Early motherhood in Romania: associated factors and consequences

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Abstract

The aim of this article is to investigate the early childbearing in Romania in a life course perspective, studying to what extent the context and childhood experiences influence the timing of the childbearing behavior. We also analyze whether having a birth before age 20 is associated with particular disadvantages in subsequent adult life. We conduct our investigation on data from Generations and Gender Survey for Romania (2005), which contains retrospective information on 6001 women's partnership and fertility histories, as well as the context of their childhood. Our results indicate that women who grew up in more disadvantaged family environments show higher risks of early childbearing, and the educational enrollment and attainment have a marked influence on early childbearing risk. We also found that having had an early birth previous in life is associated with several adverse socioeconomic and family life outcomes in adult life.

Keywords: Early motherhood, childhood experiences, event history analysis, adult outcomes, nonmarital births, Romania

Introduction

Most of the studies on family formation patterns concerning Romania (Hărăguş, 2008; Mureşan, 2007, 2009) are focused on postponement of the process, aiming to see whether and to what extent we follow the western European way toward delaying parenthood, and little attention is given to early motherhood. Fertility in Romania always had a relatively early pattern and this might be the reason for the overlook of this topic. Mureşan (2007) shows the median age for first birth during 1980-1989 was 23 years and increased only with two years in the period 1996-2005.

Data from Eurostat (2010) show that among European nations, Romania and Bulgaria have the highest proportions of all births in the age group 15-19 years: with a share of 12.1% in 2007, Romania tops countries such as United Kingdom (6.3%) or other Central or Eastern European countries (Hungary 6.1% or Poland 5.1%).

There is a tendency to see early childbearing as an outcome of a risky or problematic sexual behavior during adolescence, but the sexual behavior is itself an outcome of woman's exposure to multiple risk factors during her childhood and adolescence. Recent findings clearly show that teenage pregnancy is not solely the result of sexual risk taking but is also strongly influenced by woman's childhood experiences and adjustment (Woodward, Fergusson and Horwood, 2001). A traditional crossectional approach does not allow the investigation of such connections. The life course approach, on the other hand, allows the emphasis on the dependencies among different processes in the life of a person and on the way a particular behavior is influenced by the characteristics of the individual over time. Each individual biography is viewed as a complex process, and we are able to investigate how a particular event from someone's life can influence his/her subsequent life course and how certain characteristics can influence an individual to adopt behavioral patterns that differ from those of other individual (Courgeau and Lelievre, 1992; Courgeau, 2007).

The aim of this article is therefore to go beyond the simple connection with the adolescent sexual behavior and to examine the issue of early childbearing in a life course perspective, studying to what extent the context and childhood experiences influence the timing of the childbearing behavior, and considering in the analysis the effects of personal characteristics as well. Moreover, we also analyze whether having a birth

before age 20 is associated with particular disadvantages in subsequent adult life. Our main hypothesis is that early childbearing is favored by socioeconomic disadvantages and disruptive family environment during woman's childhood and it is itself a path to future disadvantage in adult life.

We conduct our investigation on data from Generations and Gender Survey for Romania (2005), which contains retrospective information on 6001 women's partnership and fertility histories, as well as the context of their childhood.

We believe that addressing the issue of early motherhood from the life course perspective, going beyond the simple relation with adolescent risky sexual behavior, and looking also at adult outcomes associated with early childbearing make our contribution a valuable one for a better understanding of family related behaviors of Romanian women.

Literature review

Studies on early motherhood, done mainly in United Kingdom and United States, reveal a powerful connection between teenage childbearing and socioeconomic characteristics of the family of origin, as well as characteristics of family environment.

Socioeconomic adversities, such as poverty, welfare dependence, large family size, academic underachievement, are found to be linked with an increased risk of becoming pregnant at an early age (Woodward et al., 2001). Kiernan (1997) showed that in the UK young mothers and fathers are more likely to come from disadvantaged families and to have lower educational attainment. In fact, Kiernan states that educational attainment is the most important background factor related to early parenthood. Ellwood and Jencks (2001) found that in USA the single parenthood is concentrated mainly in the middle and lower thirds of the educational distribution. Other research showed that family social class is a robust predictor of teenage childbearing, as well as the age of woman's mother at first childbearing and her education (Ermisch and Pevalin, 2003). Schoen, Landale, Daniels and Cheng (2009) showed that women' high socioeconomic status of the family of origin (that is, higher maternal education) is associated not only with lower risk of becoming early mothers, but also with less family related behavior up to age 24 (that is, less first marriage, less cohabitation entry, and fewer first births).

Most of the teenage births are nonmarital and the risk of having a child outside marriage is also connected with socioeconomic difficulties. Economically disadvantaged people are, on average, more likely to have children outside marriage, while more economically advantaged persons are most likely to have children within marriage (Smock and Greenland, 2010). Rotariu (2009) presents a clear picture for Romania of the year 2007: nonmarital births appear at a much lower age than marital ones (the median age for first nonmarital births is 20, while for first marital is 26), and below age 20 there are more births outside marriage than inside. One-third of out of wedlock births are from women under 20 years old. Four out of five women who give birth under age 20 are not married and their educational level does not continue beyond primary education, meaning they did not attend the whole compulsory educational cycle.

Previous research showed a clear influence of the family environment on early childbearing: daughters of single mothers are at an elevated risk of teenage pregnancy, being exposed to single-parents role model that may encourage greater acceptance of premarital childbearing and early parenthood (Woodward et al., 2001, 2006). Exposure to disrupted family relations increase the adolescent risk taking, and repeated parental transitions, as a result of marriage breakdown, may encourage young people to initiate sexual intercourse earlier, which constitute an increased risk of a teenage pregnancy (Woodward et al., 2001). Campa and Eckenrode (2006) found that children of adolescent mothers have a greater risk of giving birth in their teenage years than do children born to older mothers, above and beyond the background characteristics.

There is an important body of literature on the effects of early childbearing on the later adult life. Having a child early disrupts woman's human capital investments, by forcing her out of formal education and keeping her out of employment for a time, so depriving her of valuable work experience (Ermisch and Pevalin, 2005). A report from 1995 (McCauley and Salter, 1995) shows that, compared with later child bearers, women who gave birth before age 20 are more likely to gain less education, to have fewer job possibilities and lower income, to divorce or to separate from their partner and to live in poverty. Boden, Fergusson and

Horwood (2008) found for New Zealand the earlier the transition to motherhood, the greater the disadvantage to the woman: less educational achievement, more likely to be welfare dependent, and substantially lower personal and family income than those who become pregnant at older ages.

Moffitt and E-Risk Study Team (2002) found for UK that women who became mothers before age 20 have encountered more socioeconomic deprivation, have significantly less human and social capital and experience more mental health problems than women who became mothers at later ages. They also found that young-mother families tend to remain single parent families. What is more, research suggests also a negative effect of early motherhood not only on her own future outcomes, but also on those of her children even after taking into account the background differences between young and older-childbearing mothers (Haveman, Wolfe and Peterson, 1995). There are emotional and behavioral problems or educational underachievement (Moffitt et al., 2002), lower educational attainment, economical inactivity or early life transitions. Early childbearing is also likely to constrain the choice of a partner and studies showed that women who had a teen birth are more likely to have a partner with low education, as well as more unemployment prone men (Ermisch and Pevalin, 2005, for the UK).

Although the numerous researches have shown a clear link between the early childbearing and a series of adverse outcomes in the adult life, there are voices who claim the effects of young motherhood are exaggerated, because women who give birth early differ substantially from women who delay motherhood in ways that may affect their own welfare and that of their families (Hofferth, Reid and Mott, 2001). Early child bearers are more disadvantaged than delayed child bearers from the beginning: they have more siblings, less educated mothers or they grew up in single parent families. Comparison of adult outcomes for teenage mothers with women who delayed this transition does not identify exactly the consequences of an early birth, since young mothers may have had different outcomes anyway, as an expression of the disadvantageous socioeconomic background itself, which was found to be associated with early childbearing (Ermisch and Pevalin, 2005; Hobcraft and Kiernan, 2001). In other words, social disadvantage may "select" particular young women to become teenage parents (Duncan, 2007).

Two recent articles (Duncan, 2007; Kearney and Levine, 2007) review the research on the consequences of teenage motherhood that used some "natural experiments" in order to disentangle the effects of the teenage birth itself from the effects of some selection factors. Such designs includes studies that compare cousins whose mothers were sisters (only one of whom was a teenage mother), teenage mothers and women who conceived as teenagers but miscarried, siblings who did and did not have a teenage birth, teens who gave birth to twins and teens who gave birth to singletons. The general conclusion is that the effects of mother's age at birth on the social adult outcome are very small. Other studies, however, review research that showed that, over and above the effects of selection factors, an early transition to parenthood place supplementary pressure on the limited socioeconomic or psychological resources of young mothers, which may, in turn, further constrain their life choices and ability to parent their children (Woodward et al., 2001).

Our approach does not intend to find causal mechanisms between young motherhood and adult outcomes, but to examine whether several adult outcomes are different for women who gave birth early, compared with those who did not, controlling for background characteristics, in our attempt to shed light on early motherhood in Romania.

Data and method

Analysis is done using data from Romanian Generations and Gender Survey[1], conducted in 2005, which has a retrospective design and allows us to reconstruct women partnership and fertility histories and to approach the issue of early childbearing from the life course perspective (Vikat, Speder, Beets, Bilarri, Buhler et al., 2007). We choose to define early childbearing as giving birth before turning age 20 (Kiernan, 1997; Moffitt et al., 2002).

[1] More details about the international Generations and Gender Programme are found at http://www.unece.org/pau/ggp/.

Analysis of associated factors

We analyze the impact of different background factors and personal characteristics on the timing of first birth using event history analysis, namely the piece-wise constant exponential models. All variables included in this type of models are categorical.

Having time as one dimension, this method of analysis gives the possibility to include time-varying explanatory factors[2]. The role of these variables is to show that a causal factor had changed its status over time and, consequently, the event under study has been exposed to different causal condition (Blossfeld and Rohwer, 2002). Another advantage brought by event history analysis is the inclusion of censored individuals into analysis. Censored individuals are those who were exposed to the risk of experiencing the event under study (the first childbearing) but did not experience it (women who are childless at the moment of the interview). Being under risk but eventually not experiencing an event is itself important[3].

We model the time to first birth and the process time (i.e., the baseline hazard) is the age of the respondent measured in months since January of the year she turned age 14. Since we study early childbearing, the process time ends at age 20. This means that our dependent variable is the risk of having a first child before age 20, given by the hazard or intensity function, whose values are estimated by the occurrence-exposure rates of the event (number of events/(population under risk x duration of exposure to the risk)), given the individual is under the respective risk. This leaves us with 889 events (i.e., births before age 20). We run separate models for transition to first teen birth (no matter marital or nonmarital) and transition to first nonmarital teen birth. Results are presented in form of relative risks: the increase in the hazard function (the risk of experiencing the event under study) when one goes from one category to another of the explanatory variables. A relative risk greater than 1 indicates the risk of becoming young mother is greater in that group than in the reference group, whereas a relative risk lower than 1 indicates the opposite.

Based on previous results in the literature, we use as independent covariates several background factors, such as the type of residence during childhood (until age 15, urban vs. rural), whether the woman had lived with both parents during her childhood (until age 15), number of siblings, mother's education, father's occupation [4], whether the woman has Roma ethnicity, all of them being time-constant covariates.

We consider the type of residence during childhood an indicator of the socioeconomic and educational resources of the family of origin, where rural residence is associated with fewer such resources. Whether the woman had lived with both parents during her childhood is important because in most cases the absent parent is the father and this means the lack of significant resources for the daily care responsibilities, the involvement in child activities, the financial situation or emotional support. The absence of the father may also mean less control and supervision for the teenage child, and the single mother family model can be easier embraced by the child. We use the number of siblings as a covariate assuming that women who come from a bigger family develop a higher family orientation, so earlier family related transitions, and as an indicator of family's control over the teen's behavior, assuming that more siblings mean less control from behalf of the parents. Mother's education and father's occupation are measures of the human capital of the family of origin, and Roma ethnicity captures a series of socioeconomic, educational and cultural characteristics.

We expect that women who grew up in more disadvantaged family environments (rural areas, larger families, not living with both parents, low education of mother, not prestigious occupation of father, and Roma ethnicity) show higher risks of early childbearing. The same influences are expected to be found for the risk of having an early nonmarital birth.

We also introduce covariates accounting for personal characteristics. One is religiosity, and we consider a person to be religious if she goes to church at least once a month. Church attendance was surveyed at the date of interview and we assume that religiousness is a stable trait that does not change over the life course

[2] In this article, woman's level of education is a time-varying factor, us being interested in the level the respondent had at the time of the event under study (first childbearing).

[3] More details about event history analysis and piece-wise constant exponential models could be found in Hărăguş, 2008 and Mureşan, 2005.

[4] Instead of father's occupation we would have used father's education as well, but the Romanian Generations and Gender database lacks this information.

(Kreyenfeld, 2004). We expect that less religious women to be more prone to early start of the sexual life and, consequently, more at risk of the early childbearing. Another personal characteristic is the woman's current educational attainment, which is a time-varying covariate. First wave of Generations and Gender Survey did not registered completed educational histories, but only the highest educational attainment, at the moment of the interview, and the date when this level was attained. Using the final educational level as registered at the interview as a covariate assumes that education is a fixed trait of the individual. This is anticipatory analysis and it may not be problematic if education is completed before childbearing begins; but childbearing itself may influence the educational career of women and then assuming that educational level is a time-constant covariate may be wrong. Especially for early childbearing, education may be interrupted and continued some years later, and the final educational level would be different than the one at the moment of childbirth. Following the approach of Hoem and Kreyenfeld (2006) and Mureşan (2009) for data with no complete educational histories, we assumed that the respondent was enrolled in education all the time before they attained the level reported at the interview, and continuously out of education (with the reported level attained) between the date of attainment and the interview. We constructed a time-varying covariate which combines educational enrollment and educational attainment, with the following categories: enrolled in education; not enrolled, low educational attainment (pre-primary, primary and lower-secondary education); not enrolled, medium educational attainment (upper-secondary and post-secondary non-tertiary education) and not enrolled, high educational attainment (tertiary education). As literature suggests, we expect that being enrolled in education to highly reduce the risk of having a teen birth, since participation in formal education is seen incompatible with childbearing (Blossfeld and Huinink, 1991), and for women out of education, we expect that women with more education to be less likely to have a teenage birth.

We also include a time-varying covariate accounting for the residence in parental home, expecting that women who already left the parental home to be much more exposed to early childbearing than those still in parental home. To consider the national socioeconomic and political context where the birth appeared and to compare the period before and after the fall of the socialist regime, we distinguish between the two periods and introduce the calendar period as a time-varying covariate.

Analysis of associated consequences

For analyzing the effects of early childbearing on the subsequent adult life, we examine nine outcomes connected with adult social exclusion or family life. For the present socioeconomic characteristics we consider whether woman have not reached any qualifications (that means having completed less than upper secondary education), whether they are in the lowest quartile of the household income distribution and whether they were working at the moment of the interview. Following the approach of Hobcraft and Kiernan (1999), we use the variable "lack of a telephone" as an outcome that is a measure of poverty and of social isolation. For family life outcomes we examine whether women are living without a partner and whether their living arrangement is other than marriage. We have to stress that we do not include here any value judgment on these family related outcomes; we use them as indicators of the destandardization of the life-course and living arrangements (Lesthaeghe and Moors, 2000).

If there is a partner, we examine whether he had not attained any qualifications. We have also two outcomes connected with health. First one accounts for poor physical health and it is constructed based on the self-appreciation of health status, and the second one accounts for poor emotional well-being and it is constructed based on the frequency of experiencing feelings such as sadness, depression, loneliness, fear and feeling of failure in life.

We use binary logistic regression for modeling these adult outcomes. This is a regression used to identify the strength of independent factors on a dichotomist dependent variable that represents the occurrence or non-occurrence of a particular event, in our case the occurrence of the nine (adverse) outcomes. The results are in the form of odds ratios, and therefore we have a reference category for each variable, relative to which we can determine the odds ratio, when controlling for the other variables. Similar with relative risks, an odds ratio greater than 1 indicates the odds of young motherhood is greater in that group than in the reference group, whereas an odds ratio lower than 1 indicates the opposite (Kiernan, 1997).

We select only women who are 45 years old or younger at the moment of the interview since we are interested in the adult outcomes. We excluded from the analysis older women because their teenage births

happened decades ago and too many societal changes and life course events intervened, making almost impossible for us to disentangle the effect of the teenage birth.

We are interested in the effects of age at first birth when controlling for a series of background variables, such as the residence during childhood (urban vs. rural), whether she lived with both parents throughout her childhood, number of siblings, mother's education, father's occupation, cohort, and Roma ethnicity. We present the results, in form of odds ratios, only for the effect of the covariate accounting for early childbearing. We expect that having had an early birth is associated with each of the nine (adverse) adult outcomes, when controlling for the background characteristics.

Descriptive findings

Among all women in the sample, 14.8% had their first child prior to age 20. Regarding the partnership context where the first child was born, Table 1 shows that 4.7% of women became mothers before they have ever lived with a partner, in either a cohabiting or marital union. 5.9% of women had their first child within a cohabiting union, and most women became mothers within their first marriage: 84.7%. We subdivided first births occurring within first cohabitation and first marriage according to the moment of conception, and we see that most children were conceived after the beginning of the union.

There is marked variation in the partnership context of motherhood by age at first childbearing. 18.3% of all births of women under age 18 appeared before the first union, and the proportion is smaller for older ages. 18.9% of the earliest births appeared within first cohabiting union, a share much higher than for births of women above age 20 (4.4%). Thus, births within first marriage are the fewest for women below age 18. Births following first partnership appear mostly for older childbearing ages.

Table 1. Union status at first birth, by age at first birth (%)

	Age at first birth			Total
	before age 18	age 18-20	after age 20	
First child born…				
Before 1st partnership	18.3	7.6	3.6	4.7
Within 1st cohabitation	18.9	11.3	4.4	5.9
Within 8 months of union	4.4	2.1	0.6	1.0
After 8 months of union	14.4	9.2	3.8	5.0
Within 1st marriage	58.9	77.3	87.2	84.7
Within 8 months of marriage	16.1	14.0	7.9	9.1
After 8 months of marriage	42.8	63.3	79.2	75.6
Following first partnership	3.9	3.8	4.8	4.6
Total =100%	180	709	4016	4905

Source: Generations and Gender Survey 2005, author's calculations.

We observe from Table 2 that very early childbearing (before age 18) in urban areas appear mostly outside marriage (61.3%), while in rural areas it appears mainly inside marriage (63.1%), confirming the early pattern of family formation of rural women. Both in urban and rural areas, proportions of births outside marriage decrease as the age at first birth increase and, thus, the proportion of marital births increase with the age at first birth. A similar pattern is observed by present educational attainment: fewer births outside marriage as the age at first birth increases.

Table 2. Proportion of first births, by union status and age at first birth, and women's characteristics (%)

	Type of birth	Age at first birth			Total
		before age 18	age 18-20	after age 20	
Urban residence during childhood	In marriage	38.7	78.4	88.8	86.2
	In cohabitation	32.3	12.1	5.1	6.6
	Single mother	29.0	9.5	6.2	7.2
	Total	100	100	100	100
Rural residence during childhood	In marriage	63.1	77.2	88.0	85.4
	In cohabitation	16.1	11.1	4.8	6.3
	Single mother	20.8	11.6	7.1	8.4
	Total	100	100	100	100
Low educational attainment at present	In marriage	59.9	74.3	85.3	81.5
	In cohabitation	19.1	12.5	5.8	8.0
	Single mother	21.0	13.3	8.9	10.5
	Total	100	100	100	100
Medium educational attainment at present	In marriage	50.0	86.2	90.2	89.4
	In cohabitation	16.7	8.0	4.4	4.9
	Single mother	33.3	5.9	5.4	5.7
	Total	100	100	100	100
High educational attainment at present	In marriage	-	75.0	94.2	93.7
	In cohabitation	-	12.5	2.3	2.6
	Single mother	-	12.5	3.5	3.7
	Total	100	100	100	100

Source: Generations and Gender Survey 2005, author's calculations.

Concerning the consequences of an early birth, we can notice from Table 3 the proportion of women experiencing an adverse adult outcome decreases as the age at first birth increase, for most of the outcomes. The most marked differences are for educational outcome: 87% of women who gave birth before age 18 and 58% of those who became mothers between age 18 and 20, did not achieved any qualifications (attained less than upper secondary education), compared with only 22% of older mothers. High proportions of childless women living without a co-resident partner or not being married are because these women are mostly young and they have not started their family life yet.

Table 3. Proportion (%) of women experiencing each adult outcome, by age at first birth

Adult outcome	Age at first birth				Total
	Under age 18	Age 18-20	After age 20	No birth	
Less than upper secondary education	87.2	58.2	22.4	17.9	27.6
Low household income	18.6	21.5	10.7	11.4	12.4
Not working	46.5	40.0	26.0	35.4	30.8
No telephone	27.9	29.5	15.6	10.2	16.2
Not living with a partner	12.8	10.9	8.9	65.4	24.1
Present partnership status other than marriage	25.6	17.5	13.1	71.6	29.4
Having a partner with no qualifications (for those living with a partner)	46.7	31.0	13.3	11.8	16.8
Poor physical health	2.3	4.4	2.2	2.5	2.6
Poor emotional well-being	9.3	9.8	6.0	7.2	6.9
Number in the sample	86	275	1425	638	2424
for those living with a partner	75	245	1298	221	1839

Source: Generations and Gender Survey 2005, author's calculations.

Multivariate analysis

Factors that favor early childbearing

Before discussing the event history models, a look at the women's distribution by the time-constant covariates used in our multivariate analysis is necessary. We see from Table 4 that almost 2/3 of women in the sample spent their childhood in rural areas, and more than 90% lived with both parents. 40% of women grew up in large families, with more than three siblings. The great majority of women in our sample had low educated mothers and fathers working in agriculture or with elementary occupations (workers). One third go to church less than once per month (we considered them as not religious), and only 1.5% of the sample have Roma ethnicity.

Table 4. Distribution of time-constant covariates used in event history analysis

	Cases	%
Residence during childhood		
Urban	1,569	26.15
Rural	4,432	73.85
Living arrangement during childhood		
With both parents	5,445	90.73
Not with both parents	556	9.27

Number of siblings		
Less than 3 siblings	3,576	59.59
3 or more siblings	2,425	40.41
Roma ethnicity		
Roma	90	1.5
Not Roma	5,911	98.5
Mother's education		
Not specified	201	3.35
Low	4,911	81.84
Medium	761	12.68
High	128	2.13
Father's occupation		
Not specified	624	10.4
Professionals	507	8.45
Clerks/services	213	3.55
Workers	2,898	48.29
Agriculture	1,759	29.31
Religiosity		
Not religious	2,043	34.04
Religious	3,958	65.96
Total	6,001	100

Source: Generations and Gender Survey 2005, author's calculations.

We turn now to the results of event history models. We see from Table 5 the risks[5] of first birth are higher as age increases. Regarding the effects of the covariates, we first modeled the transition to first teenage birth introducing only background characteristics (Model 1). As expected, we found that growing up in rural areas increase the risk of becoming teenage mother by 30%, and not living with both parents during the childhood also raises the risk by 54%. These two covariates show no statistical significant effect for the transition to first nonmarital teenage birth. Growing up in a large family (with three or more siblings) increases the risk of having a teenage birth by 22% (by 32% in case of nonmarital births).

Compared with women whose father had a professional occupation, those with fathers employed as workers or working in agriculture, as well as those with unspecified father's occupation, showed increased risk of having early childbearing (results are not shown in Table 5). When introducing mother's education in the model, the father's occupation does not show a statistical significant effect any more, except for unspecified occupation category. Having a better educated mother strongly lowers the risk of teenage motherhood, also for nonmarital childbearing. Roma ethnicity inflates the risk almost four times, and almost 7 times in case of nonmarital births. As expected, we have found that disadvantageous family background grow the risk of early childbearing.

When introducing two personal characteristics in the model, religiosity and current educational attainment (Model 2), we find that not being religious is a favoring factor for early childbearing and being enrolled in education sharply decrease the early childbearing risk. Similar effects are found for nonmarital teenage births. Compared with women with low educational attainment, having medium education lowers the risk by

[5] Absolute risks or the occurrence-exposure rates of the event (number of events/(population under risk x duration of exposure to the risk)).

31%, respectively by 60% for nonmarital births. Mother's education continues to have statistically significant effect only for early births in general (without distinction between marital and nonmarital).

In the last model (Model 3) we added two time-varying covariates: whether the respondent is still living in parental home and calendar period. As expected, persons who had already left their parental home show increased risks of early motherhood (more than 13 times higher, respectively almost 5 times higher for nonmarital births), compared with women still in parental home. It is not surprising, since young women usually leave parental residence when they start a couple relationship, which is a context that favors childbearing. In this last model the effect of the covariate whether the woman lived with both parents during her childhood is different than in the other two models: those who did not lived with both parents show lower risks of having an early birth. We think that women who lived with only one parent during their childhood and have increased risk of teenage birth are those who also leave parental home early. Those who continue to stay with the single parent may have developed stronger attachment (strong and positive child-parent relationship) and this is a protective factor against teenage childbearing.

The risk of having an early birth is higher after the fall of the socialist regime, by 23% for early births (marital and nonmarital together), and by 56% for early nonmarital births.

Table 5. Results from event history model, relative risks of the transition to first teenage birth

	Model 1				Model 2				Model 3			
	Early birth		Early nonmarital birth		Early birth		Early nonmarital birth		Early birth		Early nonmarital birth	
Age of the respondent (absolute risks)												
Age 14	0.00000		0.00000		0.00000		0.00000		0.00000		0.00000	
Age 15	0.00015		0.00008		0.00034		0.00031		0.00028		0.00029	
Age 16	0.00035		0.00011		0.00081		0.00045		0.00051		0.00036	
Age 17	0.00108		0.00023		0.00250		0.00091		0.00112		0.00060	
Age 18	0.00262		0.00046		0.00575		0.00175		0.00200		0.00100	
Age 19	0.00425		0.00057		0.00861		0.00210		0.00247		0.00104	
Residence during childhood												
Urban	1		1		1		1		1		1	
Rural	1.30	***	1.04		1.05		0.84		0.86		0.80	
Living arrangement during childhood												
With both parents	1				1		1		1		1	
Not with both parents	1.54	***	1.28		1.45	***	1.34		0.83	*	0.95	
Number of siblings												
Less than 3 siblings	1				1		1		1		1	
3 or more siblings	1.22	***	1.32	**	1.03		1.08		0.93		1.04	
Roma ethnicity												
Not Roma	1				1		1		1		1	
Roma	3.87	***	6.97	***	2.68	***	4.36	***	1.94	***	3.41	***

Mother's education												
Not specified	0.77		1.13		0.75		1.10					
Low education	1				1		1					
Medium education	0.38	***	0.39	**	0.69	**	0.78					
High education	0.13	***	0.00		0.32		0.00					
Father's occupation												
Not specified	1.28		2.47	*								
Professionals	1		1									
Clerks/services	0.99		1.77									
Workers	1.23		2.11									
Agriculture	1.19		1.79									
Religiosity												
Not religious					1.24	***	1.41	**	1.11		1.27	*
Religious					1		1		1		1	
Current educational status												
Enrolled in education					0.17	***	0.12	***	0.15	***	0.10	***
Low education					1		1		1		1	
Medium education					0.69	***	0.40	***	0.52	***	0.32	***
Residence with parents												
Still in parental home									1		1	
Left parental home									13.27	***	4.92	***
Calendar period												
Before the fall of the socialist regime									1		1	
After the fall of the socialist regime									1.23	**	1.56	**

Note: *** significant at 1% level; ** significant at 5% level; * significant at 10% level.

We can conclude that low education (less than lower secondary) of both respondent and her mother's, a childhood family environment characterized by the presence of only one parent, having many siblings, not being religious and having Roma ethnicity are factors that strongly increase the risk of becoming mother at young ages (before age 20). For nonmarital young motherhood, Roma ethnicity, not being religious and personal educational attainment are the factors that mostly favor this behavior. We have also found that teenage motherhood is more prevalent after the change of the political regime.

The association between early motherhood and adult outcomes

Amongst the adult outcomes that we have examined, the educational attainment shows the highest association with early motherhood: compared with women who gave birth after age 20, early mothers are 4.83 times more likely to have attained less than upper secondary education by the moment of the interview. They are also by 68% more likely to have a low household income and by 62% less likely to work. Considering the lack of a telephone a measure of poverty, early mothers are 50% more likely to be in this situation than older mothers. The higher odds ratios for childless women for low household income and no telephone may be because these are mainly young women who did not yet entered the labor market.

Concerning the outcomes related to family life, we see that early child bearers are more likely to live without a partner or not to be in a marriage than women who gave birth later. The high odds for childless women can be interpreted, again, that these women are mainly young and without a co-resident partner. Among women living in a partnership, the early mothers are more than two times more likely to have a low educated partner than older mothers.

The two outcomes connected with health, having a poor health status and a poor emotional well-being, show higher odds for women who had a teen birth, compared with those who became mothers at older ages. Childless women also show higher odds for these outcomes, compared with women who became mothers after age 20. This may be because, on one hand, the childlessness is a result of health problems in case of physical health, and, on the other hand, having children is an important precondition for happiness and life satisfaction of Romanian women (Hărăguş, 2008).

Table 5. Odds ratios for experiencing different adult outcomes, effects of age at first birth, controlled for background characteristics

Adult outcome	Age at first birth			
	Before age 20	After age 20	No birth	R^2
Less than upper secondary education	*4.83*	1	1.22	0.328
Low household income	*1.68*	1	*1.62*	0.141
Not working	*1.62*	1	*1.46*	0.085
No telephone	*1.50*	1	0.85	0.17
Not living with a partner	*1.51*	1	*17.77*	0.412
Present partnership status other than marriage	*1.53*	1	*15.08*	0.392
Having a partner with no qualifications (for those living with a partner)	*2.35*	1	0.94	0.244
Poor physical health	*1.84*	1	*2.67*	0.125
Poor emotional well-being	*1.53*	1	*1.81*	0.047

Note: Controlled for the type of residency where the woman grew up, whether she lived with both parents throughout her childhood, number of siblings, mother's education, father's occupation, cohort, and Roma ethnicity. The figures in italics show statistically significant results, for 10% level at least.

Conclusions

We have approached the issue of early motherhood from a life course perspective, in our attempt to go beyond the simple connection with the risky sexual behavior during adolescence. The literature suggests that the timing of childbearing is strongly influenced by women's experiences during childhood, by

socioeconomic characteristics of the family of origin, as well as by characteristics of family environment. On the other hand, the scientific literature draws attention on the consequences of a teenage birth on the subsequent life course of woman. Having access to a rich retrospective database, that of the Generations and Gender Survey, we were able to investigate this behavior in detail.

We found great variation in the partnership context of motherhood by age at first childbearing: 18% of all births of women under age 18 appeared before the first union, while the proportion is smaller for older ages. 19% of the earliest births appeared within first cohabiting union, a share much higher than for births of women above age 20 (4%). Very early childbearing (before age 18) appear mostly outside marriage in urban areas (61%), and mainly inside marriage in rural areas (63%).

We analyzed the impact of different characteristics of family of origin on the timing of first birth using event history analysis, namely the piece-wise constant exponential models. Socio-economic and educational resources during childhood are important for women's future family related behaviour and we used two covariates that captured the availability of such resources: the type of residence (urban vs. rural), and whether the woman had lived with both parents during her childhood. Usually, the absent parent is the father and this means the lack of significant resources for the daily care responsibilities, for the involvement in child activities, for the financial situation or for emotional support. The presence of only one parent may also mean less control and supervision for the child, and the single mother family model can be easier embraced by the child. Another indicator of family's control over the respondent's behaviour during childhood was the number of siblings she had, assuming that more siblings meant less control from behalf of the parents. We also assumed that women that had come from a bigger family would develop a higher family orientation, so earlier family-related transitions. Mother's education and father's occupation were used as measures of the human capital of the family of origin, and Roma ethnicity captured a series of socio-economic, educational and cultural characteristics. Based on results from the research in the field, our hypothesis was that women who grew up in more disadvantaged family environments (rural areas, larger families, not living with both parents, low education of mother, not prestigious occupation of father, and Roma ethnicity) would show higher risks of early childbearing, and we expected to find the same influences for the risk of having an early nonmarital birth.

We also introduced in our models covariates accounting for personal characteristics. First was religiosity and we expected less religious women to be more prone to early start of the sexual life and, consequently, more at risk of the early childbearing. The second personal characteristic used in our models was the current educational attainment, and our hypothesis was that being enrolled in education to highly reduce the risk of having a teen birth, and for women out of education, that more education was less likely to favor a teenage birth.

In line with the results of previous research on United Kingdom and United States, our findings show a negative impact of background characteristics on the risk of early childbearing. We found that living in a rural area during childhood or not living with both parents, having many siblings or having a low educated mother increased the risks of having a teenage birth. Religiosity and educational enrollment or attainment were also found to have impact on early motherhood risk: not being religious increase the risk, and being enrolled in education or having secondary education or more strongly lowers the risks. Of course, other factors would have been important in our analysis, such as information about the respondent's mother's timing of childbearing, but this was not available in our data set; or about educational test scores or personality traits during adolescence, information which is not available in a retrospective survey.

In order to evaluate the effects of early childbearing on the subsequent adult life, we examined several outcomes connected with adult social exclusion or family life, such as the level of education attained, the household income, activity status, existence of a co-resident partner, type of living arrangement, and if there was a partner, his educational attainment. We had also two outcomes connected with health: physical health and emotional well-being. We wanted to see whether the existence of a teenage birth in the woman's life course was associated with adverse adult outcomes. The most marked differences appeared for educational outcome: 87% of women who gave birth before age 18 and 58% of those who became mothers between age 18 and 20, did not achieved any qualifications (attained less than upper secondary education) during their life course, compared with only 22% of older mothers.

We investigated the association between the existence of an early births and different (adverse) adult outcomes by means of logistic regression, controlling for background characteristics such as the type of

residency where the woman grew up, whether she lived with both parents throughout her childhood, number of siblings, mother's education, father's occupation, cohort, and Roma ethnicity. Our results indicate that the educational attainment shows the highest association with early motherhood: compared with women who gave birth after age 20, early mothers are almost five times more likely to have attained less than upper secondary education by the moment of the interview. They are also by 68% more likely to have a low household income and by 62% less likely to work. Considering the lack of a telephone a measure of poverty, early mothers are 50% more likely to be in this situation than older mothers. Concerning the outcomes related to family life, we saw that early child bearers were more likely to live without a partner or not to be in a marriage than women who gave birth later. Among women living in a partnership, the early mothers are more than two times more likely to have a low educated partner than older mothers.

We have examined only a facet of the socioeconomic and family adult outcomes, taking into consideration only the age at first birth as an explanatory factor and controlling for a limited number of background characteristics. There are many other variables that should be controlled for, especially for experiencing poverty during childhood, which have been showed to have great impact on adult outcomes (Hobcraft and Kiernan, 1999), as well as for educational test scores or behavioral indicators (aggression, anxiety), or parents' interest in schooling, to mention just few of them. Unfortunately, these data are not available in the Generations and Gender dataset.

Although it is difficult with our type of data to determine the extent to which teen birth is the cause for later outcomes in life, we have found association between experiencing early motherhood and confronting with several adverse adult outcomes such as having low education or low household income, not being employed or not owning a telephone (as a measure of poverty). Low education, either mother's or her own is a factor that favors teenage motherhood, with all that implies for subsequent occupational careers and financial remuneration. Teenage motherhood is associated with disadvantageous childhood background and very young mothers are likely to have insufficient resources to invest in themselves and in their children, and therefore it is possible that the pattern of disadvantage to be transmitted to their own children, and the cycle to be renewed. That is why we believe that our results might constitute a reason for policy makers to give more attention to the issue of teenage births.

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