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**Motivational determinants of teenage  
pregnancy in a deprived area of Recife, Brazil**

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## **Abstract**

*The study described in this paper investigated attitudinal factors that might explain why, from the standpoint of some teenage women, exposure to the risk of parenthood might be seen as rational. A questionnaire survey in the favelas of a Brazilian city allowed a comparison of the attitudes and characteristics of three categories of teenage women: virgin, sexually active but never pregnant, and pregnant at least once. The findings show that, independently of the effects of age and education, the two sexually experienced groups are more likely to have positive attitudes to childbearing. The results point to the importance of enhancing motivation to avoid pregnancy by sharpening public awareness of the effects of teenage pregnancy on the life chances of the mother and her offspring, and of widening the options available.*

## **INTRODUCTION**

In Brazil, as in other developing countries, national fertility has declined rapidly but there has been a steep increase in the fertility of unmarried teenage women. This is despite the fact that Brazilian teenage women of today are more likely than their mothers to live in urban areas, to have attended school and reached secondary level, to be in the labour force, and to have access to contraception.

It is a popular view that most births to teenage mothers, especially single teenage mothers, are a consequence of ignorance and unfavourable circumstances and would be avoided if the mother knew how to avoid conception and if the means of doing so had been available. The proposition that intercourse without contraception could be rational for some teenage women has not been widely entertained, though it has received some attention (McAnarney, 1985; Jones et al., 1986; Zabin and Hayward, 1993). The specific objective of the study described here was to investigate attitudinal factors that could help to explain why, from the standpoint of teenagers in the favelas of Brazil, not taking great care to avoid conception might be seen as rational.

The study took the form of a questionnaire survey that allowed a comparison of the attitudes and other characteristics of three categories of teenage women: virgin; sexually active (had experienced sexual intercourse at least once) but never pregnant; and pregnant at least once.

## **METHOD**

### **Sample**

The sample comprised teenage women in three squatter settlements – called favelas - of Recife, a city in the Northeast of Brazil. The chosen favelas were established communities with a water supply and reasonable sewage system. Housing conditions had been gradually improving and most of the houses were made with bricks. Although income was low and unemployment and under-employment common, adolescents in the area were not living in extreme poverty. A low-income area was chosen for the study

because it was known that teenagers in these areas had the highest prevalence of teenage pregnancy and the highest percentage of single mothers. Because the use of contraception was not common among teenagers in the study area, and abortion rare for first pregnancies, the initiation of sexual life usually entailed a substantial risk of conception and childbearing.

The questionnaire was administered to a sample of 949 women aged 15-19 years in the favelas - 96 per cent of the respondents identified as eligible in a pre-survey census of the area. Using the interview data, respondents were divided among the groups to be compared as follows: virgin - 81 per cent; sexually active women who had never been pregnant - 7 per cent; and women who had already been pregnant - 12 per cent. In what follows, the last two categories will be described as the 'sexually active' and the 'ever-pregnant' respectively. Nine per cent of the women in these two categories, but none in the virgin group, were married or cohabiting at the time of the survey.

### **Conceptual framework**

Figure 1 presents the conceptual framework of the study. At the core of the framework is the model of planned behaviour developed by Fishbein and Ajzen (Fishbein 1972; Ajzen and Fishbein 1973, 1980; Ajzen 1988). The model assumes that human beings are usually rational in making their decisions and engaging in a given behaviour, and will therefore act in accordance with their preferences. The Ajzen (1988) version of the model recognizes the following three determinants of intention and thus of behaviour: the individual's personal attitudes affecting the behaviour; the influence of social pressure in performing or not performing the behaviour; and the individual's perceived behavioural control over the outcome in question. One earlier application of the model to contraceptive behaviour among adolescents found that both personal attitude and (though less so) others' expectations contributed significantly to the decision-making process (Adler et al., 1990). In another application, Jorgensen and Sonstegard (1984) found that parental influence was more important than peer influence in adolescents' contraceptive behaviour.

In Figure 1 the Ajzen model is embedded in an expanded framework based on one proposed by Simons (1991) that also makes provision for other variables believed to influence contraceptive behaviour directly or through the planned-behaviour variables.

### **Variables and scales**

The dependent variable is exposure to risk of conception. The outcomes of different exposure experience are provided by the three sub-groups of the sample: virgin, sexually active, and never-pregnant. The independent variables are described below in the order in which they appear from right to left across the figure. The biographic and personality variables have been used by a number of other investigators in studies of teenage sexual behaviour.

An unusual feature of the study is that, in the case of most variables, including variables measured by established scales, responses were subjected to a principal components analysis. One purpose of this procedure was to confirm that the dimension underlying

constituent measures of the variable of *interest* was what it had been assumed to be. The other purpose was to create a component that could be used as a unidimensional scale, scores on which could be used instead of scores on the original measures. The score on the component is produced by a regression analysis that estimates the score as a weighted sum (standardized values adjusted by factor score coefficients) of the scores for all variables present in the analysis. Most of the components accounted for substantial proportions of the variance.

### ***Planned-behaviour variables***

Immediately to the left of the outcome variable are the three variables based on the Ajzen model of planned behaviour. They are measured in the way he prescribes.

*Attitude towards childbearing.* This is a function of the individual's set of beliefs about the consequences of childbearing, with each belief weighted by the value the adolescent attaches to that consequence. The respondent's expectations about the consequences of teenage childbearing were measured by a set of nine questions based on the first author's previous work with young people in the area. Respondents who had been pregnant were asked to respond as they thought they would have done before they became pregnant. For each possible consequence, the respondent was asked to indicate its perceived likelihood and its perceived importance on 5-point scales. Principal components analysis was performed on the weighted likelihoods of each consequence (product of perceived likelihood and perceived importance) to identify underlying dimensions of the respondent's attitude to childbearing. The first component was interpreted as *expectation of the effect of childbearing on fulfilment*. The 'consequence' with the highest loading (0.77) on this component was 'To make you feel fulfilled as a woman'. The second component was interpreted as *expectation of the effect of childbearing on career*. The 'consequence' with the highest loading on this component (0.76) was 'To lessen the chance of obtaining a good job'. Both components were adopted as scales measuring attitude towards childbearing.

*Expectation of others' approval of childbearing.* Respondents indicated on a 5-point scale the extent to which they thought nine important 'others' (including mother, father, boyfriend, God) would approve (did approve) of them becoming pregnant. For each of the nine, the respondent was also asked to indicate on a 5-point scale how important it was for her to comply with that individual's wishes. Principal components analysis was performed on the perceived approval ratings weighted by the motivations to comply in each case. The first component was readily interpretable as a measure of the variable of interest. The 'other' with the highest loading (0.71) was 'mother'.

*Perceived control of conception.* Respondents indicated on three 5-point scales how easy it would be (had been) for them to obtain the pill, to use the pill, and to make sure that intercourse did not make (would not have made) them pregnant. Scores on these three measures were subjected to a principal component analysis. The first component appeared to be a measure of the variable of interest.

### *Pronatalism*

Attitude towards childbearing seemed likely to be influenced by strength of *motherhood motivation* and *family size preference*, both regarded as measures of pronatalism.

*Motherhood motivation.* To obtain a direct measure of this, the Value of Children (VOC) scale developed by Moors and Palomba (1991, 1993) was used. This consists of 7 items (for example, 'The closest relationship you can have in life is with your own children'), agreement or disagreement with which is measured on Likert scales. A principal components analysis of responses to the VOC scale produced a first component on which all the items had high loadings and which was evidently a measure of *motherhood motivation*

*Family size preference* was measured using the short version of the Coombs scale of underlying family size preference (Coombs, 1974; Coombs et al 1975; Coombs and Sun, 1978).

### *Attitudes to adolescent sex*

*Approval of sex* was measured by Likert scales based on three broad types of 'sexual philosophy' proposed by Ford (Ford, 1987; Ford and Morgan, 1989). A principal components analysis of responses yielded a first component that could be identified as measuring the variable *approval of sex early in relationship*. The 'philosophy' with the highest loading (0.8) was 'In my view sexual intercourse may take place within a steady relationship without a definite commitment to marriage'.

Also measured were adolescents' own explanation for the early initiation of sexual life – their *causal attributions* – using 14 five-point scales based on attribution theory (Kelley, 1973; King, 1982, 1983). Each scale sought the respondent's view on the importance of a possible reason (such as 'influence of female friends') why a girl might start having sex in her teens. A principal components analysis of responses produced a first component that could be identified as a measure of *importance of love and intimacy as a reason for sex in teenage years*. The items with the highest loadings were: 'She wants to know what it is like to have a sexual relationship' (0.73) and 'She wants to love and be loved by her boyfriend' (0.70).

### *Perception of social mobility*

This variable was measured in the same way as attitude to childbearing, the first of the planned-behaviour variables described above: 5-point scales elicited the perceived likelihood of each of three possible achievements, such as that of the respondent owning her own house, and three corresponding scales measuring the perceived importance of each achievement. The products of the scores for 'likelihood' and 'importance' were subjected to a principal component analysis. All three of the variables thus created had high loadings on the first component, which was then adopted as a measure of *perception of social mobility*.

### ***Personality characteristics***

*Self-esteem.* This variable was measured using 5-point Likert scales for the 10-item self-esteem measure developed by Rosenberg (1965) for use with adolescents. Although designed as a Guttman scale, it has been "...frequently scored according to the Likert format and appears to yield results similar to those appearing when the Guttman procedure is used" (Rosenberg 1986, p.295). A principal components analysis produced a first component with high loadings of all the negative items in the scale (the highest, 0.70, was for the item 'All in all, I am inclined to feel that I am a failure') and this was adopted as a measure of the variable.

*Locus of control* refers to the degree of control people perceive they have over events in their lives (Rotter 1966; Levenson, 1973a, 1973b; Wallston et al., 1976, 1978; Wallston and Wallston, 1978). Those with an internal locus perceive that events are a consequence of their own behaviour, while those with an 'external' locus feel that events are beyond their control and are determined by fate, chance, or powerful others. The instrument used for the Recife study was a slightly modified version of one produced by Levenson (1973a, 1973b, 1974; Levenson and Miller, 1976). Its scales had been previously translated into Portuguese and adapted for use in Brazil by Dela Coleta (1987). A principal components analysis produced a first component with relatively high loadings for 7 of the 8 items from the Levenson 'Chance' scale and one from the 'Powerful Others' scale. This component was adopted as a measure of *belief in the dependence of events on chance*. The item with the highest loading (0.69) on it was 'It is not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune'. The loading of items from the other scales on other components did not produce any that clearly corresponded to the other two Levenson scales or that were readily interpretable in other ways.

*Religiosity.* The following variables were used to identify the respondent's religiosity: whether she considered herself a religious person, reported frequency of church attendance, sum of items endorsed among such traditional beliefs as belief in God, heaven, life after death, and the devil, and the sum of items endorsed among indicators of participation in such group activities as Bible groups and community work groups. The loadings of all four of these variables on the first component produced by a principal components analysis confirmed that religiosity was the dimension underlying them. The item with the highest loading (0.81) was 'frequency of church attendance'.

### ***Biographic characteristics***

In addition to *age*, the following variables were measured.

*Perception of parental support* was measured using six 4-point scales referring to the mother's treatment of the respondent, and six to the biological father's treatment. A typical item was 'My mother/father encouraged my schooling'. The results were subjected to principal components analyses, one for the mother, the other for the father. In each case, the loading of the six scales on the first component confirmed that parental support was the dimension underlying the scales. The item with the highest loading on

the first component for both mother (0.74) and father (0.84) was 'My mother/father comforted and helped me'.

*Socioeconomic status.* The following variables were selected for use in a principal components analysis intended to produce a single dimension for this characteristic: quality of the material of the parents' house, modernity of water supply, modernity of sanitation, ownership of household possessions, and the mother's and father's level of schooling. Ownership of household possessions was measured using a 6-point scale, with points based on the prevalence of specified possessions in the homes of the sample as a whole (Ximenes, 1991). A principal components analysis produced one component that was clearly a measure of housing conditions and another that was a measure of parents' schooling. The former was adopted as a measure of *quality of parents' housing* to represent socio-economic status.

*Educational level* was measured by years of *schooling* completed.

## **RESULTS**

A number of considerations need to be borne in mind when the findings are considered. The fact that the study area is socially homogeneous limits the extent to which it is possible for many variables to differentiate between groups categorized by experience of intercourse and pregnancy. On the other hand, the same fact can confer added importance on variables which, despite that constraint, are found to differentiate between groups. Another factor likely to constrain the differentiating power of some variables, and to accentuate the importance of those that do differentiate, is that the descriptions 'virgin' and 'sexually active but never pregnant' describe categories that are usually temporary, and may be very temporary for many adolescents in the sample. Finally, when considering the findings for the ever-pregnant, it would be prudent to assume that their recollection of pre-pregnancy views and values may have been influenced by the experience of pregnancy.

A summary of the results of comprehensive bivariate analyses of the attitudinal and personality variables will be presented first, and this will be followed by details of multivariate analyses. For both types of analysis, the data used for most variables were scores on the principal components described above.

### **Bivariate analyses**

For the bivariate comparisons, mean scores were compared using the Tukey-b multiple comparison test in a one-way analysis of variance. Because groups differed in age and education and these variables were found to be related also to most of the independent variables of the study, differences in attitudinal and personality variables between the different groups were simultaneously adjusted for age and education. In the following summary, only the adjusted results are reported.

For the comparison of virgin and sexually active groups, the results showed that the sexually active were significantly more likely to believe that childbearing would be

fulfilling, to assume that important others would approve if they became pregnant, to perceive that they had control over conception, to believe that the importance of love and intimacy was a reason for a teenager to start her sexual life, and to approve of sex early in a relationship. They were less likely than virgins to perceive that they had their father's support. None of the following variables produced a significant difference between these two groups: maternal support, religiosity, self-esteem, dependence of events on chance, motherhood motivation, family size preference, expectation of the effect of childbearing on career, and perception of social mobility.

The results for the comparison of the virgin and ever-pregnant groups were similar to those of the previous comparison. The ever-pregnant were more likely than the virgin group to believe that childbearing would be fulfilling, to assume that important others would approve if they became pregnant, to perceive that they had control over conception, to believe that the importance of love and intimacy was a reason for a teenager to start her sexual life, and to approve of sex early in a relationship. As with the previous comparison, there were no significant differences between these two groups in perception of maternal support, belief in dependence of events on chance, and family size preference. But, unlike the sexually active when compared with the virgin group, the ever-pregnant differed from the virgin group in having a more optimistic expectation of the effect of pregnancy on career, a more modest expectation of social mobility, a higher score for motherhood motivation, and lower scores for religiosity and self-esteem. There was no difference between these groups in the perception of their father's support.

Finally, a comparison of the sexually active with the ever-pregnant found significant differences for only two variables: the latter were significantly more likely than the former to believe they had control over conception and more likely to have an optimistic expectation of the effect of childbearing on career.

### **Multivariate analyses**

The multivariate analysis of the data started with the application of ordinary logistic regression to investigate the predictive power of each of the variables (now including biographic characteristics) net of the effects of the others. Three equations were fitted, one for each possible group comparison. Table 1 shows coefficients and odds ratios for models containing all the variables for each of the group comparisons.

For all variables represented by scores on principal components, three levels of measurement are used: low (scores up to 33rd percentile), medium (scores from 33rd to 66th percentile) and high (scores above 66th percentile). Age is divided into five single years and education into three levels according to years of completed schooling. Grouped IN scale scores (Coombs, 1974) are used for the family size preference variable. For all variables, the reference category, with a coefficient of 0 and an odds ratio of 1, is the category assumed, from the results of the bivariate analyses or the findings of other studies, to have the lowest risk of an early pregnancy.

In addition to applying separate logistic regression equations to each of the three comparisons of two groups, multinomial logistic regression was used to analyze all the



comparisons together. In this case, the scale data were used in their continuous form. The results are shown in Table 2. The multinomial regression finds one variable significant that was not found significant in the ordinary logistic regression. Expectation of others' approval of childbearing now differentiates the sexually active from the virgins.

Some of the variables found significant in the bivariate analyses now lose their significance. Neither the sexually active nor the ever-pregnant are differentiated from the virgin group by expectation of the effect of childbearing on fulfilment or the importance of love and intimacy as a reason for early sex. The following no longer differentiate the ever-pregnant from the virgins: motherhood motivation, perceived control of conception, self-esteem, and religiosity.

Also shown in Table 2 are the results of a separate analysis in which the sample was restricted to teenagers not living with a partner at the time of interview. There are a few differences in the variables found significant when the analysis is restricted to single teenagers. Expectation of others' approval of childbearing ceases to differentiate between the groups in both comparisons, and single teenagers who prefer large families are more likely to be sexually active than virgins. When the single ever-pregnant are compared with the single virgins, the following differences from the results for the whole sample are found: schooling ceases to differentiate between the two groups but now there is a difference in housing conditions, and the ever-pregnant are more likely to have a higher score for motherhood motivation.

## **DISCUSSION**

The discussion will be focused on the findings of the multivariate analyses presented in Tables 1 and 2. Figure 1 will be used as a framework for the discussion.

Among the planned-behaviour variables, two represented the variable 'attitude towards childbearing': *expectation of the effect of childbearing on fulfilment* and *expectation of the effect of childbearing on career*. The former fails to differentiate the ever-pregnant from the virgins in the multinomial analysis and probably owes its limited effect to the fact that scores on some of the items making up the scale were high for all groups. For example, at least 70 per cent of respondents in all groups indicated that they thought having a child would make their boyfriends want to live with them.

Having optimistic expectations of the effect of childbearing on career differentiates the ever-pregnant from the virgins, for the full sample and for single teenagers. These optimistic expectations, as well as being objectively unrealistic in most cases, may reflect a reluctance to focus on the negative consequences of childbearing for career prospects. Other investigators have noted that young women who had been pregnant evaluated adolescent pregnancy and childbearing experience less negatively than those who had never been pregnant (Kalmuss et al., 1987; Paikoff, 1990).

Higher scores on the second of the planned-behaviour variables – *expectation of others' approval of childbearing* – differentiate the ever-pregnant and the sexually active from the virgins in the full sample but have no discriminatory power for the single teenagers. Presumably it is the high expectations of approval among the married and cohabiting that produce the differentiating effect of the variable for the full sample. One reason why most teenagers in the sample might have been unlikely to expect strong disapproval was produced by answers to a question about the age their mothers had their first pregnancy. It was during the teenage years for 59 per cent of the virgin group's mothers, for 68 per cent of the mothers of the sexually active, and for 79 per cent of the mothers of the ever-pregnant.

High scores on the final planned-behaviour variable – *perceived control of conception* – differentiate the sexually active from the virgin group, in both the full and restricted samples. Use of contraception at first intercourse was very low in the sample.

Both the pronatalism variables – *motherhood motivation* and *family size preference* – were expected to influence outcome directly and via the planned-behaviour variables. In the event, high scores on the motherhood variable differentiate only the single ever-pregnant from the single virgins, and high scores for family size preference differentiate the sexually active from the virgins. The distribution of respondents' scores on the Coombs scale indicated a general preference for families of small to moderate size in the sample.

Attitudes to adolescent sex were measured by the scales *approval of sex early in relationship* and (as a causal attribution) *importance of love and intimacy as a reason for sex in the teenage years*. It is clear from the results that approval clearly differentiates the sexually active and the ever-pregnant from the virgins, for the full sample and the single teenagers, but the importance of love and intimacy makes no distinction between groups. The latter did significantly differentiate the sexually active and the ever-pregnant from the virgins in the bivariate analysis, and the significance of the difference survived controls for age and education. It did not survive the addition of other attitudinal variables in the multivariate analysis.

Scores on the scale *perception of social mobility* were expected to show that those who expected to be upwardly mobile would be more likely to postpone childbearing, and the findings do in fact show that low expectations of mobility differentiate the ever-pregnant from the virgins.

The personality characteristics measured were *self-esteem*, *religiosity*, and *belief in the dependence of events on chance*. The measures used had no differentiating power, net of other variables.

Among the biographic characteristics, *age* -reaching the end of the teenage years – differentiates the sexually active and the ever-pregnant from the virgins. Schooling differentiates only the ever-pregnant from the virgins and only in the full sample. *Quality of housing conditions*, as an indicator of socio-economic status, differentiates only the

ever-pregnant single teenagers from the virgins. The remaining variable in the set of biographic characteristics is parental support. Scores on the scale *perception of maternal support* do not differ significantly between any pair of groups, but lower scores on the scale *perception of paternal support* differentiates the sexually active from the virgin and the ever-pregnant from the sexually active. Absence of a parent was widespread in the study area: only 42 per cent of the sexually active lived with both parents.

## CONCLUSIONS

The findings show that attitudinal variables have important effects that are independent of age, schooling, and socio-economic status. As expected, the two sexually experienced groups are more likely to have positive attitudes towards childbearing. Compared with virgins, the sexually active are more likely to have liberal attitudes to premarital sex, to perceive that they have control of conception, to have a preference for large families, and, if married or cohabiting, to have expectations that others will approve if pregnancy occurs. Compared with virgins, the ever-pregnant are more likely to have liberal attitudes to premarital sex, optimistic expectations about the effect of childbearing on career, but lower expectations of social mobility. They are also more likely to have a stronger motivation to motherhood (if single), less perceived control of conception, a perception of less support from their fathers, and, if married or cohabiting, the expectation of others' approval of having a child.

The implications for intervention strategy seem clear. Family planning programmes need to be directed towards encouraging and enabling teenagers – male and female - to use contraception routinely from the start of their sexual lives. The encouragement should include sharpening public awareness of the effects of teenage pregnancy on the life chances of the mother and her offspring. It is also likely to be important to enhance motivation to avoid pregnancy by creating more life options that are attractive to teenage women and that would be jeopardized by early parenthood.

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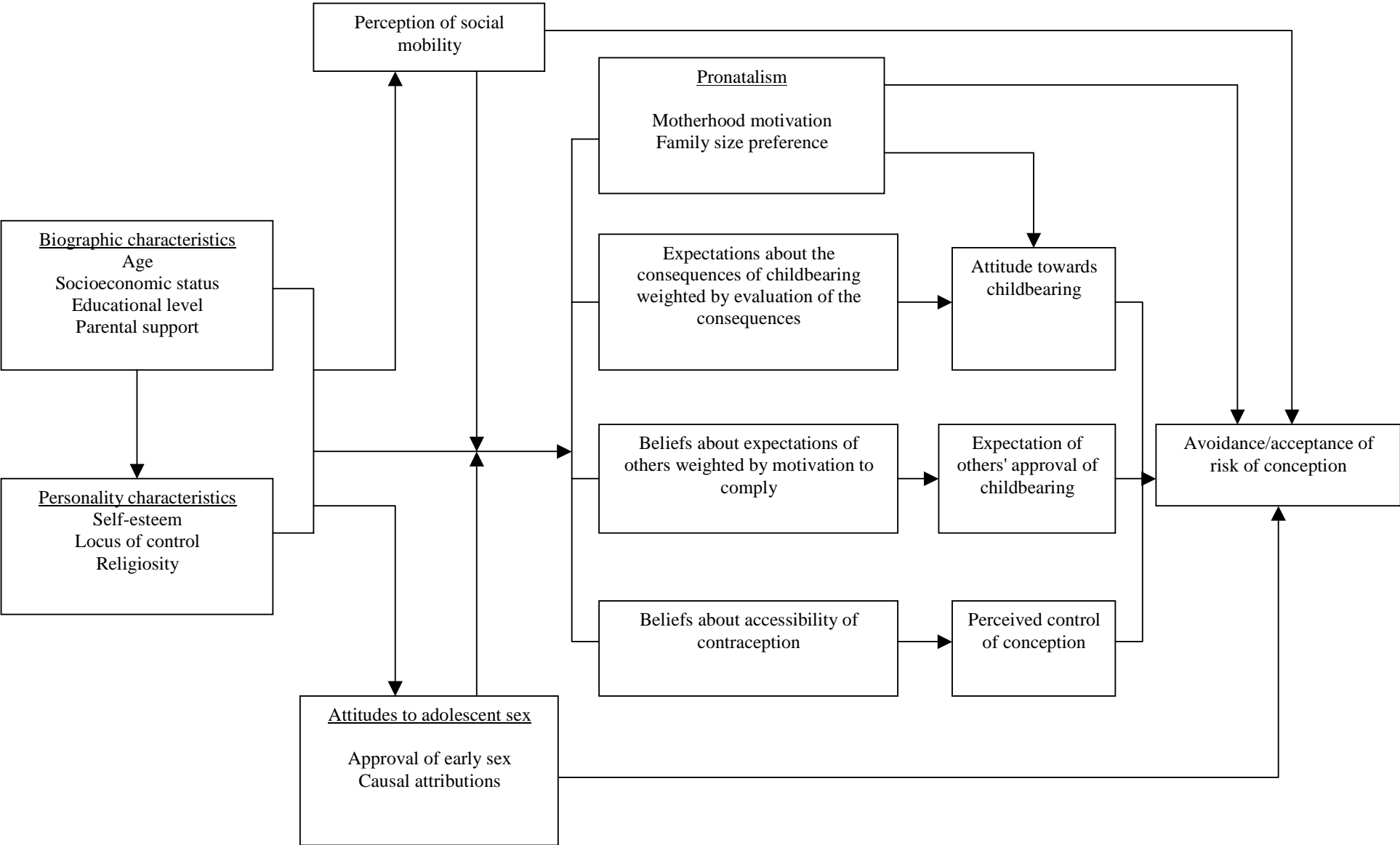
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**Figure 1.** Conceptual framework for a study of the motivational determinants of childbearing among teenagers in Recife, Brazil



**Table 1.** Results of an analysis applying logistic regression to determine variables that differentiate between groups of teenagers categorized by their intercourse/pregnancy experience

Variables <sup>1</sup>		Sex. active never-preg vs. Virgin		Ever-pregnant vs. Virgin		Ever-pregnant vs. Sex.active never-preg	
		Coefficients	Odds ratio	Coefficients	Odds ratio	Coefficients	Odds ratio
Age	15	0.0	1.0	0.0	1.0	0.0	1.0
	16	0.621	1.86	0.529	1.70	-0.415	0.66
	17	1.028	2.80	0.386	1.47	-0.593	0.55
	18	0.874	2.40	1.374**	3.95	0.441	1.55
	19	2.194***	8.97	1.814***	6.13	-0.850	0.43
Schooling	>8 years	0.0	1.0	0.0	1.0	0.0	1.0
	4-8 years	0.846	2.33	1.193**	3.30	0.636	1.89
	<4 years	1.178*	3.25	1.809***	6.10	1.524	4.59
Expectation of the effect of childbearing on fulfilment	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.778	2.18	0.351	1.42	-0.051	0.95
	High	0.570	1.77	0.890*	2.44	0.686	1.99
Expectation of the effect of childbearing on career	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.686	1.99	0.883*	2.42	0.795	2.21
	High	0.229	1.26	1.9968***	7.16	2.138**	8.48
Motherhood motivation	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.098	1.10	0.216	1.24	-0.321	0.76
	High	-0.595	0.55	0.414	1.51	1.029	2.80
Family size preference (IN scale score) <sup>2</sup>	1-3	0.0	1.0	0.0	1.0	0.0	1.0
	4	-0.127	0.88	-0.454	0.64	-0.360	0.70
	5-7	1.034*	2.81	0.296	1.34	-0.504	0.60
Expectation of others' approval of childbearing	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	-0.572	0.56	0.525	1.69	0.904	2.47
	High	0.666	1.95	1.151*	3.16	0.309	1.36
Perceived control of conception	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	1.506*	4.51	-0.196	0.82	-1.866*	0.15
	High	2.415***	11.19	0.470	1.60	-2.361**	0.09
Importance of love and intimacy as reason for early sex	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.286	1.33	0.638	1.89	0.865	2.37
	High	0.452	1.57	0.435	1.55	0.189	1.21
Approval of sex early in relationship	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	1.067*	2.90	0.438	1.55	0.218	1.24
	High	0.020***	7.54	0.996**	2.71	-0.127	0.88

<sup>1</sup> Where values are shown as 'low, medium, high', these refer to scores on principal components. Low: scores up to 33<sup>rd</sup> percentile. High: scores above 66<sup>th</sup> percentile.

<sup>2</sup> The IN scale is the Coombs scale of underlying family size preference (Coombs, 1974).



Table 1 continued

Variables <sup>1</sup>		Sex. active never-preg vs. Virgin		Ever-pregnant vs. Virgin		Ever-pregnant vs. Sex.active never-preg	
		Coefficients	Odds ratio	Coefficients	Odds ratio	Coefficients	Odds ratio
Dependence of events on chance	Low	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	-0.148	0.86	-0.527	0.59	0.535	1.71
	High	0.236	1.27	-0.621	0.54	-0.666	0.51
Self-esteem	High	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	-0.015	0.98	-0.514	0.60	-1.535*	0.22
	Low	-0.027	0.97	0.466	1.59	-0.366	0.69
Perception of social mobility	High	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.450	1.57	0.397	1.49	0.985	2.68
	Low	0.073	1.08	0.939**	2.56	1.740*	5.69
Religiosity	High	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	-0.072	0.93	0.621	1.86	1.586*	4.88
	Low	0.133	1.14	0.590	1.80	0.862	2.37
Maternal support	High	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.222	1.25	-0.465	0.63	-0.357	0.70
	Low	-0.175	0.84	-0.307	0.74	-0.490	0.61
Paternal support	High	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	0.475	1.61	-0.262	0.77	-1.450*	0.23
	Low	0.929*	2.53	0.395	1.48	-1.179*	0.31
Quality of housing conditions	High	0.0	1.0	0.0	1.0	0.0	1.0
	Medium	-0.595	0.55	-0.283	0.75	-0.079	0.92
	Low	0.080	1.08	0.132	1.14	-1.206	0.30
N		825		871		182	
Intercept		-8.873***		-7.881***		-0.068	
Model chi-square (df)		146.479***(36)		245.182***(36)		79.516***(36)	

\*p&lt;.05 \*\*p&lt;.01 \*\*\*p&lt;.001

**Source:** Questionnaire survey of adolescent women in Recife, Brazil

**Table 2.** Results of an analysis applying unordered multinomial logistic regression to determine variables that differentiate between groups of teenagers categorized by intercourse/pregnancy experience; full sample and sub-sample comprising single teenagers only

Variables	Whole population of teenagers		Single teenagers only	
	Sexually active never pregnant vs Virgin	Ever-pregnant vs Virgin	Sexually active never pregnant vs Virgin	Ever-pregnant vs Virgin
Age	.434***	.379***	.505***	.369**
Schooling	-.120	-.141*	-.140	-.141
Expectation of the effect of childbearing on fulfilment	.206	.222	.335	.068
Expectation of the effect of childbearing on career	.034	.464***	-.176	.470***
Motherhood motivation	-.214	.284	-.193	.790*
Family size preference	.201	-.025	.347*	-.048
Expectation of others' approval of childbearing	.365*	.493***	.103	-.012
Perceived control of conception	.704***	.215	.545**	.263
Importance of love and intimacy as reason for early sex	.178	.201	.340	.329
Approval of sex early in relationship	.543***	.405***	.534***	.398*
Dependence of events on chance	-.029	-.064	.006	.318
Self-esteem	-.078	-.155	-.092	-.384
Perception of social mobility	-.129	-.359**	-.126	-.647***
Religiosity	-.163	-.307	-.259	-.169
Maternal support	.084	.074	-.041	-.133
Paternal support	-.431**	-.171	-.321*	-.132
Housing conditions	-.187	-.163	.005	-.319*
Intercept	-10.20***	-7.92***	-12.03	-9.12
N	939		854	
-LL	426.67		265.10	
Chi square (df)	310.67***(34)		208.55***(34)	

\*p<.05 \*\*p<.01 \*\*\*p<.001

**Source:** Questionnaire survey of adolescent women in Recife, Brazil