

# The Transition of Adolescent Males To First Sexual Intercourse: Anticipated or Delayed?

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**CONTEXT:** Recognition of the different social, psychological and behavioral contexts within which adolescents initiate sexual activity broadens the understanding of teenage sexual behavior beyond the typical dichotomy of sexual experience vs. inexperience.

**METHODS:** Data from the National Survey of Adolescent Males (1988 and 1990–1991) were used in logistic regression analyses to examine the influence of background factors on the transition to first intercourse among 265 teenagers who were not expecting to initiate sex in the next year (delayers) and 187 teenagers expecting to do so (anticipators).

**RESULTS:** The most common reason for sexual inexperience among delayers was a desire to wait until marriage (32%); among anticipators, it was a lack of opportunity to initiate intercourse (35%). Anticipators were significantly more likely than delayers to have first intercourse within one year of the survey (53% vs. 13%). They also were more likely to report risky behaviors, precoital activities and approval of premarital sex; risky behavior predicted their onset of first sex (odds ratio, 1.5). Delayers were more likely to attend church and have strict parents and a college-educated mother. Having a mother with at least some college education increased the odds of transition to first intercourse for anticipators (5.2) but decreased the odds for delayers (0.2). Having a mother who gave birth as a teenager significantly increased the odds for anticipators (14.5).

**CONCLUSIONS:** Anticipators' sexual behavior occurs in a high-risk context, whereas delayers may have internalized the decision to delay first intercourse and have background factors that encourage the delay.

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The initiation of sexual activity is important in the transition from adolescence to adulthood.<sup>1</sup> Early initiation of intercourse, however, increases the risk of premarital pregnancy and sexually transmitted disease (STD) among teenagers. To reduce the risk of these outcomes, school sexuality education and public health programs have attempted to delay the transition to intercourse among adolescents and to promote contraceptive use and responsible behavior among those who are sexually active. Although such efforts have resulted in some declines in risky sexual practices among adolescents, males continue to initiate intercourse at younger ages and engage in more risky sexual behaviors, such as having multiple partners, than do females.<sup>2</sup> Thus, the health consequences of adolescent sexual behavior—particularly high-risk behaviors among adolescent males—continue to be of public concern.

An understanding of the various social, psychological and behavioral factors that influence adolescent sexual activity will aid in the planning of prevention and intervention programs. These factors include parental and family background, association with institutions such as schools and churches, attitudes and participation in risky behavior. Demographic factors, such as race and ethnicity, can also influence the age at first intercourse: For example, black youth initiate sexual activity before puberty more commonly than white youth.<sup>3</sup>

Family structure and socioeconomic background are associated with teenage sexual activity: Youth living with one parent have higher rates of first sex than those living with both biological parents,<sup>4</sup> and young people in low-income households have higher rates of sexual activity than those in higher-income households.<sup>5</sup> In addition, maternal education and employment levels are predictive of age at sexual initiation: The lower the mother's educational level or the more hours she works, the younger a teenager is likely to be when he or she initiates intercourse.<sup>6</sup>

Involvement in activities outside the family, such as church and school attendance, can also influence adolescent sexual behavior. For example, young men who attend religious services regularly are less likely than those who do not attend to engage in premarital intercourse.<sup>7</sup> And the lower a teenager's school grades are, the more likely he or she is to be sexually experienced.<sup>8</sup>

A number of psychological factors affect youths' sexual behavior. Teenagers with low self-esteem are more likely than those with high self-esteem to engage in sexual activity,<sup>9</sup> and youth have an increased likelihood of early transition to first intercourse if they lack a sense of being in control of their lives<sup>10</sup> or are accepting of premarital sex.<sup>11</sup> Furthermore, traditional attitudes toward gender roles among adolescent males predict high-risk sexual behavior.<sup>12</sup>

Substance use can impede a youth's decision-making

ability, thereby making sexual activity more likely. Graves and Leigh<sup>13</sup> found that males aged 18–30 who smoked cigarettes or marijuana and those who drank alcohol excessively were more likely than males who did not use these substances to be sexually active. By the same token, sexual activity can predict delinquent behavior: Sexually active 15–17-year-olds are more likely than their sexually inexperienced peers to have been suspended from school.<sup>14</sup>

A limitation of past research about teenage sexual experience is that studies have generally examined the transition to first intercourse as a dichotomous outcome. Whitaker and colleagues,<sup>15</sup> however, argue for a broadening of this narrow definition to expand our understanding of adolescent sexual behavior, so that prevention and intervention programs can become more effective. Inspired by the earlier typology of Miller and colleagues,<sup>16</sup> they separate sexually inexperienced teenagers into two groups: delayers, who have not had sex and do not expect to do so in the next year, and anticipators, who have not had sex but anticipate doing so in the next year.

Compared with delayers, anticipators in the study by Whitaker and colleagues reported more risky behaviors, such as smoking, using alcohol and drugs, and carrying a weapon; they also were more likely to have friends who engaged in risky behaviors, but they were less likely to report parental monitoring. Anticipators indicated lower levels of self-esteem and a higher sense of hopelessness, and they were less likely to be influenced by a role model or to see themselves as a role model. Furthermore, anticipators reported less involvement in religion and lower school achievement than delayers. The researchers suggest that anticipators, relative to delayers, are in a high-risk context that is consistent with their expectation to initiate intercourse. However, they acknowledge various study limitations—in particular, the use of cross-sectional data: They note the need for longitudinal data to determine the influence of various factors on the transition to first sexual intercourse. In addition, the young people they studied were not a random sample of adolescents; instead, participants were recruited at three sites.<sup>17</sup>

We aimed to further characterize the factors affecting transition to first intercourse among delayers and anticipators by analyzing longitudinal data from a randomly selected, national sample. Because risk-taking behavior is more common among teenage males than females, we limited our focus to male adolescents.

## **METHODS**

### **Sample Selection**

The data were selected from the 1988 and 1990–1991 waves of the National Survey of Adolescent Males. The 1988 survey provided information on patterns of sexual activity among 1,880 never-married U.S. males aged 15–19. Of these males, 1,689 (90%) replied to the 1990–1991 follow-up survey, which asked for the date of first intercourse. Longitudinal sample weights were used to adjust the original sample for cases lost in the follow-up survey and for over-

sampling of blacks and Hispanics. Data were collected in face-to-face interviews, as well as anonymously through self-administered questionnaires. These data allowed us to assess the effects of social, psychological and behavioral measures reported in 1988 on the likelihood of initiating penile-vaginal intercourse within one year.

We limited our sample to the 612 young men who indicated in the 1988 survey that they had not had sexual intercourse with a woman. Of this group, 98 indicated in the second survey that they had had sex before 1988; some of these respondents reported that they had been sexually abused or forced to have sex or that they had engaged in oral sex before 1988. Furthermore, 60 males did not participate in the second survey, and another two reported that they were gay. All of these respondents were excluded from the analyses, leaving a sample of 452 heterosexual young men aged 15–19 who had never had vaginal intercourse or oral sex by 1988.

We note that these young men represent the middle to upper distribution of age at first intercourse: The mean age at first intercourse of all respondents who experienced first sex between the first and second surveys was 16.9 years (standard deviation, 1.7). In contrast, the mean age at first sex of the earliest initiators who were excluded from the sample was 14.9 years (standard deviation, 2.0). Thus, we excluded the youngest, highest-risk males.

### **Model Specifications**

Respondents who had not yet had sex in 1988 were asked to indicate why not (by choosing from a given list of reasons) and to report how likely they thought they were to have sex in the next year. Those who reported little or no chance were classified as delayers, and those reporting a 50% or greater chance were categorized as anticipators. In our analysis of the transition to first sex, the dependent variable indicated whether sexual initiation had occurred within the next year. Thus, it was coded one if the respondent had experienced first sex within one year of the 1988 survey, and zero if he had not.

The independent variables included social, psychological and behavioral measures. Involvement in risky activities was a summary measure that indicated whether the respondent had ever been suspended from school, had smoked cigarettes or drunk alcohol during the past 12 months or had ever been arrested. A score of zero indicated that the respondent had not been involved in any of these behaviors, and a score of four indicated that he had been involved in all four. A summary measure indicating precoital sexual experience was created by summing across 10 dummy variables that ranged from ever having gone out alone with a girl to having kissed a girl, to having touched her breasts or genitals. Scores ranged from zero (the respondent had never engaged in any of these activities) to 10 (he had had all of these experiences).

In an effort to consider variables similar to those examined by Whitaker and colleagues,<sup>18</sup> we initially included psychological measures that indicated the respondent's

**TABLE 1. Percentage distribution of 15–19-year-old males who had not had sexual intercourse, by reason for remaining sexually inexperienced, according to expectation regarding sexual initiation, 1988 National Survey of Adolescent Males**

Reason	Total (N=433)	Delay (N=253)	Anticipate (N=180)
Wait until I'm married	24.6	31.9	12.3***
No opportunity/not asked	21.5	13.6	35.0***
Wait until I'm older	19.0	20.9	15.8
Fear disease or risk of getting someone pregnant	18.8	17.1	21.7
Religious values oppose it	9.5	11.0	6.9
Not emotionally ready	6.6	5.5	8.4
Total	100.0	100.0	100.0

\*\*\*Difference between delayers and anticipators is statistically significant at  $p < .001$ . Notes: Percentages are weighted; Ns are unweighted. Teenagers reporting that they did not expect to initiate intercourse within the next year are classified as delayers; those who expected to do so sooner, as anticipators. Nineteen males were excluded because of missing data for this question.

sense of control over his life and level of self-esteem. No difference was found between delayers and anticipators in terms of self-control or self-esteem, and neither factor contributed significantly to models that predicted the transition to first intercourse. To simplify the analysis, we excluded these measures.

Other psychological factors studied were respondents' attitudes toward premarital sex and male gender roles, and whether they had peer or parental role models. Attitudes toward premarital sex were measured on a scale ranging from one ("sexual intercourse before marriage is never okay") to four (it "is okay if both people agree to it"). Attitudes toward male gender roles were assessed by averaging responses of agreement to the following five statements:

"It is essential for a guy to get respect from others"; "A man always deserves the respect of his wife and children"; "I admire a guy who is totally sure of himself"; "A guy will lose respect if he talks about his problems"; and "A young man should be physically tough, even if he's not big." The scale ranged from one (agree a lot) to four (disagree a lot). As a proxy measure of the existence of role models, we evaluated how frequently respondents felt influenced by peers and by parents, using a scale from one (not at all) to four (very often).

The family-level characteristics that we examined were parental monitoring, family structure, maternal education and household income. We determined the degree of parental monitoring by measuring respondents' perception of family rules at age 14 on a scale from one (no rules) to four (very strict rules). Family structure was assessed through two dichotomous variables, measuring whether a respondent lived with both parents at age 14 and whether his mother gave birth as a teenager. We classified the educational level of each respondent's mother as less than high school, high school only or some college or more. We measured household income in the past year on a scale ranging from one (less than \$10,000) to seven (\$60,000 or more).

Respondents' involvement with school was measured by two indicators: average grades, ranging from one (well below average) to five (well above average), and a dichotomous measure indicating if the respondent had ever repeated a grade. In initial analyses, an ordinal measure of expected educational level was included, but this measure did not differ significantly between anticipators and delayers or influence the transition to first sex, so it was excluded from the analysis. Church involvement was assessed in terms of reported church attendance, on a scale from one (never) to four (weekly). An ordinal measure of the importance of religion to the respondent had no effect in initial analyses and was thus excluded.

We also included two demographic controls: race, a dichotomous variable that was coded one if the respondent was black and zero if otherwise, and respondent's age in 1988.

**Statistical Analysis**

To identify differences in frequency distributions and mean scores between delayers and anticipators, we used two-tailed Student t-tests. Because the dependent variable is dichotomous, we analyzed the transition to first sex using logistic regression techniques. The coefficients represent the increase or decrease in the log odds of initiating first sex per unit or category change in an independent variable. We calculated the exponent of the coefficients to convert the results to the relative odds of initiating first sex (versus not); thus, we report odds ratios for ease of interpretation. We used the Wald statistic to determine the significance level of the coefficients.

We modeled the likelihood of initiating intercourse within one year first for the entire sample and then separately for delayers and anticipators. After analyzing these regres-

**TABLE 2. Mean scores or percentages (and standard deviations) reflecting respondents' characteristics, by expectation regarding sexual initiation**

Characteristic	Total (N=452)	Delay (N=265)	Anticipate (N=187)
<b>Means</b>			
Risky behaviors (range, 0–4)	1.21 (0.92)	1.03 (0.84)	1.53 (0.98)***
Precoital sexual experiences (range, 0–10)	4.31 (3.14)	3.49 (2.80)	5.73 (3.19)***
Approval of premarital sex (range, 1–4)	2.62 (1.16)	2.25 (1.14)	3.28 (0.87)***
Disapproval of gender roles (range, 1–4)	2.17 (0.51)	2.19 (0.53)	2.13 (0.47)
Influenced by friends (range, 1–4)	2.67 (0.73)	2.70 (0.76)	2.61 (0.67)
Influenced by parents (range, 1–4)	3.33 (0.65)	3.40 (0.64)	3.20 (0.65)***
Strictness of parents at age 14 (range, 1–4)	3.24 (0.63)	3.33 (0.60)	3.08 (0.66)***
Family income in past year (range, 1–7)	4.29 (1.83)	4.20 (1.76)	4.43 (1.94)
Church attendance (range, 1–4)	3.20 (1.10)	3.36 (1.01)	2.91 (1.19)***
Grades (range, 1–5)	3.84 (0.88)	3.88 (0.84)	3.75 (0.93)
Age in 1988	16.74 (1.27)	16.72 (1.28)	16.78 (1.25)
<b>Percentages</b>			
Ever repeated a grade	21 (41)	22 (41)	20 (40)
Lived with both parents at age 14	77 (42)	78 (41)	75 (43)
Mother had teenage birth	20 (40)	18 (38)	23 (42)
<b>Mother's education</b>			
<high school	11 (31)	8 (28)	16 (37)*
High school	41 (49)	39 (49)	45 (50)
≥some college	48 (50)	52 (50)	39 (49)**
Black	7 (25)	6 (24)	7 (26)

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . Notes: Higher scores indicate more risky behaviors or precoital experiences, greater approval of premarital sex or disapproval of traditional gender roles, greater influence of friends and parents, greater parental strictness, higher income, more frequent church attendance and higher grades. Scores and percentages are weighted; Ns are unweighted. Teenagers reporting that they did not expect to initiate intercourse within the next year are classified as delayers; those who expected to do so sooner, as anticipators.

sion models, we examined interaction terms to determine whether effects differed significantly between delayers and anticipators. Each independent variable was interacted with a dichotomous variable (coded one if the respondent was an anticipator and zero if he was a delayer), and the interaction term and the anticipation measure were included in the full model. All analyses were conducted with SPSS version 10.0.

## RESULTS

### Descriptive Data

Thirty-six percent of the sample reported expecting to initiate intercourse within one year and are thus classified as anticipators; the remainder reported not expecting to initiate intercourse within one year and are categorized as delayers. When asked to choose a reason that best described why they had not yet initiated intercourse, 25% of the young men said they were waiting until marriage, and 22% said they had not yet had an opportunity (Table 1). The next most frequent responses were postponement until an older age (19%) and a fear of contracting an STD or of causing a pregnancy (19%). Reasons were significantly different between delayers and anticipators. The most common response among delayers was a desire to wait until marriage (32%); only 12% of anticipators cited this reason. In contrast, the most common response among anticipators was not yet having had the opportunity (35%), a reason given by only 14% of delayers. Thus, delayers were more likely to report a desire to defer sexual activity, whereas anticipators often only lacked the opportunity to initiate intercourse.

The two groups also differed significantly with respect to some background characteristics (Table 2). Anticipators had engaged in significantly more risky behaviors than delayers (1.5 vs. 1.0), had had more precoital experiences (3.3 vs. 2.3) and scored higher on approval of premarital sex (3.3 vs. 2.3). Attitudes toward gender roles and influence by friends, however, were not significantly different between delayers and anticipators. Although delayers gave higher scores than anticipators to parental influence (3.4 vs. 3.2) and strictness (3.3 vs. 3.1), the family structure was not significantly different between the two groups: Roughly three-quarters of each group had lived with two parents at age 14, and about one in five reported that their mothers gave birth as teenagers. Delayers reported having better-educated mothers than anticipators, with 52% having attended at least some college, compared with 39% among anticipators. However, there was no significant difference between the two groups in terms of family income. Delayers and anticipators showed similar performance levels at school, but delayers attended church more frequently than anticipators. In both groups, 6–7% of respondents were black, and the mean age in 1988 was slightly below 17 years.

The different background profiles of anticipators and delayers suggest the presence of two contrasting contexts that influence the transition to first intercourse: Delayers appear to be more invested in deferring intercourse, and may be supported by their ties to parents and church. An-

**TABLE 3. Odds ratios from logistic regression analyses assessing the effects of selected characteristics on the likelihood that respondents initiated intercourse within one year of the first survey, by expectation regarding sexual initiation**

Characteristic	Total	Delay	Anticipate	Significance of difference between groups†
Risky behaviors	1.38*	0.96	1.54*	*
Precoital sexual experiences	1.28***	1.22**	1.24***	ns
Approval of premarital sex	1.78***	1.46*	2.11**	ns
Disapproval of gender roles	0.41***	0.29**	0.29**	ns
Influenced by friends	0.87	0.90	1.24	ns
Influenced by parents	1.51*	2.66**	1.22	ns
Strictness of parents at age 14	1.54*	1.99	2.30*	ns
Family income in past year	1.26**	1.45**	1.10	ns
Grades	0.60***	0.64	0.69	*
Church attendance	1.08	1.29	1.76**	ns
Age in 1988	1.38***	1.60**	1.43*	ns
Ever repeated a grade	0.44**	0.13**	1.79	**
Lived with both parents at age 14	0.38***	0.38	0.64	ns
Mother had teenage birth	2.01*	0.58	14.51***	***
Mother's education				
<high school	2.46*	1.94	2.20	ns
High school (ref)	1.00	1.00	1.00	
≥some college	0.62	0.21**	5.21***	***
Black	2.22	1.41	1.38	ns
-2 log-likelihood	493.4	199.9	195.1	
$\chi^2$ for model (df)	183.4 (19)	82.9 (19)	93.0 (19)	
Cox and Snell pseudo R <sup>2</sup>	.27	.20	.36	

\*p≤.05. \*\*p≤.01. \*\*\*p≤.001. †Indicates significance of an interaction term between each factor and the delayer-anticipator dichotomy. Notes: For scaled items, odds ratios reflect the change in odds associated with a one-point increase in the scale score; for age, odds ratios reflect the odds associated with a one-year increase in age. Teenagers reporting that they did not expect to initiate intercourse within the next year are classified as delayers; those who expected to do so sooner, as anticipators. ns=not significant. ref=reference group.

tipators, on the other hand, are not actively delaying sexual initiation, and their more liberal attitudes and behavior may predict a transition to first sex when the opportunity arises. The multivariate analyses will further explore the effects of these seemingly distinct contexts.

### Initiation of Intercourse: Overall Influences

At the follow-up interview, 28% of young men reported having initiated intercourse within a year of the first survey. In general, involvement in risky behaviors and precoital sexual activity increased the likelihood of first sex (odds ratios, 1.4 and 1.3, respectively—Table 3). The more approving that young men were of premarital sex, the more likely they were to have first sex (1.8), and the more that they disagreed with traditional gender roles, the less likely first sex was to occur (0.4).

Surprisingly, parental influence and family rules increased the odds of initiating intercourse (1.5 for each); these factors were not strongly correlated with each other ( $r=.19$ ), so multicollinearity is not an issue. Increasing family income raised the odds of sexual initiation (1.3). Achieving higher grades in school decreased the odds of first sex (0.6), as did repeating a grade (0.4). The odds of sexual initiation increased with age (1.4), but living with both parents at age 14 reduced the odds (0.4). Having a mother who gave birth as a teenager or who was educated below high school increased the odds of first sex (2.0 and 2.5, respectively). The factors included in the model accounted for 27% of the variation in sexual initiation for the full sample.

**[The] findings... underscore critical differences obscured by the conventional dichotomy between sexual experience and inexperience.**

### Delayers vs. Anticipators

Thirteen percent of delayers and 53% of anticipators initiated intercourse within a year of the 1988 survey (not shown), and the difference was statistically significant ( $p < .001$ ). Effects of background characteristics varied somewhat between the two groups (Table 3). Each additional risk behavior increased the odds of anticipators' becoming sexually initiated by 54% (odds ratio, 1.5), but this factor had no effect on delayers' transition to first sex; the difference between the groups was statistically significant. Precoital sexual experience predicted first sex within a year among both delayers and anticipators: Each such experience increased the odds by more than 20%. Having approving attitudes toward premarital sex increased the odds of initiating sex by 46% among delayers and 111% among anticipators (a nonsignificant difference), whereas having nontraditional attitudes toward gender roles reduced the odds of initiating sexual activity by 71% for both groups.

Among our role model proxies, being influenced by friends had no effect on becoming sexually active. However, being influenced by parents significantly increased the odds of first sex among delayers (2.7) but not anticipators; the difference between the two groups was marginally significant ( $p = .06$ —not shown). The finding that parental influence predicts first sex among delayers suggests that delayers have internalized their own set of values regarding sexual activity and thus rely on their parents relatively little for guidance. Parental strictness significantly increased anticipators' odds of having first sex (2.3), but not delayers'. We postulate that either anticipators initiate intercourse because of rebellion against family rules or their parents form more rules in response to the adolescents' involvement in high-risk behaviors.

Family income increased the likelihood of sexual activity within the year only among delayers (1.5), suggesting that delayers from higher-income families have more leisure time in which to develop intimate relationships. This result differs from the negative relationship found in past research between income and sexual activity<sup>19</sup>—a difference likely due to the selective nature of our sample.

The odds ratios associated with school grades were similar for delayers (0.6) and anticipators (0.7). Although the effect was not statistically significant in either model, it differed significantly between the two groups, indicating that the negative effect of high grades was somewhat greater among delayers. In contrast, repeating a grade reduced the likelihood of becoming sexually initiated among delayers (0.1), but had no significant effect among anticipators, and the difference between groups was statistically significant. Being put back a year with younger peers may reduce delayers' likelihood of developing potentially intimate relationships. Church attendance elevated the odds of having first sex among anticipators (1.8), perhaps because the church setting provides an opportunity for these males to meet potential partners.

By far the largest difference between delayers and anticipators was in the effect of having a mother who gave birth

as a teenager. This factor had no significant effect on delayers' likelihood of initiating intercourse; however, anticipators with mothers who gave birth as a teenager had dramatically higher odds of initiating sex within the year than those with mothers who did not give birth as a teenager (14.5). In addition, maternal education had significant but opposite effects among delayers and anticipators: Having a mother who had at least some college rather than high school education reduced delayers' likelihood of initiating sex within one year (0.2) but increased the likelihood among anticipators (5.2).

Given the selective nature of the sample, race had no effect on sexual initiation among either group of youths, but older age increased the likelihood of transition to first sex among both delayers (1.6) and anticipators (1.4).

Overall, the model was more predictive of the transition to sexual activity among anticipators than delayers. It explained 20% of the transition among delayers and 36% among anticipators.

### DISCUSSION

Our findings generally support the conclusions of Whitaker and colleagues<sup>20</sup>—that is, the sexual behavior of anticipators occurs in a higher-risk context than that of delayers. Compared with delayers, anticipators report more risky behaviors, participation in more precoital sexual activities and less involvement in religious institutions. Anticipators are also more likely than delayers to attribute their lack of sexual experience to a lack of opportunity. We found anticipators very likely to initiate sexual activity within the next year (more than 50% of our sample did so); hence, they truly were anticipating becoming sexually active.

In contrast, delayers seem to have made a choice to defer intercourse, and they tend to have attitudinal, educational and maternal factors that encourage that deferment. Plans for marriage may motivate them to defer sexual activity until later in life. Delayers are more disapproving of premarital sex than anticipators, and they may have internalized the decision to postpone first sex as well as a decision not to participate in other risky behaviors.

These findings are important to researchers and health educators, because they underscore critical differences obscured by the conventional dichotomy between sexual experience and inexperience. For preventive and intervention programs to be effective, health educators need to identify delayers and anticipators, and develop programs specific to their needs and to their distinct social, psychological and behavioral contexts. Whitaker and colleagues<sup>21</sup> recommend that if delayers have chosen to defer sexual activity, programs specific to them might focus on practicing abstinence or on peer support groups that reinforce the choice to delay first intercourse. In contrast, anticipators are likely to need instruction regarding the risks and consequences of sexual activity as well as contraceptive use and safer-sex practices. If they are indeed anticipating the initiation of sex, programs should encourage them to be responsible and careful in their sexual behavior.

We found little evidence that parental monitoring, influence of friends, school achievement and church attendance reduce the likelihood of initiating sex among delayers or anticipators. However, involvement in precoital activities and attitudes toward premarital sex are important indicators. Our findings concur with those from the National Longitudinal Study of Adolescent Health (Add Health)—namely, whether or not adolescents become sexually active is explained more by their sexual history and perceptions about the costs and benefits of initiating intercourse than by factors such as peers and school.<sup>22</sup> Parents, schools and religious institutions could influence adolescents' sexual behavior indirectly by reducing participation in risk behaviors and promoting disapproving attitudes toward premarital sexual activity. Our findings suggest that they may need to focus on reducing the involvement of all youth in precoital activities and the involvement of anticipators in other risky behaviors, as well as on encouraging the deferment of sexual activity among delayers.

The most influential parental factors we found associated with the transition to first intercourse were maternal behaviors. How mothers respond to their own sexual experiences may influence how their children behave: Having a mother who gave birth as a teenager is predictive of anticipators' early sexual initiation. Hence, if a mother is accepting and open about having given birth as a teenager, her role modeling may encourage the initiation of sexual activity during adolescence. We would expect that women who regret having given birth as a teenager and who do not want their child to follow a similar path may encourage deferment of sexual activity. Although the odds ratio for delayers indicated the expected direction of this role modeling effect, the finding was not statistically significant. Past studies document that maternal disapproval of premarital or teenage sex reduces the likelihood that adolescents become sexually active.<sup>23</sup> Our data did not permit us to determine the attitude of the mother toward premarital sex or teenage childbearing and whether her approval explains the effects of maternal fertility on anticipators.

The findings regarding mothers' education suggest that while women with at least some college education may value their higher education and encourage their teenage children to delay sexual activity in pursuit of higher education, others may have liberal attitudes and accept premarital sexual activity, thereby increasing the likelihood of their adolescents' becoming sexually active. Further research is needed to uncover why maternal education and fertility have such different effects on delayers and anticipators.

### Limitations

Our findings are based on longitudinal data that provide insights not found in cross-sectional analyses; however, our data have selection limitations that restrict their generalizability. In particular, because our sample excluded males who initiated intercourse before the 1988 survey, our analyses are not representative of the youngest, highest-risk group—that of early initiators, who are more likely to be from

minority ethnic groups and to have a lower socioeconomic background than adolescents who have not yet had sex.<sup>24</sup>

A potential limitation of the data is that the surveys were based on self-reports of sexual behavior and thus may contain inconsistencies, exaggerations or other errors. Data were collected by face-to-face interviews as well as anonymously in a self-administered questionnaire. Reliability reports indicate a high degree of consistency between responses to similar questions from the two approaches, and the reports of sexual activity are consistent with those from other national adolescent surveys.<sup>25</sup>

Despite these limitations, our findings help expand the understanding of adolescent sexual activity beyond earlier cross-sectional reconceptualizations.<sup>26</sup>

### CONCLUSION

We are convinced that the dichotomy of sexual experience vs. inexperience, which is used in most research, has limited our understanding of adolescents and their sexual behavior. Delayers and anticipators make their decisions about sexual initiation in very different sexual contexts: Involvement in risky behaviors is important in predicting the transition to sexual activity among anticipators but not delayers, and maternal factors have opposite effects for delayers and anticipators. More research is needed to further delineate the sexual behavior of adolescents beyond the dichotomy of sexual experience vs. inexperience and to better understand the social, psychological and behavioral context within which adolescents experience sexual activity.

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## 25 Years Ago



### in Perspectives

In the July/August 1977 issue of *Perspectives*, researchers reported that medical family planning services provided by organized—and mostly publicly funded—

programs or private physicians greatly increased the effectiveness with which women used contraceptives. Before visiting a family planning provider, substantial proportions of women responding to a 1972 survey had an unplanned pregnancy by 12 months from the start of contraceptive use—27% of those who later enrolled in an organized program and 34% of those who later consulted a private doctor. After women had used organized or private resources, the 12-month contraceptive failure rates were just 6% and 4%, respectively, corresponding to declines of 78% and 89%. The reductions in failure rates after resource use remained large up to the longest pregnancy interval studied (30 months), irrespective of women's income level, ethnicity, age or parity. The investigators concluded, "The fact that private physicians were just as effective, or more so, does not diminish the need for publicly supported clinics." They also suggested that because women attending these clinics tend to be poor and from racial or ethnic minorities, "it is unlikely that all or even most of [them] could go to private physicians or effectively use nonmedical contraceptives in the absence of organized family planning resources."

Source: Okada LM and Gillespie DG, The impact of family planning programs on unplanned pregnancies, *Family Planning Perspectives*, 1977, 9(4):173–176.