is negative and significant. According to the matching techniques used between -17 and -20 pp, which is not different of the results of the probit model. As regards to school2, the average treatment of the treated is between -15 and -18 pp, evidencing an over estimation of the results of the probit models.

	School1	School2
	ATT	ATT
Nearest neighbor	-0,173 (0,037)	-0,149 (0,032)
Kernel	-0,201 (0,025)	-0,176 (0,019)
Stratification	-0,190 (0,028)	-0,167 (0,020)

Focusing on the policy implications of our findings, the intergenerational transmission process is shown, especially regarding education and reproductive behavior. This highlights the importance of household oriented policies, in

detriment of those focusing the individual. This is consistent with previous literature, in the sense that the family plays a fundamental role in creating the “product” adult. Moreover, half of the inequity in present income is a result of several factors determined in the first 18 years of life (Heckman, 2008[22]). Therefore, strategies applied later in life in order to fix disadvantages that come from childhood, such as labor capacitating, rehabilitation and alphabetization of adults programs are low-effective compared with early interventions, as those that promote access and permanence of young people in the educational system.

In Uruguay, since 1996, several public programs took place, each of them with a different conceptual framework. The ones from the Ministry of Public Health focused on sexual and reproductive health, as the *Programa maternidad y paternidad elegida* (1996-2000), *Programa salud integral de la mujer* (2001-2004) and *Programa de salud de la mujer y género* (since 2005) (Varela, 2007). Then, Montevideo’s city council (IMM) is carrying out, a program for the comprehensive care of women in 18 municipal hospitals, since 1996. More recently the Presidency implemented since 2003, a program for teenagers, childhood and families in risk, called INFAMILIA. Its objective is to optimize responsibility levels regarding sexual behavior, focusing on prevention and lowering and attention of non-planned teenage pregnancy. All these things in order to promote a personal life project (MIDES, 2008). In this case the *Aulas Comunitarias Program* (PAC) is being implemented, as well as several programs of the Ministry of Public Health for the promotion of sexual and reproductive health. There are also programs for the socio-educative support or teenage mothers, jointly executed by the Ministry of Social Development, the Ministry of Public Health and the National Administration of Public Education.

## 5 Conclusions

Using the Survey on Social and Biological Reproduction of the Uruguayan Population: an approximation to gender and generations carried out by the Gender and Generations 2004 program we study the effect of teenage childbearing on women educational achievements. The predicted results show that women in the sample present 54% probability of completing 9 or more years of formal education, and only 23% for 12 or more years.

This is the first empirical approach to this topic, consistent with previous literature findings, showing the powerful effect of the family on creating adults. Taking mother’s education as a proxy of parental atmosphere, we find that daughters of those teenage mothers that completed secondary education have 38% more probability of achieving 9 or more years of education, and 110% for 12 or more years. These figures grow to 50% and 220%, respectively, in the case of mothers with university level. At the same time, early motherhood of the women’s mother and the number of siblings reduces the probability of educational achievements, as these variables indicate a low socioeconomic status of the household.

As regards to the early motherhood of the women in the sample, it reduces

the probability of 9 or more years of education by approximately 40%, and almost 100% in the case of 12 or more years.

These are the reasons why early family-based intervention is necessary, in order to break the negative dynamic of intergenerational impacts, together with programs to promote an easier access and permanence of young people in the educational system.

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