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# Determinants of early sexual initiation in the Pelotas birth cohort from 1982 to 2004-5, Southern Brazil

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## ABSTRACT

**OBJECTIVE:** To analyze social determinants of early sexual initiation among young adults from a birth cohort.

**METHODS:** Individuals from the 1982 birth cohort (N=4,297) were interviewed in 2004-5, city of Pelotas, Southern Brazil. Early sexual initiation ( $\leq 13$  years of age) was the outcome. Descriptive and stratified analyses were performed according to sex. Variables analyzed were family income in 1982, ethnicity, young adult's level of education and change in income (between 1982 and 2004-5). Ethnographic data were used to complement result analysis.

**RESULTS:** Prevalence of early sexual initiation was higher among black and mixed men, and those with low level of education and low family income in 1982 and 2004-5. More traditional male sexual role requirements, such as virility and sexual initiative, showed more repercussion and adherence from an early age among men. Young family women with higher income and level of education tended to delay their sexual initiation. Imposition of traditional values was found to influence early sexual initiation among men and women with lower level of education and income.

**CONCLUSIONS:** Results found re-established the economic factor as a determinant of behavior or uses of sexuality for both sexes. To focus on political efforts that help the economically disadvantaged to have opportunities and egalitarian future perspectives is an important strategy for health outcomes.

**DESCRIPTORS:** Adult. Sexual Behavior. Sexuality. Sexual and Reproductive Health. Gender Identity. Cohort Studies. Brazil.

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## INTRODUCTION

Since the late 1980's, the field of public health has covered important aspects of adolescent behavior, such as sexual ones.<sup>1,2,4</sup> With the appearance of AIDS and concern to turn prevention into constant care for sexual-affective relationships among adolescents,<sup>13</sup> the focus on teenage sexuality sought to include possibilities of intervention and behavior management, as well as the understanding of adolescent life trajectories, specific outcomes, and their socio-cultural meanings.

Debates over sexuality in public health emphasize important socio-cultural elements, related to life-cycle events and gender, supporting the argument that it is not limited to individuals' physical and intimate involvement exclusively.<sup>6</sup> Recent investigations of age of sexual initiation and the way adolescents

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make their choices and view sex<sup>a</sup> have provided key resources to understand some sexual and reproductive behavior patterns for adolescent sexual and reproductive health.<sup>7,8,10,13</sup> Age of sexual initiation has been an important indication of how teenagers deal with the socio-cultural demands of sexuality, even when Brazil's regional differences are considered. All information, including what refers to preventive and contraceptive behavior, offers support to health programs.

Considering sexuality as the exercise of building social inclusion strategies and practices learned by socializing – made distinct by socio-cultural, subjective and familial contexts – it becomes essential to reflect on some inequalities between female and male sexual initiation.<sup>10</sup> The distinction between sex and gender has revealed interesting differences, in terms of both sexual initiation and sexual trajectories throughout life.<sup>10</sup> Men and women incorporate a series of roles and attributes that are valued in their social context, adopting important postures in their sexual-affective trajectories.<sup>8</sup>

In Brazil, sexual initiation begins to happen at about 14-15 years of age.<sup>10</sup> Thus, many research interests are associated with the fact that adolescent behavior may affect a healthy adult life negatively, providing further evidence of the discrepancy between the beginning of sexual life and that of conjugal life.<sup>6</sup> In addition, the risk of sexually transmitted infections and lack of or improper use of contraceptives are important adolescent health aspects, especially among those who begin their sexual life early.

This article aimed to analyze social determinants of early sexual initiation among adolescents, seeking to understand some of the relationships that emphasize differences in sexual-affective behavior of young women and men.

## METHODS

All participants of the 1982 birth cohort, in the city of Pelotas, Southern Brazil, were sought in 2004-2005. A total of 4,297 adolescents, aged 23 years, were found and interviewed.<sup>11,12</sup> Methodological details of the cohort have been previously described.<sup>3,10</sup> Two standardized instruments were applied: one of them, mediated by an interviewer (face-to-face), was about family income in 1982, change in family income (1982 to 2004-2005) and skin color (self-reported), the other one was self-applied and anonymous. In the case of the self-applied instrument, closed questions were asked to investigate alcoholic beverage consumption, drug use, perceptions of family relationships, sexuality and sexual-affective behavior, once these are intimate subjects that may inhibit interviewees, when interviewers

are present. Questionnaire included questions about the context of first sexual intercourse, most recent intercourse, and general dating and sexual relationships, as well as contraceptive methods used in the first and most recent sexual intercourse. Finally, questions about pregnancy, abortion, and intention to be pregnant complemented the investigation.

In addition to the questions about sexual initiation of the self-applied questionnaire, some variables selected describe early exposure and its influence on outcomes of interest (income, skin color, change in income). Among these variables, family income in the year of birth, for example, determines life conditions in childhood or later in life, such as access to information and search for health services.

The cut-off point for early sexual initiation was defined as 13 years. This choice of age was based on the literature, as 13 years is below the mean age when young men and women have their first sexual intercourse in Brazil.<sup>1,5,10</sup>

Adjusted analysis was performed, considering a hierarchical model of the relationship of possible factors associated with early sexual initiation. According to this model, socioeconomic variables (skin color, family income) were considered as possible distal factors in outcome determination, and included on the first level of analysis. The variable "change in income" was included on the second level and assessed the effect of the socioeconomic situation throughout life. This variable was constructed from the information about family income in 1982 and 2004-2005. Thus, it was not adjusted for income at birth, as used in its construction, but rather for skin color. In this variable, interviewees were classified into the following categories: always poor (those in the lower third of family income range, both in 1982 and 2004-2005); poor → not poor (lower third in 1982 to middle/upper third in 2004-2005); not poor → poor (middle/upper third in 1982 to lower third in 2004-2005); and never poor (middle/upper third in 1982 and 2004-2005).

The variable "adolescent's level of education" was adjusted for skin color and family income and included on the third level of analysis. Level of education of cohort individuals was gathered for the first time in 2004-2005 and, despite its limitations, it was considered as the proxy of the influence of level of education on the outcome, once this was not a retrospective analysis.

Analysis of (early or late) determinant effects on health or health behavior throughout time per se does not explain the influence of some mediating factors, such as socio-cultural ones. Thus, results from an ethnographic study with some of the 1997 cohort adolescents, aged 15

<sup>a</sup> BEMFAM. Adolescentes, jovens e a Pesquisa Nacional sobre Demografia e Saúde: um estudo sobre fecundidade, comportamento sexual e saúde reprodutiva. Rio de Janeiro; 1999.

years at the time – life history, informal conversations and direct observations – were added to the quantitative analyses.<sup>11</sup> These qualitative data, though exact and brief, enable statistical associations with adolescents' life trajectories to be understood.

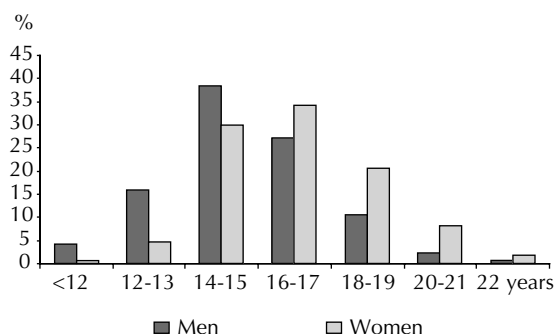
Oral informed consent was obtained from those responsible for the children in the early stages of the study, in 1982-1986. This was a common practice at the time, when there was not an ethics committee at the *Universidade Federal de Pelotas*. In more recent stages, the University's Research Ethics Committee, affiliated to the *Conselho Nacional de Ética em Pesquisa – CONEP* (National Research Ethics Council), approved the study, and written informed consent was obtained from participants.

## RESULTS

In the 2004-2005 follow-up visits, 32% of adolescents lived with both parents and 41% lived with the mother only; about 40% of adolescents' mothers and fathers did not complete high school. Whereas 46% of young women reported they were married (or lived with a partner) and that the last sexual intercourse had occurred with their husband, 68% of young men were single and 40% of them had had their last sexual intercourse with a girlfriend. The majority (62.4%) of women reported their sexual initiation had occurred with men, who had been one to three years older. Young men (68.5%) mentioned this event had happened with women who had been younger or the same age.

By distinguishing differences or similarities between adolescents of both sexes, the first inequalities observed are in the age of sexual initiation. Even though the majority of adolescents of both sexes begin their sexual life between 14 and 17 years, a greater number of men began before women (Figure).

Table 1 reveals that skin color, family income in the year of birth, change in family income pattern (1982 to 2004-2005) and level of education showed statistically



**Figure.** Age of first sexual intercourse, according to sex. Pelotas, Southern Brazil, 1982 to 2004-5.

significant differences for early sexual initiation. Early beginning occurred when family income remained low in the year of birth and throughout life. In terms of level of education, results revealed a linear trend for outcome – men and women who showed early sexual initiation had fewer years of education. However, prevalence of early initiation was always higher among men.

Some population groups appeared more frequently among adolescents with early sexual initiation than in the sample as a whole. The following were among these: black and mixed people (28%), those with low level of education (33%) and whose families were in the two poorest income categories (up to three monthly minimum wages – 46%), and had no increase in income (always poor – 28%).

Table 2 shows results from adjusted analysis. Prevalence of early sexual initiation remained associated with skin color, income in 1982, change in income, birth weight and adolescent's level of education. Male adolescents with low level of education were three times more likely to begin their sexual life before 13 years of age than those with higher level of education, even after adjustment for poverty. Young men who remained in the poorest income category from their year of birth to the age of 23 were also more likely to begin their sexual life early.

Qualitative data revealed that the distinct male history of sexual initiation was due to socio-cultural demands, such as having sex earlier. The first sexual intercourse was involved with a set of elements and experiences that shaped part of an individual's social and sexual identity. For the cohort adolescents, the first sexual intercourse was one of the events that show the process of entering adulthood and also a landmark of new possibilities to use the body in relationships with others.

In general, qualitative data showed that the closest social and familial network reflected and maintained these demands, forcing men and women to adopt sexual values, roles and identities. This behavior could be more or less "precocious" according to the group's moral and social values. For men, parental concern about their sexual preferences started before adolescence. Reflections of this imposition and pressure to have an early sexual initiation showed more repercussion and adherence among interviewees with lower family income and level of education. The family needs of these adolescents also forced them to begin working at an early age, with the responsibility for their own support and that of their family members. As a result, they showed some types of behavior, including sexual behavior, years in advance. Education became an uncertain investment to guarantee better individual and family life conditions in the short term. The adolescent's studies, as a consequence, become less valued than the financial return that they could have when working, reducing their chances of completing high school.

**Table 1.** Estimated prevalence of early sexual initiation, according to socioeconomic and demographic variables. Pelotas, Southern Brazil, 1982 to 2004-5.

Variable	n	%	Men		Women	
			n	%	n	%
Skin color***		<0.001****		<0.001****		1.00****
White	3193	10.9	1627	17.0	1566	4.7
Black or mixed	886	16.7	457	28.0	429	4.7
Family income – 1982 (MMW)**		<0.001****		<0.001****		0.002****
≤ 1.0	833	15.8	424	24.3	409	7.1
1.1 to 3.0	2091	14.0	1076	22.1	1015	5.4
3.1 to 6.0	792	9.0	410	13.9	382	3.7
6.1 to 10.0	249	8.4	127	14.2	122	2.5
>10.0	241	3.7	121	5.8	120	1.7
Change in income (1982 → 2004-5)**		<0.001****		<0.001****		<0.001****
Has always been poor	691	17.5	324	28.4	367	7.9
Not poor → poor	702	14.2	334	22.5	368	6.8
Poor → not poor	648	16.7	349	25.5	299	6.4
Has never been poor	2185	9.1	1160	14.6	1025	2.9
Adolescent's level of education (years)**		<0.001****		<0.001****		<0.001****
0-4	311	33.1	182	40.7	129	22.5
5-8	1197	17.9	710	25.2	487	7.2
9-11	2057	8.7	1005	14.6	1052	2.9
≥12	661	5.0	760	9.3	391	2.0
Total***	4226	12.5	2167	19.6	2059	5.0

MMW: Monthly minimum wage.

\* 147 interviewees reported they were either Asian or indigenous.

\*\* Of all the 4,297 interviewees in 2004-2005, there was lack of information about 91 people (2.1% of interviewees).

\*\*\* There was no information about early sexual initiation for 71 interviewees.

\*\*\*\* Chi-square test for homogeneity.

\*\*\*\*\* Chi-square test for linear trend.

Quantitative analyses showed that demands for earlier male virility experimentation and proof, confirmed by sexual intercourse, distanced them from the feminine image and behavior they desired. They were forced to move away from this as soon as possible, marking not only physical growth, but also masculinity, “man’s own virility”.

Among women, the situation was similar to that of men, though prevalence of early sexual initiation was lower. Women with low level of education and income (in 1982) and whose income did not increase until 2004-2005 were more likely to begin their sexual life early (Table 3). Economic determination was found to be greater ( $p=0.003$ ) in the female group, delaying sexual initiation of those with better income and level of education past the age of 17 years. Skin color was not statistically significant in the crude and adjusted analyses, in terms of the outcome. Among young women in the cohort, 5% had their sexual initiation until the age of 13.

Pregnancy and the number of partners were also investigated (data not shown). Men reported they had had more partners (76% had had four or more), whereas 63% of women had had up to three sexual partners. In terms of pregnancy, among the 22% of men with children, 35% began their sexual life before the age of 13; among the 39% of women with children, 59.6% had an early initiation.

Qualitative data showed, however, that young women with low level of education and income eventually had less social power and perspective of higher education in the future, causing matrimony and maternity to become the main ways to enter society and achieve personal value. Little education reduced their opportunities to enter and remain in the formal job market. Thus, having a partner enabled them to change status in their social milieu, achieving more autonomy within the restrictions of their context. More intimate touching and satisfaction of their partner’s sexual desires at an earlier age were reported by adolescents with lower economic and education levels.

**Table 2.** Crude and adjusted analyses of effects of independent variables on prevalence of male adolescents' early sexual initiation. Pelotas, Southern Brazil, 1982 to 2004-5.

Variable	Crude analysis			Adjusted analysis*		
	PR	95% CI	p	PR	95% CI	p
Skin color			<0.001**			<0.001**
White	1	-		1	-	
Black or mixed	1.65	1.38;1.98		1.48	1.23;1.79	
Family income – 1982 (MMW)			<0.001***			<0.001***
≤1.0	4.20	2.01;8.79		3.57	1.70;7.50	
1.1 to 3.0	3.82	1.85;7.92		3.48	1.68;7.22	
3.1 to 6.0	2.40	1.13;5.13		2.32	1.08;4.95	
6.1 to 10.0	2.45	1.06;5.66		2.42	1.05;5.60	
>10.0	1	-		1	-	
Change in income (1982 → 2004-5)			<0.001***			<0.001***
Always poor	1.95	1.56;2.43		1.72	1.36;2.19	
Not poor → poor	1.54	1.21;1.97		1.51	1.18;1.93	
Poor → not poor	1.75	1.39;2.20		1.54	1.22;1.96	
Never poor	1	-		1	-	
Adolescent's level of education (years)			<0.001***			<0.001***
0-4	4.39	2.91;6.63		3.15	1.95;5.08	
5-8	2.72	1.84;4.04		2.02	1.29;3.17	
9-11	1.58	1.06;2.36		1.25	0.80;1.94	
≥12	1	-		1	-	

MMW: Monthly minimum wage.

\*Variables on the first level (ethnicity and family income in 1982) were adjusted among themselves and remained in the analysis model, if  $p < 0.2$ . Change in income was adjusted for ethnicity; adolescent's level of education was adjusted for ethnicity and family income.

\*\* Wald test for heterogeneity.

\*\*\* Wald test for linear trend.

In contrast, women from higher-income families tended to delay marriage or cohabitation, seeking new forms of individualization by valuing their academic-professional education, and pursuing better financial stability. Feminine trajectories followed models linked to their social context, with higher education and financial independence. Even if they did not achieve professional success, starting a new family and beginning their sexual life until the age of 13 were not included in their list of possibilities.

## DISCUSSION

This study had some limitations related to data collection. First, as the instrument was self-applied, 28.5% of adolescents did not answer all questions. Another limitation is that memory bias may occur. Adolescents were asked to answer about events that had happened years

before, even though sexual initiation is hardly forgotten. Moreover, it should be considered that some responses may correspond to social expectations of gender and youth, such as the number of sexual partners mentioned by men. In this sense, 99% of men and 98% of women in this study mentioned having sexual relationships with people of the opposite sex. Of all the interviewees, only 12 men and 11 women reported bisexual behavior, showing traditional socio-cultural hesitation by adolescents, and revealing the context they live in.

In general, age of sexual initiation among adolescents analyzed does not differ from those of other Brazilian states.<sup>5,9,10</sup> Throughout the years, this mean age has decreased among both sexes, though a little less in the case of women.<sup>a,b</sup> In the 1950's, women would begin their sexual life at about 20.5 years of age; in 1975, at 18.6 years; and in 1996, at 16.4 years.<sup>5</sup> From 1998

<sup>a</sup> Ferraz E, Ferreira IQ. Início da atividade sexual e características da população adolescente que engravida. In: Vieira EM, Fernandes MEL, Bailey P, McKay A, organizadores. Seminário gravidez na adolescência. Rio de Janeiro: Associação Saúde da Família; 1998. p. 47-54.

<sup>b</sup> Melo AV, Yazaki LM. O despertar do desejo. In: Secretaria de Economia e Planejamento, Fundação Sistema Estadual de Análise de Dados, organizador. 20 anos no ano 2000: estudos sócio-demográficos sobre a juventude. São Paulo: Fundação Sistema Estadual de Análise de Dados; 1998. p. 119-25.

**Table 3.** Crude and adjusted analyses of effects of independent variables on prevalence of female adolescents' early sexual initiation. Pelotas, Southern Brazil, 1982 to 2004-5.

Variable	Crude analysis			Adjusted analysis*		
	PR	95% CI	p	PR	95% CI	p
Skin color			1.00**			0.50**
White	1	-		1	-	
Black or mixed	1.00	0.62;1.62		0.84	0.51;1.40	
Family income – 1982 (MMW)			0.001***			0.003***
≤1.0	4.25	1.03;17.58		4.19	0.98;18.00	
1.1 to 3.0	3.25	0.80;13.16		3.19	0.77;13.18	
3.1 to 6.0	2.20	0.51;9.54		2.19	0.50;9.61	
6.1 to 10.0	1.48	0.25;8.68		1.44	0.25;8.25	
>10.0	1	-		1	-	
Change in income (1982 →2004-5)			<0.001***			<0.001***
Always poor	2.70	1.64;4.44		2.71	1.61;4.57	
Not poor → poor	2.32	1.38;3.89		2.28	1.36;3.83	
Poor → not poor	2.17	1.24;3.80		2.31	1.28;4.14	
Never poor	1	-		1	-	
Adolescent's level of education (years)			<0.001***			<0.001***
0-4	10.99	5.15;23.43		11.24	4.48;28.23	
5-8	3.51	1.65;7.49		3.44	1.36;8.70	
9-11	1.44	0.67;3.11		1.34	0.57;3.17	
≥12	1	-		1	-	

MMW: Monthly minimum wage

\*Variables on the first level (ethnicity and family income in 1982) were adjusted among themselves and remained in the analysis model, if  $p < 0.2$ . Change in income was adjusted for ethnicity; adolescent's level of education was adjusted for ethnicity and family income.

\*\* Wald test for heterogeneity.

\*\*\* Wald test for linear trend.

to 2004-2005, mean age of adolescents' first sexual intercourse (aged 16 to 24 years) was 15 years among men and 15.9 years among women.<sup>5</sup>

In the city of Pelotas, women at about 23 years of age revealed more traditional female positions, when compared to men of the same age. Results showed that adolescents with more economic difficulties throughout life and low level of education had an earlier sexual initiation, whose demands of the familial and social context were to invest in the future that started before their studies were completed. Some of these results were also found by other studies, such as the multi-center study performed with Brazilian adolescents in three capitals (Porto Alegre, Salvador and Rio de Janeiro).<sup>9</sup> Among economically disadvantaged adolescents, relationships with sexual-affective partners are a constant practice, given the responsibility and family demands to behave as so-called "adults" at an earlier age, which includes their sexual initiation. Thus, these results re-establish the issue of economic aspect as a determinant of behavior towards or uses of sexuality among women and men.

In this regard, sexual and reproductive health policies and actions aimed at adolescents face broader issues to seek less vulnerable behavior towards sexually transmitted diseases and pregnancy, for example. However, little has been achieved to encourage adolescents of both sexes to question gender norms or stricter patterns, such as masculinity, which forces men who are less educated and come from poorer families to begin their sexual life prematurely. Current campaigns seek to encourage women to carry and demand condom use for safe sex, causing the focus of sexuality to turn to pregnancy prevention for women and sexually transmitted diseases for both sexes. Nonetheless, due to the value given to virility associated with sexuality – the earlier one begins one's sexual life, the more qualified one seems to be – there are several related types of behavior that require adolescents to make choices and decisions that are not always easy at the age of 15, such as the use of condoms. In this sense, public health campaigns that promote, for example, adolescent sexual abstinence or pregnancy protection are not within the cultural and socio-historical context of gender construction. Such campaigns rely on the change, which has happened in the last decades, in male and female sexual behavior, as

if this guaranteed, in practice, sexual equality in several senses and in all social strata. To develop adolescents' critical approach towards their positions and demands concerning sexuality may lead them to question the unequal positions in which they are placed and which

they maintain throughout their lives. In addition, to focus on political efforts that help the economically disadvantaged to have egalitarian future perspectives and opportunities continues to be an important, though complex, strategy for health outcomes.

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