

Sexual Intentions of Black Preadolescents: Associations with Risk and Adaptive Behaviors

CONTEXT: Adolescent sexual activity in the United States is prevalent and occurring increasingly early, particularly among minority groups. Other risk behaviors (e.g., alcohol consumption) often co-occur with sexual behavior. By examining the association of risk and adaptive behaviors with precursors of sexual behavior—specifically, sexual intentions—it may be possible to identify preadolescents who are at increased risk for early sexual initiation.

METHODS: Data from 1,090 black fourth and fifth graders and their parents from the Parents Matter! Program were used in logistic regression analyses to assess covariation between preadolescents' risk and adaptive behaviors, and their intentions to initiate sexual intercourse in the next year.

RESULTS: Risk and adaptive behaviors, as reported by both preadolescents and parents, were associated with sexual intentions; the findings were not qualified by youth's gender. Alcohol consumption and having been in trouble with the police were the primary youth-reported risk behaviors associated with the odds of intending to have intercourse (odds ratios, 2.3 and 1.8); the preadolescent's being in trouble at home was the primary parent-reported risk behavior (2.1). In both sets of reports, performing well on schoolwork was associated with reduced odds of intending to engage in sex (0.5–0.6).

CONCLUSIONS: Risk and adaptive behaviors are markers of sexual intentions among black preadolescents. Prevention programs can use these behaviors to identify black youth who may be at high risk for early sexual initiation.

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Adolescent engagement in sexual behaviors is an issue of substantial concern in the United States. Forty-five percent of students in grades 9–12 have engaged in sexual intercourse,¹ and sexual initiation occurs before the age of 13 for 7–17% of youth.² Moreover, black and Hispanic youth report higher rates of sexual involvement and earlier ages of sexual initiation than their white peers.³ These statistics indicate that the prevalence of adolescent sexual activity is both substantial and variable by race and ethnicity.

In addition to possible psychosocial consequences, early and high levels of adolescent sexual behavior pose serious health risks. Only 10–20% of sexually active adolescents use condoms consistently.⁴ Additionally, adolescents' tendency to engage in serial monogamous relationships of brief duration places them at substantial risk for pregnancy, as well as exposure to sexually transmitted diseases.⁵

A convincing literature indicates that adolescent sexual risk behavior does not occur in a vacuum. Other risk behaviors, including alcohol and drug use, often co-occur with adolescent entry into sexual intercourse, whereas adaptive behaviors, such as exemplary academic performance, co-occur less.⁶ Much of this research has been built on the foundation laid by problem behavior theory, which proposes that youth with less emotional attachment to societal norms are more likely to become involved in problem behaviors.⁷ The theory further posits that risk behaviors (e.g., delinquency, early sexual intercourse) collectively constitute a problem behav-

ior syndrome, an assertion supported by evidence that these behaviors covary positively with each other and inversely with adaptive behaviors, such as good academic performance.⁸

Problem behavior theory appears to have important implications for the prevention of high-risk sexual behavior among adolescents. If the risk behaviors of preadolescents covary with the precursors of early sexual activity, then these problem behaviors can potentially serve as early warning signs of sexual risk behavior. Furthermore, prevention efforts that target problem behaviors associated with sexual risk behavior may be effective in preventing its onset or occurrence.

While problem behavior theory highlights the behavioral correlates and antecedents of adolescent sexual risk behavior, the theory of reasoned action⁹ and research based on this theory offer some insight into the cognitive precursors of adolescent sexual behavior. This theory proposes that the decision to engage in a behavior can be predicted by a person's intention to perform the behavior. In a test of the theory's application to adolescents' decision to engage in sexual intercourse, intentions did indeed predict sexual behavior.¹⁰ Likewise, earlier work indicated that the sexual intentions of youth who had never had sex predicted their initiation of sexual intercourse.¹¹

In a closer examination of the correlates of sexual intentions, sexually inexperienced youth aged 14–17 who intended to initiate sexual activity differed from those who intended to abstain on a number of behaviors, including

use of tobacco, alcohol and marijuana.¹² These data suggest that among adolescents, intentions to engage in sexual intercourse are associated with other risk behaviors. However, research to date has not examined whether risk and adaptive behaviors are associated with sexual intentions among preadolescents. Since a substantial number of youth become sexually active by age 14,¹³ it is important for prevention efforts to determine whether risk and adaptive behaviors are related to sexual intentions in preadolescence.

The present study had four purposes. The first, based on problem behavior theory and the theory of reasoned action, was to examine whether sexual intentions covaried positively with risk behaviors (e.g., aggressive behaviors, alcohol use) and inversely with an adaptive behavior (i.e., school performance) among black preadolescents. An ethnic minority sample was selected because these youth unfortunately have been ignored in much of the literature, despite their likelihood of initiating sexual activity at earlier ages than majority youth.¹⁴ The second purpose of the study was to examine whether similar or different trends would emerge for males and females, because age at sexual debut¹⁵ and rates of sexual activity¹⁶ differ by gender among minority youth. Research based on problem behavior theory suggests that similar trends will emerge for males and females.¹⁷

The study's third purpose was to assess both parent and youth perceptions of the preadolescent's engagement in risk and adaptive behaviors. Parents and children often have different perceptions of a child's behavior.¹⁸ To develop effective programs to prevent early sexual involvement by adolescents, it is necessary not only to identify precursors of such behavior, but also to determine whose report identifies the precursors. The study's fourth purpose was to examine the contribution of each independent variable (risk and adaptive behavior) in the context of all of the other independent variables. This analysis shows whether each variable provides unique information about preadolescents' sexual intentions; it can thus help identify the variables that deserve primary consideration in theoretical frameworks and prevention efforts.

We hypothesized that intentions to engage in sexual intercourse would covary positively with risk behaviors and negatively with adaptive behavior. Furthermore, covariations were not expected to differ for females and males. Because previous evidence is lacking, we had no hypotheses concerning which behaviors would emerge as significant independent predictors. Finally, we expected that risk behaviors unlikely to occur in the presence of parents (e.g., alcohol use) would be associated with sexual intentions according to preadolescents' report of those behaviors, but not parents' report, because youth have full knowledge of their own covert risk behaviors.

METHODS

Sample

The data reported here are drawn from a larger, longitudinal study, the Parents Matter! Program. Funded by the Centers for Disease Control and Prevention, the study focuses

on the efficacy of family interventions for preventing sexual risk behavior among black adolescents by enhancing parent-child communication about sexuality and sexual risk reduction.¹⁹ The project's study sites—Athens, Georgia, and its surrounding counties; Little Rock, Arkansas; and Atlanta—include rural and urban environments. Both parent and youth sexual attitudes and beliefs, communication and risk behaviors are being measured before and immediately after intervention, and six, 12, 24 and 36 months thereafter.²⁰ Our analyses are based on the baseline data for the complete sample, which were collected between 2001 and 2003. Longitudinal data could not be used, as families were randomized to different interventions after baseline.

Families were recruited through community leaders and agencies (e.g., schools, churches, recreation programs). A community liaison, responsible for recruiting participants, developed partnerships with individuals affiliated with potential recruitment sites (e.g., staff members at a housing authority, leaders at churches, principals of elementary schools) by contacting various community agencies and by working through the community advisory boards we established to inform us about relationships between the community and the Parents Matter! Program. Using these contacts, the liaison generated lists of prospective participants. Additional recruitment was achieved through community advertising, flyer distribution, staff appearances at community events (e.g., health fairs, parent-teacher associations) and participant referrals. Use of a variety of recruitment procedures minimized selection bias to the extent possible.

The initial sample consisted of 1,127 black parent-child dyads. To be eligible to participate, the parent must have been either the biological parent or the legal guardian of the preadolescent and have lived continuously with the youth for at least three years before the baseline assessment. In addition, the participating youth was required to be in the fourth or fifth grade at the time of baseline assessment and between the ages of nine and 12. The parent had to identify himself or herself as black, both parent and preadolescent had to speak English, and both had to have sufficient cognitive skills to complete the assessment. Of the initial sample, 12 dyads were excluded because they did not meet the eligibility criteria, 10 because data were missing (six for the preadolescent and four for the parent) and 15 because the youth reported already having had sexual intercourse.

Procedure

Prospective participants were screened by researchers using a standardized form to determine if they were eligible. If the parent and preadolescent met all the eligibility requirements and agreed to participate, an appointment to provide formal consent and complete the baseline assessment was scheduled.

After giving informed consent, each participant was escorted to a computer to complete the assessment. To provide a feeling of privacy, we situated parents and youth at opposite ends of large classrooms or meeting rooms, or in

different rooms. If a parent and child were in the same room, they were positioned so that they could not see each other's computer screen. This ensured confidentiality of responses and increased comfort during the assessment process.

All survey questions were delivered both on the computer screen and by a computerized voice through headphones. To ensure confidentiality, participants completed surveys alone and under the anonymity of an identification number instead of their name. Adult and preadolescent assessments were designed to last approximately 45 and 30 minutes, respectively. After the surveys had been completed, parents were paid \$25 to cover expenses (e.g., transportation), their time and their child's time (\$15 intended for the parent, \$10 intended for the child).

All methods and measures for the current study were reviewed and approved by institutional review boards at each site and at the Centers for Disease Control and Prevention.

Measures and Analytic Plan

To maximize reliability, validity, sensitivity, age appropriateness and cultural relevance, measures were selected on the basis of their prior use with samples similar to the current population (e.g., black families with school-age children) whenever available. Because of the relative dearth of appropriate instruments, however, we also used several measures that had not been previously validated with the target population. Consequently, all measures were reviewed by focus groups of black community members, who offered feedback concerning the sensitivity and ease of comprehension of each measure. In addition, fourth- and fifth-grade teachers provided feedback on the clarity of child measures. Pilot testing further corroborated the appropriateness of each measure.

- **Demographic information.** Standard demographic information was obtained to describe and classify the sample. Parents were asked about their gender, ethnicity, marital status, family income and educational level. Preadolescents were asked their gender, age and grade.

- **Early sexual intercourse.** To determine if youth had ever had intercourse, we asked, "Have you ever willingly had sexual intercourse with a boy/girl? Sexual intercourse is when a boy or man puts his penis in a girl or woman's vagina. Remember, willingly means you gave permission or said it was OK, and that you did it because you wanted to, and not because someone made you." Answer choices were yes and no. Preadolescents who had answered no to earlier questions regarding lesser sexual behaviors, such as kissing or touching, were not asked this question.

- **Risk and adaptive behaviors.** Both the parent and the preadolescent in each dyad were surveyed about a set of indicators of youth behaviors (the independent variables), all selected on the basis of work by Jessor and Jessor.²¹

The behaviors studied were from various instruments used to assess child behavior (e.g., Child Behavior Checklist²²). We assessed five risk behaviors: trouble at home, fights, trouble with police, alcohol use and marijuana use. These behaviors varied in severity. They also varied in the

extent to which parents may be aware of their occurrence; for example, alcohol use may occur without the parent's knowledge, whereas being in trouble at home would be known by the parent. We assessed one adaptive behavior: performing well on schoolwork.

Youth responded to the following items, on a scale of one (indicating not at all true) to three (indicating very true): "I get in trouble at home," "I get into fights," "I have been in trouble with the police" and "I am very good at my schoolwork." They answered the questions "How often have you had a drink of beer, wine, or liquor?" and "How often have you smoked marijuana, which is sometimes called weed, pot, or dope?" with responses ranging from zero (never) to three (a lot). The same items and response ranges were used for parent reports, except that the wording was modified to elicit parents' perceptions of the participating youth.

- **Sexual intentions.** We measured preadolescents' intention to engage in sexual activity with members of the opposite sex in the next year (the dependent variable) by asking them, "How likely is it that you will or will not have sex in the next year?" Possible responses ranged from one ("I'm sure I won't have sex in the next year") to five ("I'm sure I will have sex in the next year"). We interpreted responses in terms of intention, to be consistent with the terminology in the existing literature.

After preliminary analyses, two series of logistic regressions were conducted. First, the preadolescent's gender was entered, then a single risk or adaptive behavior, and then the interaction of gender by behavior. This analysis was repeated for each risk and adaptive behavior reported by the preadolescent and then for each behavior reported by the parent. Second, the preadolescent's gender and all reported risk and adaptive behaviors were entered into a logistic regression, to determine the unique contribution of each behavior; again, separate analyses were conducted using behaviors reported by the preadolescent and the parent.

RESULTS

Preliminary Analyses

Of the 1,090 parent-child dyads included in analyses, 29% each were from the Athens area and from Atlanta, and 42% were from Little Rock. The sample of parents consisted primarily of mothers (87%), with occasional representation by fathers (2%), grandmothers (6%), aunts (2%) and others. Fairly equal proportions of the children were fourth and fifth graders, and male and female (Table 1, page 16). Three-fourths of the parents had at least a high school education, and half of dyads had a family monthly income of \$500–1,999. On average, parents were 36.7 years old, and youth were 10.6 years old (not shown).

We calculated mean scores for each of the six independent variables as reported by the youth and by the parent (Table 2, page 16). Only 10 preadolescents and six parents reported that the youth had smoked marijuana, so this behavior was not considered further. For four of the five remaining behaviors, the scores differed significantly between the two reporters: Youth reported higher levels of fighting,

TABLE 1. Percentage distribution of parent-child dyads included in analyses of preadolescents' sexual intentions, by selected characteristics, Athens, Georgia, and surrounding counties; Little Rock, Arkansas; and Atlanta, 2001–2003

Characteristic	% (N=1,090)
Preadolescent's grade in school	
4	46
5	54
Preadolescent's age	
9	25
10	46
11	25
12	4
Preadolescent's gender	
Female	56
Male	44
Parent's educational level	
<high school	2
Some high school	22
Completed high school	29
Some college	22
Two-year degree	13
Four-year degree	8
Graduate degree	4
Family's monthly income	
≤\$199	5
\$200–499	14
\$500–999	21
\$1,000–1,999	30
\$2,000–2,999	16
\$3,000–3,999	8
≥\$4,000	6
Total	100

trouble with the police and alcohol use, and parents reported better school performance.

The responses for youth-reported intention of having intercourse in the next year were highly skewed: Ninety percent of preadolescents were sure that they would not have sex, 4% thought that they probably would not, 3% considered themselves as likely as not to have sex, and the rest said that they probably or definitely would (2% and 1%, respectively). As a result, we created a dichotomous variable, in which the first two categories were combined to represent a lower likelihood of having sex, and the last three were combined to represent a higher likelihood of intending to do so. (The decision to place the “even chance” re-

TABLE 2. Mean scores (and standard deviations) for risk and adaptive behaviors, by source of report, and t-test statistics for the comparison of scores between reporters

Behavior	Youth	Parent	t-test
Trouble at home†	1.92 (0.63)	1.87 (0.58)	1.86
Getting into fights†	1.41 (0.65)	1.19 (0.45)	10.35**
Trouble with the police†	1.16 (0.50)	1.06 (0.30)	6.87**
Alcohol consumption‡	0.22 (0.52)	0.15 (0.40)	4.09**
Marijuana use‡	0.01 (0.15)	0.01 (0.10)	na
Being very good at schoolwork†	2.56 (0.54)	2.60 (0.56)	-2.12*

*p<.05. **p<.01. †Scored on a scale of 1–3. ‡Scored on a scale of 0–3. Notes: Higher scores indicate a higher level of the behavior. na=not applicable, because test was not conducted.

sponse in the higher-likelihood category was based on the research of Miller et al.,²³ which placed this response in that category.) Thus, 94% of the sample were characterized as not intending to have sex, and 6% were characterized as intending to do so.

We conducted initial analyses to determine if intentions varied across study sites or if site qualified relationships between the independent and dependent variables. Sexual intentions were not associated with site ($\chi^2=0.62$, $df=2$), and site did not qualify the findings. Therefore, study site was not considered further.

Bivariate analysis also explored gender differences in sexual intentions over the coming year. In this analysis, the proportion intending to have sex in the next year was twice as high among males as among females (8% vs. 4%; $\chi^2=9.77$, $df=1$, $p<.01$).

Multivariate Analyses

Because sexual intention was a dichotomous variable, we used logistic regression analysis to examine its relationship with the independent variables. Before conducting these analyses, we centered all continuous independent variables to reduce multicollinearity and facilitate interpretation of potential interactions.²⁴ In all logistic regressions, gender of the preadolescent was entered initially; females were significantly less likely than males to report sexual intentions (odds ratio, 0.52; $p<.05$).

In the first set of logistic regressions, each of which included the preadolescent's gender and one risk or adaptive behavior, every behavior as reported by the child, except for trouble at home, was significantly associated with sexual intentions over the next year (Table 3); trouble at home did, however, approach the traditional level of significance. In all cases, the direction of the association was as expected: The odds of intending to have sex increased with increasing levels of fighting (odds ratio, 1.4), trouble with the police (1.8), alcohol consumption (2.3) and trouble at home (1.4), whereas odds decreased with increasing levels of school performance (0.6). Preadolescent's gender did not qualify any of the findings (not shown).

Similarly, risk and adaptive behavior as reported by the parent were associated with sexual intentions, and the directions of the associations were congruent with expectations (Table 3). Higher levels of trouble at home were associated with an increased likelihood of intention to have sex (odds ratio, 2.1), and better school achievement with a reduced likelihood (0.5). Associations for fighting and trouble with the police approached the traditional level of significance (1.6 and 1.7). The youth's gender did not qualify these findings (not shown).

In the second set of logistic regressions, which included all risk and adaptive behaviors simultaneously, sexual intentions were significantly associated with three behaviors as reported by the preadolescents. With each unit increase in alcohol consumption as reported by the child, the odds of intending to have sex during the next year almost doubled (odds ratio, 1.99; $p<.01$). Odds also rose as trouble with

TABLE 3. Odds ratios (and 95% confidence intervals) from logistic regression analyses assessing the association between reported risk and adaptive behaviors and preadolescents' intentions to initiate sexual intercourse in the next year, by source of report

Behavior	Youth	Parent
Trouble at home	1.42† (0.96–2.11)	2.13** (1.37–3.29)
Getting into fights	1.44* (1.03–2.03)	1.56† (0.99–2.45)
Trouble with the police	1.75** (1.22–2.51)	1.68† (0.93–3.04)
Alcohol consumption	2.26** (1.61–3.18)	1.41 (0.83–2.37)
Being very good at schoolwork	0.57* (0.37–0.89)	0.50** (0.33–0.75)

*p<.05. **p<.01. †p<.10. Note: Odds ratios are per unit increase in score for the behavior and reflect a youth's odds of being categorized as intending to engage in intercourse.

the police increased, and they fell as positive views of one's schoolwork increased (1.52 and 0.62, respectively; p<.05). For parent-reported behaviors, higher levels of trouble at home were associated with elevated odds of intending to engage in sex, whereas higher levels of school performance were associated with reduced odds (1.84 and 0.58; p<.05).

DISCUSSION

Building on the theory of reasoned action and problem behavior theory, we assessed associations between behaviors and sexual intentions in a sample of preadolescents. The findings suggest that risk and adaptive behaviors are associated with sexual intentions, although some variation exists, depending on who is the reporter of these behaviors. Furthermore, the findings did not vary by youth's gender.

Consistent with research on problem behavior theory,²⁵ we found that multiple risk behaviors, considered individually, were related to a preadolescent's intention to engage in intercourse in the next year. In analyses based on youth-reported risk behavior, both overt behaviors (i.e., fights, trouble with the police) and a covert behavior (i.e., alcohol consumption) were associated with sexual intentions. In contrast, and not surprisingly, only risk behavior that is readily apparent to parents (i.e., trouble at home) was associated with sexual intentions from their perspective.

These findings indicate that although risk behavior from either youth or parent report relates to preadolescent sexual intentions, the specific behaviors that relate to these intentions vary by reporter. As a consequence, behaviors that vary in seriousness and on the overt-covert spectrum need to be considered when identifying precursors to sexual intentions. Perhaps more importantly, these findings suggest the need to target both overt and covert risk behaviors in programs aimed at early adolescents. By reducing these behaviors, interventions may also reduce sexual intentions. However, systematic evaluation of prevention programs that include such behaviors is necessary to test this hypothesis.

Both parent and youth reports of an adaptive behavior—good academic performance—were negatively associated with child sexual intentions. Children who perform well in school are typically on a “trajectory of success.”²⁶ Our findings suggest the need to expand the focus of preven-

tion programs that are designed to delay or reduce adolescent sexual behavior; that is, these programs may be more effective if they also promote behaviors that steer adolescents onto a more adaptive path. However, this hypothesis, too, can be tested only through implementation and evaluation of a prevention program.

Our results also suggest that at least in terms of their associations with sexual intentions among preadolescents, risk behaviors for males and females do not differ. Thus, it does not appear necessary to tailor the identification of risk factors to a specific gender. However, given that males were more likely than females to report intending to have sex in the next year, prevention efforts may need to occur earlier for males. Furthermore, 15 dyads were excluded from the analyses because the preadolescent reported already having had intercourse, and 6% of preadolescents reported that there was an even chance or better that they would engage in sex in the next year. As the sample consisted of fourth and fifth graders, these data stress the importance of beginning prevention programs early.

Several limitations of the study should be noted. First, both the independent and the dependent measures consisted of single items. Multi-item measures would provide a more reliable assessment of the underlying constructs. Furthermore, our choice of adaptive behaviors was restricted to performance at school, which may have limited our findings. Second, sexual intentions were assessed from only one perspective: the child's. Although an individual's intention probably cannot be adequately assessed by others, relying on only one perspective is a limitation, as the accuracy of the report cannot be determined. Third, because our sample was restricted to black children, we do not know if the findings are unique to children of this ethnicity. At present, the findings should not be generalized beyond black children from the southeastern United States; however, black children have been ignored in much of the literature, and attention focused on this group is warranted. Fourth, there was an imbalance in our dependent variable, as 94% of children were categorized as not intending to engage in sex in the next year. This imbalance may have influenced the accuracy of the logistic regression analyses. Fifth, our data are cross-sectional; consequently, causal conclusions cannot be reached. Sixth, recruitment of participants from multiple sources may lead to selection bias, which may limit the conclusions that can be reached.

Several strengths of the study also should be mentioned. First, multiple perspectives of conventional and unconventional risk behaviors were included. Second, the sample was drawn from three sites that varied on a rural-urban continuum. Third, because black youth are more likely to engage in sexual risk behavior in general and at younger ages,²⁷ studies such as this one are needed to identify precursors of their sexual behavior that may be used to enhance the effectiveness of prevention efforts.

An additional strength of the current study should be noted: Two theories—the theory of reasoned action and problem behavior theory—were used to guide the research

questions posed. By using existing theoretical frameworks, we not only contribute to the existing literature and, we hope, to the development of effective prevention programs, but also provide further tests of the theories. In addition, our findings are among the first to show the relevance of problem behavior theory to black youth.²⁸ Although the norms of this group may vary from those of the majority culture, the relationships that emerged between risk and adaptive behaviors and sexual intentions are congruent with findings in the majority culture.²⁹

In summary, child and parent reports of preadolescents' risk and adaptive behaviors can be used to identify youth who have a high likelihood of early sexual initiation and to design programs to prevent early adolescent sexual risk behavior.

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