

Original article

African-American and Hispanic adolescents' intentions to delay first intercourse: parental communication as a buffer for sexually active peers

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Manuscript received September 22, 2004; manuscript accepted December 13, 2004.

Abstract

Purpose: Parents and peers often create conflicting influences on adolescent sexual delay. This study examines the moderating effects of mothers' responsiveness during sex discussions on the negative relationship between sexually active peers and sexual delay among African-American and Hispanic adolescents.

Methods: Interview data from 530 African-American and Hispanic non-sexually active high school students were used to examine the effects of mother-adolescent sex discussions and peer norms on intentions to delay or initiate intercourse within the next year. Logistic regression was performed to test the moderating effects of adolescents' reports of mothers' responsiveness (openness, comfort, and understanding during sex discussions) on the relationship between perceived peer sexual activity and adolescent sexual delay.

Results: The relationship between mothers' responsiveness during sex discussions, peer sexual activity, and their effects on adolescent sexual delay is complex. Mother's responsiveness had a buffering effect on the negative effects of sexually active peers. Among adolescents who perceived a high percentage of their peers to be sexually active, those who reported that their mothers had above-average responsiveness were 1.6 times more likely to plan to delay intercourse than were adolescents who reported that their mothers had average responsiveness.

Conclusions: Parents and peers are mutually contingent influences in the dynamic social context of adolescents' lives. Although sexually active peers have a negative effect on adolescent sexual delay, responsive parent-adolescent sex discussions can buffer these effects. Intervention efforts can help parents develop the knowledge and communication skills they need to discuss sexual topics with their children effectively. © 2006 Society for Adolescent Medicine. All rights reserved.

Keywords: Adolescent; Parental communication; Peers; Sexual delay

Research indicates that sexual activity among adolescents is prevalent in the United States. According to data from the 2003 Youth Risk Behavior Survey, 47% of high school students have engaged in sexual intercourse before graduation, and 7% initiated intercourse by the age of 13 [1]. For brevity, in this article *sexual intercourse*, *intercourse*, *sexual initiation*, and *sexual activity* refer to penile-vaginal intercourse. By their 18th

birthday, 6 of 10 adolescent women and 7 of 10 adolescent men have had sexual intercourse [2]. Early and unsafe sexual intercourse can have lifetime and life-threatening consequences for adolescents. Each year in the United States, nearly 1 million adolescent women become pregnant, and roughly 4 million new sexually transmitted disease infections are diagnosed [3].

One of the key public health objectives for decreasing such negative consequences has been to promote abstinence and delay of intercourse by adolescents [4]. A meta-analysis of intervention evaluations suggests, however, that current

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programs often are ineffective in encouraging adolescents to delay intercourse [5]. A lack of highly effective strategies for promoting adolescent sexual delay may be owing in part to several limitations. First, most research on adolescent sexuality focuses on adolescents who already have initiated intercourse [6–8]. Second, sexual initiation generally is considered to be a single event, and adolescents are categorized as either sexually active or not sexually active. This simplistic and absolute view of sexual initiation ignores the processes that lead up to the first intercourse experience and obscures the multitude of adolescent sexual experiences [9,10]. Finally, despite a growing body of literature that examines the effects of multiple social factors on adolescent sexual behavior [11–16], these studies usually examine these factors in isolation from one another [10,13]. As Crosby and Miller [17] argue, to understand the social influences on adolescent sexual experiences, we need to examine how multiple social factors interact to create combined effects on adolescent sexual behavior [14].

According to social cognitive theory, children who have internalized parental values successfully are less likely to adopt peer behaviors that are inconsistent with these standards [18]. Internalization of parental values is more likely when parents are open and understanding toward children's questions and perspectives and use reasoning and explanations rather than power to guide children's behavior (hereafter referred to as responsiveness) [18–23]. An emerging body of research suggests that parental responsiveness during sex discussions decreases adolescent risk-taking behaviors [24–26]. Whitaker et al [26] found that parent-adolescent sex discussions increased adolescents' condom use and communication with their sex partners, but only when parents were open, skilled, and comfortable (i.e., responsive) during these discussions. We hypothesize that among adolescents who perceive that a high percentage of their peers are sexually active, their mothers' responsiveness during sex discussions will decrease the likelihood of anticipation and increase the likelihood of delay of sexual intercourse.

Our study contributes to the knowledge about what influences adolescents to delay intercourse in 3 ways. First, our study sample is composed of adolescents who have never engaged in sexual intercourse. This allows us to explore the social context and factors that promote sexual delay. Second, we categorize adolescents who are not sexually active into 2 groups outlined by Miller et al [9]—those who expect to delay intercourse for at least 1 year (delayers) and those who anticipate initiating intercourse within the next year (anticipators)—and examine the factors that promote delay rather than anticipation. Findings from 2 longitudinal studies suggest that this distinction between anticipators and delayers is an important predictor of actual delay or initiation of intercourse 6 months [27] and 1 year later [16], for African-American adolescents and male adolescents, respectively. Third, we examine the interactive effects of parents and peers to explore how adolescents nav-

igate between these 2 often-conflicting sources of influence. Specifically, we examine the moderating effects of mothers' responsiveness during sex discussions on the negative relationship between sexually active peers and adolescent delay of sexual intercourse.

We anticipate that the knowledge gleaned from these advances in research will help to further our understanding of factors that influence adolescents to delay sexual intercourse and provide important information for the development of effective sexual interventions for adolescents and their parents.

Methods

Participants

Participants were selected from the Family Adolescent Risk Behavior and Communication Study, a cross-sectional convenience survey of 907 adolescent-mother pairs from Montgomery, AL; New York City, NY; and San Juan, Puerto Rico [28]. The Family Adolescent Risk Behavior and Communication Study examined the impact of selected individual, family, peer, and environmental factors on both the risk behavior and risk-decreasing behavior of adolescents. Mothers were selected as the primary parent participant based on formative research that indicated a large proportion of families in our recruitment sites were single-parent mother-headed households, and based on the literature that most parent-child sexuality communication is transmitted via the mother. Participants were recruited through high schools that had an overrepresentation of African-American or Puerto-Rican adolescents. A more complete description of the entire sample and methods is published elsewhere [23].

To be eligible for inclusion, both mother and adolescent had to consent to the study and self-identify as African-American or Hispanic. At the time of recruitment, the adolescent had to be between 14 and 16 years of age, enrolled in 9th, 10th, or 11th grade, to have lived with his or her mother for at least the past 10 years, and to have lived in the recruitment area for at least 10 consecutive years. The mother had to be the adolescent's biological or adoptive mother or stepmother. Of the 1,733 pairs who provided screening information, 1,124 were considered eligible for the study. Of these, 982 pairs (87% of eligible pairs) were interviewed, and 907 of those interviewed met the eligibility criteria. Of these, analyses were restricted to the 532 pairs (58.7% of the total sample) in which the adolescent reported having never engaged in penile-vaginal intercourse.

Interviewers used a structured questionnaire to conduct separate face-to-face interviews of mothers and adolescents. The interviewer was of the same ethnicity and gender as the adolescent, and interviews were conducted in the respondent's language of choice (either Spanish or English). Whenever possible (91% of the time), mothers were inter-

viewed first to ease the adolescents' concerns that their responses would be discussed with their mother. All study procedures were approved by the local institutional review board. Informed consent was reviewed with and obtained from both the participating mother and the participating teenager separately.

Measures

Measures were adolescent reports of mother's responsiveness, perceived peer sexual activity, demographic variables, and sexual status (delayer or anticipator). Because the focus was the perspective of the adolescents, these measures were taken from adolescents' responses.

Adolescent reports of mother's responsiveness. Adolescent reports of their mother's responsiveness are hereafter referred to as *mother's responsiveness*. We focused on reports of mothers' rather than fathers' responsiveness during sex discussions because the adolescent participants had differing amounts of contact with their fathers (46% did not live with their father, whereas 100% lived with their mother). Two mothers were excluded from the analyses because they reported strong positive attitudes about their son or daughter having sex. Mothers' responsiveness was measured on an 8-item scale that assessed adolescents' perceptions of their mother's level of reasoning, understanding, openness, skill, and comfort in discussing sexual topics. Such topics included when to start having sex, sexual development, handling pressures to have sex, birth control, condoms, and choosing sex partners. Adolescents rated their agreement on a scale ranging from 1 (strong disagreement) to 4 (strong agreement) for the following 8 questions: (1) "My mother tries to understand how I feel about topics like this," (2) "My mother knows how to talk to me about topics like this," (3) "My mother and I talk openly and freely about these topics," (4) "My mother doesn't talk to me about these topics—she lectures me," (5) "My mother doesn't know enough about topics like this to talk to me," (6) "My mother wants to know my questions about these topics," (7) "I can ask my mother the questions I really want to know about topics like this," and (8) "If I talked to my mother about these topics, she would think I'm doing these things." We reversed negatively worded items, and then summed adolescents' responses to the 8 items to form the index ($\alpha = .81$). The higher the score, the higher the mothers' responsiveness.

Perceived peer sexual activity. Perceived peer sexual activity is hereafter referred to as *peer sexual activity*. We computed adolescents' percentage of close friends (peers) who were sexually active from the following 2 open-ended questions: (1) "How many close friends do you have?" and (2) "Of your _____ close friends, how many do you think have ever had sex?"

Demographics. Three demographic variables—gender, race, and mother's education—were included in the analysis as controls. Adolescents who self-identified as black/African-American, West Indian black, or Other black were coded as African-American. Those who said they were Puerto Rican, Dominican, or Other Hispanic were coded as Hispanic. The mother's education was based on the mother's report of the highest level of education she attained.

Sexual status. Adolescents who had never engaged in penile-vaginal intercourse were asked, "How likely is it that you will have sex in the next year?" Those who responded "Sure it won't happen," or "Probably won't happen," were defined as delayers; those who responded "Even chance (50-50) it will happen," "Probably will happen," or "Will happen for sure" were defined as anticipators.

Analytic plan

Preliminary analyses used bivariate correlations, *t* tests, and χ^2 analyses to examine significant differences between delayers and anticipators. Significant findings for gender differences suggested that further analyses by gender were necessary. We conducted *t* tests and χ^2 analyses to examine gender differences for each variable. Next, we used logistic regression analysis to determine the main and interaction effects of perceived sexual activity of peers and mother's reported responsiveness on the likelihood of delay. To test the interaction we followed procedures outlined by Aiken and West [29].

Results

Descriptive statistics

Although most adolescents in the sample were delayers, Hispanics, and female, a substantial proportion were anticipators, African-American, and male. The *t* tests and χ^2 analyses showed that anticipators and delayers differed in mother's responsiveness, peer sexual activity, gender, and race, however, they did not differ significantly by age (Table 1).

The χ^2 analyses suggested a significant association between gender and delayer/anticipator status (see Table 1). Among delayers, girls were represented disproportionately ($\chi^2 = 26.653, p < .001$). Of the adolescent women, 70% were delayers (30% were anticipators); of the adolescent men, 47% were delayers (53% were anticipators). Therefore, we examined the remaining variables by gender.

Adolescent men and women differed significantly in terms of mother's responsiveness; however, there were no significant interaction effects between gender and responsiveness on delay status ($\chi^2 = 7.533, p > .05$) (results not included in Tables 1-3). In addition, there were significant racial differences according to gender ($\chi^2 = 9.838, p < .01$). Among adolescent women, African-Americans were

Table 1

Means and percentage distribution of selected characteristics of adolescents who are not yet sexually active, by anticipator/delayer status and gender

Characteristic	Sexual status			Gender	
	Sample (n = 530)	Delayer	Anticipator	Female	Male
Mother's responsiveness	24.42 (4.75) 9–32	24.97* (4.81) 9–32	23.48* (4.50) 11–32	24.77† (4.97) 9–32	23.66† (4.16) 12–32
Percentage of peers who are sexually active	40.52 (36.56) 0–100	33.97* (34.79) 0–100	51.72* (36.88) 0–100	41.36 (36.27) 0–100	38.64 (37.26) 0–100
Age, y	15.18 (.79) 14–17	15.14 (.83) 14–17	15.26 (.71) 14–17	15.15 (.78) 14–17	15.25 (.81) 14–17
Sexual status					
Delayer	63%			70%*	47%*
Anticipator	37%			30%*	53%*
Gender					
Female	69%	77%*	55%*		
Male	31%	23%*	45%*		
Race					
African-American	41%	38%‡	46%‡	45%†	31%†
Hispanic	59%	62%‡	54%‡	55%†	69%†
Mother's education					
Some school	6%	6%	7%	6%	6%
Some high school	13%	14%	12%	14%	12%
High school/GED	25%	24%	28%	23%	30%
Some college	24%	25%	22%	25%	21%
Trade or associate's degree	18%	18%	17%	17%	20%
College degree	9%	8%	10%	9%	9%
Graduate or professional	5%	6%	3%	6%	2%

NOTE. Results shown are mean (SD) and range.

GED = general educational development.

Data from the Family and Adolescent Risk Behavior and Communication Study [28].

* $p \leq .001$.† $p \leq .01$.‡ $p \leq .05$.

represented disproportionately (African-American, 55%; Hispanic, 45%), whereas among adolescent men, Hispanics were represented disproportionately (African-American, 31%; Hispanic, 69%). Adolescent men and women did not significantly differ in their perceptions of sexual activity of their peers (mean for adolescent women, 41.36; SD, 36.27; mean for adolescent men, 38.64; SD, 37.26; $p > .05$).

Table 2 shows the percentages of high and low levels of

mother's responsiveness and the percentage of sexually active peers for the entire sample, and by sexual status, and gender.

Logistic regression analysis

Table 3 shows the results of the regression model, which includes mother's responsiveness, peer sexual activity, the interaction between mother's responsiveness and peer sexual activity,

Table 2

Percentages of selected characteristics, grouped as high or low, by 530 adolescents who are not yet sexually active

Characteristic	Sexual status			Gender	
	Sample	Delayer	Anticipator	Female	Male
Mother's responsiveness					
High ($R \geq 29.17$)	20%	24%	13%	23%	13%
Low ($R \leq 19.67$)	13%	11%	17%	13%	14%
Peer sexual activity					
High ($\% \geq 77.8$)	19%	14%	28%	20%	19%
Low ($\% \leq 3.96$)	32%	39%	21%	31%	35%

Data from the Family and Adolescent Risk Behavior and Communication Study [28].

Table 3
Unstandardized coefficients from logistic regression assessing characteristics of adolescents who are not yet sexually active

	Coefficient	Standard error	Odds ratio
Mother's responsiveness	.040	.022	1.041
Peer sexual activity	-.012*	.003	.988
Responsiveness x peer sexual activity	.001†	.001	1.001
Mother's education	.062	.068	1.064
Race	-.346	.217	.708
Gender	1.046*	.212	2.846
Constant	.037	.184	1.038
High peer sexual activity			
Mother's responsiveness	.094*	.029	1.099
Peer sexual activity (77.08%)	-.012*	.003	.988
Responsiveness × peer sexual activity	.001†	.001	1.001
Mother's education	.062	.068	1.064
Race	-.346	.217	.708
Gender	1.046*	.212	2.846
Constant	-.390	.228	.677
Low peer sexual activity			
Mother's responsiveness	-.014	.031	.986
Peer sexual activity (3.96%)	-.012*	.003	.988
Responsiveness × peer sexual activity	.001†	.001	1.001
Mother's education	.062	.068	1.064
Race	-.346	.217	.708
Gender	1.046*	.212	2.846
Constant	.465‡	.193	1.592

Data from the Family and Adolescent Risk Behavior and Communication Study [28].

* $p \leq .05$.

† $p \leq .01$.

‡ $p \leq .001$.

and the control variables race, gender, and mother's education. Logistic regression analyses also were run with adolescent's religiosity as a control. The inclusion of religiosity did not significantly change the findings. Peer sexual activity had a significant ($p \leq .001$) negative association with delay. Mother's responsiveness was not associated significantly with delay (Table 3). The model also was run without the interaction term. In this model both peer sexual activity and mother's responsiveness were significant indicators of adolescent delay. Peer sexual activity was associated negatively with delay ($p \leq .001$) and mother's responsiveness was associated positively with delay ($p \leq .01$).

These main effect results are qualified by the significant interaction effect between mother's responsiveness and peer sexual activity. The interaction between mother's responsiveness and peer sexual activity on adolescent delay was significant ($p \leq .01$), indicating that parental responsiveness moderates the effects of peer sexual activity for some but not all adolescents. To test the direction of the moderation, we probed the interaction at both high (77.08%) and low (3.96%) levels of peer sexual activity (Table 3). When adolescents perceived a high percentage of their peers to be sexually active, mother's responsiveness had a significant ($p \leq .001$) positive association with delay. For each unit increase on the scale of mother's responsiveness, the odds that adolescents were delayers increased by a factor of 1.099. For example, when adolescents perceived that a high percentage of their peers were sexually active, those adolescents whose mothers scored high (29.17)

on the responsiveness scale were 1.6 times more likely to be delayers than were adolescents whose mothers scored near the mean (mean, 24.42). On the other hand, when adolescents perceived a low percentage of their peers to be sexually active, mother's responsiveness was not significant.

Discussion

Our goal was to better explain the differences in social context among adolescents who are not yet sexually active and the factors that influence their decisions to delay or initiate first sexual intercourse. We found that the 2 groups of non-sexually active adolescents we examined—anticipators and delayers—were quite distinct. Our results suggest that mother's responsiveness during sex discussions and peer sexual activity interact to affect adolescents' intentions to initiate intercourse. Specifically, mother's responsiveness buffers the effects of high peer sexual activity.

Differences between anticipators and delayers

Consistent with previous research that used the delayer/anticipator categories [9,10,16], our findings suggest significant differences among adolescents who have not yet initiated sexual intercourse. Most expected to delay sexual intercourse for the next year; however, almost 40% expected to become sexually active within the next year. Delayers perceived a smaller proportion of their friends to be sexually active and rated their mothers higher on respon-

siveness than did anticipators. These distinctions are complicated by different patterns of delay and anticipation by race and especially gender. The overwhelming majority of adolescent women were delayers, whereas most adolescent men anticipated initiating intercourse within the next year. These findings suggest that the anticipator/delayer distinction provides a more meaningful understanding of adolescent sexual experiences, behaviors, and risks than merely grouping together all adolescents who are not yet sexually active.

Moderating effects of mothers' reported responsiveness

As seen from the results of this study, parental responsiveness skills are particularly important for addressing adolescents' plans to delay sex despite peer norms encouraging them to become sexually active. It is our contention that parents who are responsive to their children during sex discussions create a sense of shared communication and dialogue and a safe environment in which children can talk openly and freely about their sex questions, concerns, and experiences without the fear of being judged, labeled, or accused. We hypothesize that responsiveness helps parents effectively communicate their values to their children and provides an environment that helps children take on these values as their own [18–21,30]. Once children have developed their own set of values for delaying sexual activity, they will be more likely to act consistently with these values, even as their peer group becomes more sexually active [18]. Furthermore, it is likely that adolescents who perceive that they have an established open and comfortable rapport with their mothers regarding sex topics will be more likely to discuss questions and concerns with their mothers as their peer group becomes more sexually active.

Although our results showed no significant effects of mother's reported responsiveness when adolescents perceive a low proportion of their friends to be sexually active, this by no means minimizes the importance of parental responsiveness skills and the process of internalization for these adolescents. On the contrary, parental responsiveness during sex discussions is critical for children whose peers have not become sexually active. This allows children the time to internalize values toward delay fully before they are faced with the conflict between parental messages for delay and peer norms that promote sexual initiation.

Study limitations

There are several limitations to this study, and the study findings should be interpreted with caution. First, the data used were a convenience sample of African-American and Hispanic adolescents, limiting the generalizability of these findings. Second, although our theoretical predictions suggest that mother's responsiveness causes adolescents to delay sex, because the data used in this study were cross-sectional, we were unable to statistically test the causal

direction of this association. Third, our study focused on vaginal intercourse, and did not take into account other sexual behaviors, such as oral sex. Finally, fathers were not included in the study design and therefore we were unable to assess fathers' influence on their adolescents' sexual intentions.

Future research

Further research is necessary to address the study limitations outlined earlier. In addition, our findings suggest several other avenues for future research. First, our findings, coupled with previous research, suggest that anticipators and delayers have distinctively different social circumstances. Longitudinal and qualitative research would be useful to understand the life circumstances and the sexual development processes further for each of these groups. Furthermore, given the race and gender differences found between anticipators and delayers in this sample, such research should explore how the meanings of and the expectations for becoming sexually active differ for adolescent men and women and for different ethnic groups.

Second, our study highlights the significant effects that parental responsiveness has on encouraging adolescents to delay sexual intercourse. Further investigation is needed to test the relationship between responsiveness and internalization directly and to explore other ways that responsiveness may affect how adolescents deal with peer norms. For example, parental responsiveness during sex discussions may provide adolescents with a model for effectively discussing their own sexual values with peers and potential partners.

Third, the findings reported here and elsewhere strongly suggest that adolescents are faced with a number of socializing factors that promote conflicting norms regarding sexual behavior [11–14,31]. Research on adolescent sexuality needs to capture the social complexities of adolescents' lives better and to explore how multiple social factors simultaneously affect adolescents' sexual behaviors. For example, factors such as exposure to media images of sexuality, the duration of a dating relationship, and pressure from a potential sex partner are likely to interact with peer norms and parental influence to affect adolescents' sexual behaviors. Furthermore, parental guidance during adolescents' sexual development is critical in helping them successfully navigate the myriad social influences that affect adolescent sexuality. Future research should continue to explore how parents can buffer social influences that promote risky sexual behavior among adolescents.

Public health implications

Our findings have significant implications for public health professionals concerned with adolescent sexual health. First, although adolescents who are not yet sexually active often are seen as a low-risk population, the recognition of anticipators

reveals that there is in fact sexual risk among this population. Focusing on these adolescents represents an opportunity to provide them with primary prevention before they engage in intercourse, rather than intervention after they already have set their sexual patterns in motion.

Second, the delayer/anticipator categorization reveals different sexual health needs among adolescents. Clinicians can use the delayer/anticipator model to help better understand their patients' needs for information and referrals. For broad-based interventions, the anticipator/delayer categorization suggests that adolescents need a wide range of information and messages and that these messages should progress with the general sexual stage of a population. Our ability to understand the sexual transition process among adolescents and tailor interventions relevant to their experiences and needs is critical to decreasing negative sexual outcomes for adolescents.

Finally, this study contributes to a larger body of research that identifies parents as essential agents in the intervention process [24,25,28,32–34]. Specifically, our findings suggest that, even when their children's peers are sexually active, parents are critical in helping their children delay sexual initiation. Thus, although peers become increasingly important in the adolescent years, intervention strategies should not ignore the unique role of parents and their ability to promote adolescent sexual delay.

Conclusion

Adolescent sexual experiences are dynamic, varied, and embedded in a complex social context in which adolescents are confronted with a multitude of conflicting messages. Within this barrage of sexual messages, parents can make their voices stand out by opening up a dialogue with their children so that children feel safe to question and learn about sexuality. Thus, as public health professionals, we must collaborate with parents and provide them with the skills, knowledge, and support they need to help their children make good sexual choices, avoid negative sexual outcomes, and become healthy adults.

Acknowledgments

The authors would like to thank Cathryn Johnson, Patricia J. Dittus, and Leslie F. Clark for their comments on earlier drafts of this article.

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