

Adolescent Sexual Risk-Taking Behavior in Single-Parent Ethnic Minority Families

Beth A. Kotchick and Shannon Dorsey
University of Georgia

Kim S. Miller
Centers for Disease Control and Prevention

Rex Forehand
University of Georgia

Relationships of maternal sexual behavior, mother–adolescent communication about sex, and maternal attitudes about adolescent sexuality to adolescent sexual risk-taking behavior were examined in a sample of 397 Black and Hispanic families headed by single mothers. Some support emerged for a positive relationship between maternal sexual risk-taking behavior and adolescent risk-taking behavior; however, when considered in the context of communication about sex and maternal attitudes about adolescent sexuality, the relationship was no longer significant. When the process of sexual communication between a mother and an adolescent was open and receptive, less adolescent risk-taking behavior was reported. The role of single mothers in influencing their adolescents' sexual behavior is discussed.

Consistent data from a number of national surveys indicate that sexual activity among American adolescents has increased dramatically over the past 2 decades. According to Youth Risk Behavior Surveillance data, more than one half of high school students have engaged in sexual intercourse before graduation (Kann et al., 1995). Sexual intercourse is often initiated by early or middle adolescence, and according to some surveys, children as young as 9 years of age have had sexual relations (Romer et al., 1994; Stanton et al., 1994). In particular, ethnic minority adolescents have an earlier onset and higher rate of intercourse than Caucasian, non-Hispanic adolescents (e.g., Kann et al., 1995).

Considering the high rate of sexual activity

among adolescents, it is alarming that only a small proportion (i.e., approximately 10–20%) of sexually active adolescents reported consistent use of condoms (e.g., DiClemente et al., 1992). Furthermore, adolescents tend to engage in sexual activities in serial monogamous sexual relationships that are of fairly short duration, thus increasing their exposure to multiple sexual partners and their risk of sexually transmitted diseases (STDs; Overby & Kegeles, 1994). As a consequence, adolescents, particularly those who are from ethnic minority families, are at high risk for negative health consequences associated with early and unsafe sexual activity, including infection with human immunodeficiency virus (HIV), exposure to other STDs (e.g., syphilis, chlamydia), and unintended pregnancy (Kann et al., 1995).

Beth A. Kotchick, Shannon Dorsey, and Rex Forehand, Institute for Behavioral Research, University of Georgia; Kim S. Miller, Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia.

This research was supported by the Centers for Disease Control and Prevention.

Correspondence concerning this article should be addressed to Rex Forehand, Institute for Behavioral Research, 111 Barrow Hall, University of Georgia, Athens, Georgia 30602–2401. Electronic mail may be sent to Forehand@arches.uga.edu.

The concern about HIV infection, STDs, and unintentional pregnancy in this age group has sparked research interest in the psychosocial context of sexual behavior and risk taking (Blustein & Starling, 1994; Gardner & Wilcox, 1993; Rosenberg, Biggar, & Goedert, 1994). Researchers have begun to systematically examine the personal and environmental factors that may influence adolescent sexual practices and participation in sexual risk-taking behavior. Although models that consider factors across

multiple systems of influence have received increasing attention in the research on adolescent sexual behavior, the family—particularly parents—continues to emerge as a critical force in the sexual socialization of adolescents.

One potential role for parents is to serve as models for their adolescents in terms of sexual behavior (Metzler, Noell, Biglan, Ary, & Smolkowski, 1994). This would appear to be particularly important in families headed by single mothers who may be actively involved in romantic relationships and sexual activity. Social learning theory (e.g., Bandura, 1977) emphasizes the importance of modeling for the acquisition and maintenance of behavior; however, parental modeling of sexual behavior has received very little empirical attention in the literature on adolescent sexuality. Some support for the hypothesis that the parental modeling of sexual behavior influences adolescent sexual behavior may be gleaned from research showing that mothers' past sexual behavior relates to the current sexual behavior of female adolescents. Sexually active adolescent girls are more likely to have mothers who were not married at the birth of their first child than are their peers who are not sexually active (Inazu & Fox, 1980). However, we could find no studies of the relationship between current parental sexual behavior and adolescent sexual activity.

As noted, maternal sexual behavior conveys messages and information about sexuality. Maternal behavior, however, conveys this information within a larger family context. Two other resources within the family are equally important to consider: mother-adolescent sexual communication and maternal attitudes about adolescent sexual activity. A relationship between each of these sources and adolescent sexual behavior has been demonstrated in the literature. For example, more parent-adolescent communication about sex and AIDS has been associated with more accurate adolescent sexual knowledge and subsequent reductions in sexual activity (Mueller & Powers, 1990; Pick & Palos, 1995; Sigelman, Derenowski, Mullaney, & Siders, 1993). However, parent-adolescent communication about sexuality involves more than the frequency, or the number, of discussions. It is equally important to examine the process or quality of parent-adolescent communication about sex, which is a variable that has received substantially less attention. In one of the few

studies to address this area, Mueller and Powers (1990) found that adolescents who described their parents as open and receptive communicators reported less sexual activity during junior high school and high school.

Parental modeling of sexual behavior occurs not only in a family context of parent-adolescent sexual communication but also within the context of parental attitudes about adolescent sexual behavior. Several studies have found that more permissive parental values about adolescent sexual activity are related to earlier sexual activity among teens (Small & Luster, 1994; Thornton & Camburn, 1987).

In summary, single mothers may serve several important roles in the shaping of adolescent sexual behavior. As potential models for sexual behavior, mothers set examples for sexual abstinence and safe sexual practices. The frequency and quality of mother-adolescent communication about sexuality and sexual risk taking also may relate to adolescent sexual decision making. Similarly, maternal attitudes about adolescent sexuality may directly or indirectly influence adolescent behavior. Thus, the existing literature suggests a relationship between adolescent sexual behavior and both communication and maternal attitudes. A limitation of this area of research is that the majority of studies have included Caucasian adolescents who appear to be at less risk for the negative consequences of sexual risk-taking behavior than are ethnic minority adolescents (see Kann et al., 1995). More research is needed with ethnic minority youth to determine whether these relations hold across diverse groups.

The current study was designed to examine the relationship between maternal and adolescent sexual risk-taking behaviors in Black and Hispanic families headed by single mothers. Families headed by mothers were chosen for study because single mothers are likely to be more salient models in terms of sexual decision making and risk-taking behavior for their adolescent children than are married mothers or mothers living with a partner. In order to examine the relationship between maternal sexual risk-taking behavior and adolescent sexual risk-taking behavior, we entered maternal risk taking into a regression analysis after initially controlling for demographic variables. As maternal sexual risk taking does not occur in a

vacuum, we next examined it within the context of two other maternal factors: communication about sex and attitudes about adolescent sex. Thus, in the next block, maternal sexual behavior, communication, and attitudes were entered into the multiple regression analysis in an attempt to determine their relative contributions to the explanation of adolescent sexual risk-taking behavior. To examine whether mothers differ in their saliency as models of sexual risk-taking behavior for adolescent girls and boys, we added an interaction term to the regression analysis in a final block: Maternal Sexual Risk-Taking Behavior \times Gender of Adolescent.

We examined the following hypotheses. First, we expected that higher levels of maternal sexual risk-taking behavior would be related to higher levels of adolescent sexual risk taking. It is important to note that this is the first study to examine the relationship between mother's behavior and adolescent sexual risk taking, and as a result, this hypothesis is not grounded in any existing literature. Second, based on the available literature, which is primarily with Caucasian samples, it was predicted that mother-adolescent communication about sex and maternal attitudes about adolescent sexuality each would make a unique contribution to the explanation of sexual risk-taking behavior by adolescents. Specifically, more communication about sexual topics, communication that is more open and receptive, and more traditional maternal attitudes about adolescent sexuality would be related to lower levels of sexual risk taking among adolescents. Furthermore, we predicted that when maternal sexual risk-taking behavior was considered within the context of sexual communication and maternal attitudes about adolescent sexuality, its contribution to the prediction of adolescent sexual risk taking would diminish. Third, because maternal sexual behavior is likely to be a more salient model for girls than for boys, the relationship between maternal sexual risk-taking behavior and adolescent sexual risk-taking behavior would be stronger for adolescent girls than for boys.

Method

Participants

The 397 adolescents and their mothers (235 Black and 162 Hispanic) who served as participants in the

study were selected from 907 adolescents and their mothers (biological, adopted, or step) who were part of the Family Adolescent Risk Behavior and Communication Study (FARBCS; Miller et al., 1997). To be eligible to participate in the FARBCS, the adolescents had to be 14–16 years of age, self-identified as Black or Hispanic, and currently enrolled in one of the selected high schools. In addition, all adolescents must have resided with their mother in the recruitment area for at least 10 consecutive years. The criterion for inclusion in the current study was that the mother reported being single (i.e., never married, separated, divorced, or widowed) and not living with a male partner at the time of assessment.

All participants were recruited from two public high schools in Montgomery, Alabama, and one public high school each in New York City and San Juan, Puerto Rico. The sample sizes were as follows: 259 Black adolescents in Montgomery, 172 Black adolescents in New York, 260 Hispanic adolescents in San Juan, and 216 Hispanic adolescents in New York City. The three sites were selected based on available samples of Black and Hispanic adolescents.

The mean age of the adolescents was 15.35 years ($SD = 0.80$). Of the adolescents, 58% were girls and 42% were boys. The mean age of the mothers was 39.92 ($SD = 5.82$) years. Mothers' average education was 3.68 on a 7-point scale (3 = *graduated from high school*, 4 = *some college*). Mothers reported an average total monthly income of 3.61 on a 7-point scale (3 = \$500 to \$999, 4 = \$1,000 to \$1,999).

Measures

Demographics. The following demographic information was obtained from the mother: ethnicity, mother's and adolescent's ages, mother's marital status and education, total family monthly income, length of time resided in the current city, and length of time adolescent had resided with mother. Gender of adolescent was ascertained during the adolescent interview.

Maternal sexual risk-taking behavior. Maternal sexual behavior was assessed by several questions pertaining to sexual behavior during the past year. For the purposes of our study, an index of sexual risk taking was formed on the basis of mothers' response to two items concerning sexual behavior in the past year: "In the past 12 months, how many men have you had sex with?" and "How often in the past 12 months have you and your partner used a condom?" On the basis of their responses to these items, mothers were assigned a sexual risk-taking score from one of the following five categories: (a) no heterosexual intercourse in the past year; (b) one sexual partner in the past year and consistent condom use; (c) more than one sexual partner in the past year and consistent condom use; (d) one sexual partner in the past year and inconsistent condom use; and (e) more than one

sexual partner in the past year and inconsistent condom use.

Consistent condom use was defined as condom use every time a mother had sex. Inconsistent condom use was defined as less than 100%. For the sample, 33%, 12%, 1%, 48%, and 6% fell in Categories a, b, c, d, and e, respectively. Only 4 mothers were in Category c (more than one sexual partner with consistent condom use), and 3 of these mothers reported only two partners. Therefore, the 3 mothers reporting two partners with consistent condom use were assigned to Category b, and the remaining mother was excluded from the analyses. This resulted in a sexual risk-taking index with a range of 1–4 (higher scores indicated higher levels of sexual risk-taking behavior).

Maternal attitudes about adolescent sexual behavior. This variable was assessed by three items completed by the mother: (a) "I think my son/daughter should wait until he/she is married to have sex"; (b) "I think having more than one sex partner can ruin my son's/daughter's reputation"; and (c) "I think getting pregnant/getting a girl pregnant now will ruin my daughter's/son's future." Each item was answered on a 4-point scale: 1 (*strongly disagree*), 2 (*disagree*), 3 (*agree*), and 4 (*strongly agree*). The alpha coefficient was .55.¹ The items were summed to form one scale on which higher scores indicated more conservative attitudes toward adolescent sexual activity.

Mother-adolescent communication about sex. Topics of sex communication, as well as the process of sex communication, were assessed. Mothers and adolescents indicated whether they had discussed 10 content areas: when to start having sex, birth control, condoms, AIDS or HIV, reproduction (having babies), physical and sexual development, masturbation, sexually transmitted diseases, how to handle sexual pressure by friends or potential partners, and choosing sexual partners. For each item, a no response was scored 1, and a yes response was scored 2. The alpha coefficients for adolescent-completed and mother-completed versions were .76 and .78, respectively.

Eight items assessed the adolescent's and the mother's perceptions of the process of their discussions about sexuality. Sample questions were (a) "My mother doesn't know enough about topics like this to talk to me," and (b) "My mother wants to know my questions about these topics." For the mother, items were reworded to assess her perceptions. Each item was scored on a 4-point Likert scale: 1 (*strongly agree*) to 4 (*strongly disagree*). Some items were reverse-scored so that a higher total score indicated more open and receptive communication. The alpha coefficients for the adolescent-completed and mother-completed versions were .85 and .75, respectively.

Adolescent sexual risk-taking behavior. Adolescent sexual risk-taking behavior was assessed by

several questions. An index of sexual risk-taking behavior was based on the adolescents' responses to the following items: (a) "In your lifetime, how many times have you had vaginal sex?" (b) In your lifetime, how many partners have you had vaginal sex with?" and (c) "Of the ___ times you have had vaginal sex in your lifetime, how often did you and your partner use a condom?" On the basis of their responses to these items, adolescents were assigned a sexual risk-taking score composed of the following categories: (a) no heterosexual sex in lifetime (56% of sample), (b) one sexual partner and consistent condom use (8% of sample), (c) more than one sexual partner with consistent condom use (11% of sample), (d) one sexual partner with inconsistent condom use (7% of sample), and (e) more than one sexual partner with inconsistent condom use (18% of sample). Higher scores on the adolescent sexual risk-taking behavior index indicated more sexual risk-taking behavior.

Procedure

Participants were recruited by presentations in classrooms, the distribution of fliers to students, and mailings to the students' homes. Interested persons were asked to return the forms to the school or to contact the research office directly. Those who returned the forms were screened by phone to determine their eligibility for participation in the study. Of the 4,610 students who were contacted about participating, 1,733 provided screening information, and 1,124 appeared eligible for study participation according to the eligibility criteria (see *Participants* section). Of the 1,124 eligible dyads, 982 dyads were interviewed, resulting in an 87% recruitment rate. Site-specific rates were 83% for San Juan, 88% for Montgomery, and 92% for New York. Analysis of the responses from the 982 interviewed dyads showed that 907 actually met the eligibility criteria. Those 907 dyads comprised the sample for the FARBCS, and 397 met the criteria for our study (i.e., never married, separated, divorced, or widowed, and not living with a male partner).

Separate interviews were conducted with the adolescent and the mother at the adolescent's school or at an offsite research office. Interviewers were matched with participants on ethnicity and gender. Older women interviewed the mothers, and younger women and men interviewed the adolescents. Interviews were conducted in English or Spanish, according to each participant's preference. At the beginning of each interview session, the interviewer

¹The low alpha for the measure of maternal attitudes may be accounted for by the fact that only three items compose the scale (see Schmitt, 1996).

explained confidentiality and procedural issues to the participant. In addition, the interviewer reviewed the consent form with the mother and adolescent separately and had each sign the form. To reduce the adolescent's concern about the disclosure of information to his or her mother, adolescent interviews were conducted last when possible (i.e., 91% of interviews). The interviews with the mother and the child lasted approximately 1 hr each. Mothers were paid \$45, and adolescents were paid \$25 for their participation.

Results

Preliminary Analyses

Initially, the sample was examined in terms of the language in which the interview was administered. In Montgomery, all interviews were administered in English, and in San Juan all interviews were administered in Spanish. In New York all adolescent interviews were administered in English, and 146 and 42 mothers were interviewed in English and Spanish, respectively. Alpha coefficients were generated separately for all measures administered in English and Spanish and were found to be comparable across languages.

Second, differences between English-speaking and Spanish-speaking mothers in New York were examined. Correlations between each predictor variable (maternal sexual risk-taking index, maternal report of sexual communication context, adolescent report of sexual communication content, maternal report of sexual communication process, adolescent report of sexual communication process, and maternal attitudes about adolescent sexuality) and the criterion variable (adolescent sexual risk-taking index) were conducted separately for English-speaking and Spanish-speaking mothers in New York. Significant differences in the magnitude of the correlations then were tested by Fisher's r to z transformation. The magnitude of the correlations did not differ significantly for any of the comparisons.

Third, differences across the three locations were examined. Initially, level of mother and of adolescent sexual behavior was examined across the three locations by analysis of variance. A significant F value, $F(2, 394) = 16.75, p < .01$, emerged for mother sexual behavior. Newman-Keuls tests indicated that mothers from San Juan ($M = 1.90$) had significantly ($p < .05$) lower

sexual risk-taking scores than mothers from New York ($M = 2.22$), who, in turn, had significantly ($p < .05$) lower scores than those from Montgomery ($M = 2.66$). Adolescents across the three sites did not differ significantly, $F(2, 394) = 1.98$; mean scores for adolescents from San Juan, New York, and Montgomery were 1.99, 2.18, and 2.42, respectively.

Next, correlations between each predictor variable and the criterion variable were conducted separately for each location. Significant differences in the magnitude of the correlations again were tested by Fisher's r to z transformation. The magnitude of the correlations did not differ for Montgomery versus New York participants. The magnitude of the correlations differed significantly only for maternal attitudes about adolescent sexual behavior when San Juan was contrasted with Montgomery ($r_s = -.39$ and $-.01$ for San Juan and Montgomery, respectively; $z = 2.98, p < .01$) and with New York ($r_s = -.39$ and $-.13$ for San Juan and New York, respectively; $z = 2.08, p < .05$). Subsequently, the New York and Montgomery samples were combined and contrasted to the San Juan sample on all variables. Again, the magnitude of the correlations differed only for maternal attitudes about adolescent sexual behavior ($r_s = -.39$ and $-.08$ for San Juan and Montgomery plus New York, respectively; $z = 2.68, p < .01$).

Fourth, to determine whether both content of sexual communication and process of sexual communication from the mother's report and the adolescent's report would need to be considered in the primary analyses, we performed correlations with adolescent sexual risk-taking behavior. Process of sexual communication from both the mother report ($r = -.26, p < .01$) and adolescent report ($r = -.16, p < .01$), but not content of sexual communication from either mother report ($r = -.04$) or adolescent report ($r = -.10$), was significantly and negatively associated with adolescent sexual risk-taking behavior.

Fifth, differences between adolescent girls and boys were examined. Correlations between each predictor variable and the criterion variable were conducted separately for each gender. Significant differences between adolescent girls and boys were tested by Fisher's r to z transformation. No significant differences emerged.

Primary Analysis

The means and standard deviations for all variables are presented in Table 1. The scores for boys and girls were compared by *t* tests. On the basis of adolescent report, mothers and daughters had discussed significantly more content areas and reported better communication process about sex than did mothers and sons. Mothers had significantly more conservative attitudes toward adolescent sexual behavior for girls than for boys. Mothers of boys and girls did not differ on sexual risk-taking behavior, but adolescent boys had higher levels of sexual risk-taking behavior than adolescent girls had.

On the basis of the preliminary analyses, we made the following decisions for the primary analyses. First, English and Spanish interviews were collapsed. Second, locations were collapsed; however, because the magnitude of the correlations between maternal attitudes about adolescent sexual behavior and the adolescent sexual risk-taking index differed significantly for San Juan and Montgomery plus New York, location (entered as 1 = San Juan and 2 = Montgomery and New York) was entered in an

interaction term with maternal attitudes about adolescent sexual behavior. Third, because content of sexual communication, based on either mother report or adolescent report, did not relate significantly to the adolescent sexual risk-taking index in the correlational analyses, this variable was not considered in further analyses. Fourth, adolescent girls and boys were combined; however, to test the hypothesis that there would be a differential relationship between mother sexual risk-taking behavior and adolescent sexual risk-taking behavior for boys and girls, we entered adolescent gender in an interaction term with maternal sexual risk-taking behavior.

Hierarchical regression analysis was used to determine the contributions of maternal sexual behavior, mother-adolescent communication about sex, and maternal attitudes about adolescent sexuality to the explanation of adolescent sexual risk-taking behavior. Four blocks of variables were entered. The first block, consisting of adolescent age, ethnicity, gender, and location, was used to statistically control for demographic variables. In the second block, the

Table 1
*Means and Standard Deviations for Whole Sample, Girls, and Boys,
and t Tests for Differences Between Girls and Boys*

Variable	Total sample		Girls		Boys		<i>t</i> ^a
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Maternal sexual risk-taking index ^a	2.28	0.99	2.35	0.99	2.18	0.99	1.78
Mother report: Content of sexual communication ^b	16.68	2.55	16.88	2.50	16.40	2.61	1.84
Adolescent report: Content of sexual communication ^b	15.35	2.59	15.79	2.64	14.76	2.52	3.91**
Mother report: Process of sexual communication ^c	25.44	3.16	25.49	3.13	25.38	3.20	0.35
Adolescent report: Process of sexual communication ^c	23.19	4.62	23.58	5.15	22.68	3.90	1.99*
Maternal attitudes about adolescent sexuality ^d	9.43	1.88	9.67	1.85	9.09	1.92	3.01**
Adolescent sexual risk-taking index ^e	2.20	1.50	1.82	1.34	2.75	1.72	5.82**

^aScores can range from 1 to 4: Higher scores indicate higher levels of sexual risk-taking behavior. ^bScores can range from 10 to 20: Higher scores indicate more sexual topics discussed. ^cScores can range from 10 to 40: Higher scores indicate a more open and receptive style of communication about sex. ^dScores can range from 3 to 12: Higher scores indicate more conservative attitudes toward adolescent sexual behavior. ^eScores can range from 1 to 5: Higher scores indicate higher levels of sexual risk-taking behavior.

p* ≤ .05. *p* ≤ .01.

maternal sexual risk-taking behavior index was entered, and in the third block this variable was considered in combination with process of communication about sex and maternal attitudes toward adolescent sexual behavior. In the fourth block, two interaction terms were entered: Location (1 = San Juan and 2 = Montgomery and New York) × Maternal Attitudes About Adolescent Sexual Behavior and Adolescent Gender × Maternal Sexual Risk-Taking. To guard against multicollinearity, we centered maternal attitudes about adolescent sexual behavior and process of sexual communication. The hierarchical regression analysis was conducted twice: once using the mother's report of the sexual communication process and once using the adolescent report of the sexual communication process. However, because identical results were obtained, only the findings from the mother's report of sexual communication process are presented.

The results of the regression analysis are presented in Table 2. Information is provided for the total R^2 accounted for by each block of variables and the significance level of each block. Variables in each block also are presented with their corresponding standardized regression coefficients.

After controlling for demographic variables, we found that mother's sexual risk-taking behavior was significantly and positively related to adolescent sexual risk-taking behavior. When the process of sexual communication and maternal attitudes about adolescent sexuality were added in the third block, only the process

of sexual communication between mother and adolescent was found to be significant: More open and receptive communication was associated with less adolescent sexual risk-taking behavior. In the final block, the interaction term of location by maternal attitudes toward adolescent sexual behavior was significant.

To explicate the interaction, we conducted regression analyses separately for the San Juan sample and the Montgomery and New York sample. A significant standardized regression coefficient emerged for the San Juan sample (-.29) but not for the combined Montgomery and New York sample (.04). In San Juan, a more conservative maternal attitude toward adolescent sexual behavior was associated with less adolescent sexual risk-taking behavior.

Discussion

The purpose of this study was to examine the sexual risk-taking behavior of adolescents in single-parent ethnic minority families. These adolescents have been identified as being at particular high risk for engaging in sexual risk-taking behavior. Maternal sexual risk taking as well as mother-adolescent communication about sex and maternal attitudes about adolescent sexuality were examined as potential sources of influence on the level of adolescent sexual risk-taking behavior.

When entered into the hierarchical regression analyses, higher levels of maternal sexual risk-taking behavior were associated with higher levels of adolescent sexual risk-taking behavior.

Table 2
Regression Analysis Predicting Sexual Risk-Taking Behavior of Adolescents

Block	F value for block	Total R ²	ΔR ²	Significant variables within blocks	Standardized regression coefficient
Demographics ^a	22.30**	.18		Location Gender Age	.11* .30** .30**
Maternal sexual behavior index (MSBI)	18.52**	.19	.01*	MSBI	.09*
Maternal variables ^b	14.95**	.21	.02*	Maternal sexual communication	-.13**
Interaction terms ^c	12.45**	.23	.02*	Location × Maternal Attitudes	.59**

Note. Significance of change in R^2 was based on the formula presented by Pedhazur (1997).

^aAge, ethnicity (1 = Hispanic and 2 = Black), gender, and location (1 = San Juan, 2 = Montgomery and New York). ^bMaternal sexual risk-taking behavior, maternal attitudes about adolescent sexual behavior, and mother report of process of sexual communication. ^cLocation × Maternal Attitudes Toward Adolescent Sexuality; Adolescent Gender × Maternal Sexual Risk-Taking Behavior.

* $p \leq .05$. ** $p \leq .01$.

This finding, which was not qualified by gender of adolescent, is consistent with the emphasis placed on modeling for the acquisition and maintenance of behavior in social learning theory (e.g., Bandura, 1977). However, it is important to put the magnitude of the relationship between maternal and adolescent sexual risk-taking behavior in perspective. The standardized regression coefficient is small, and entry of the term into the equation accounted for only a small increase in variance. Furthermore, once the process of mother-adolescent sexual communication and maternal attitudes about adolescent sexuality were entered into the regression analysis, the relationship between mother and adolescent sexual risk-taking behavior was no longer significant. Thus, the relationship between mothers' sexual behavior and adolescents' sexual behavior is relatively weak. It is also important to consider this relationship within the range of sexual risk-taking behaviors of mothers in the sample. Only 6% of the mothers reported multiple sex partners and inconsistent condom use. Thus, few mothers were modeling extremely risky sexual behavior.

Within the context of all three maternal variables, only the process or quality of communication about sex between a mother and adolescent emerged as a significant predictor. More open and receptive mother-adolescent communication about sex was related to lower levels of sexual risk taking among adolescents. In contrast, the association between the content of mother-adolescent sexual communication and adolescent sexual risk taking was not significant in preliminary correlations. With few exceptions (e.g., Mueller & Powers, 1990), most studies in this area have focused on content of sexual communication and have ignored process. Our findings suggest that what is of primary importance is how a mother talks to an adolescent about sex rather than how many sexual topics she discusses. Future research efforts need to move beyond content to the process of communication in order to enhance the understanding of adolescent sexual risk-taking behavior.

Our findings provide strong support for the role of communication about sex between single mothers and their adolescents in reducing adolescent sexual risk-taking behavior. Our earlier work with two-parent families provides

additional support for the mother's role: Dutra, Miller, and Forehand (in press) found that mother's, but not father's, communication about sex with an adolescent was associated with less sexual risk-taking behavior. Mothers, whether single or residing with fathers, appear to be critical in the development of responsible adolescent sexual behavior.

Maternal attitudes about adolescent sexuality emerge as a significant predictor of adolescent sexual risk-taking behavior only in San Juan. Families living in this location are embedded in a culture rich with Latino values. These cultural values include a deep sense of family loyalty and respect for all people, which is likely to promote the importance of parental attitudes (for reviews, see Forehand & Kotchick, 1996; Garcia Coll, Meyer, & Brillon, 1995). The lack of a significant relation between parental attitudes and adolescent behavior among families in the Montgomery and New York sites may have resulted from ethnic cultural values not being as strong in the United States as in Puerto Rico because of increased mobility, outside influences (e.g., television), and, in general, assimilation into the broader society.

Our findings have several implications for the development of prevention and educational programs designed to reduce sexual risk-taking behavior among youth. Single mothers should be informed that their own behavior may be important and may positively affect their children's sexual safety. In addition, parents can be taught how to talk about sex with their children (e.g., being nonjudgmental and open to communication about sex), not only so that they can effectively communicate information and concerns to their children but also so they can enhance the likelihood that their efforts will result in a positive outcome. Finally, when prevention and educational programs are developed, they need to be sensitive to geographic and ethnic differences. Programs in different locations may need to include or emphasize different aspects of parental behavior.

Our study had several limitations. First, on the basis of the empirical literature and theoretical considerations, we imposed a directional flow on the significant associations; however, all data are cross-sectional, and no definitive conclusions about causality may be drawn. Second, this study was conducted with a specific

and narrowly defined sample (i.e., Black and Hispanic youths in families headed by single mothers); therefore, generalizations to other populations must be made with caution. Third, we assessed only the direct effects of maternal sexual behavior, communication, and attitudes toward adolescent sexual behavior. It is possible that we missed important information that could be yielded from a more elaborate predictive model in which indirect effects are examined.

Our study also has several strengths. First, we studied two ethnic minority samples that have received less attention than Caucasians. Second, we had both mother and adolescent reports of some variables, and these yielded similar findings. Third, when mother report of all predictor variables and adolescent report of the outcome measure of adolescent sexual risk taking were used in the analyses, common reporter variance was removed and significant findings still emerged. Fourth, the indexes of sexual risk-taking behavior used to assess maternal and adolescent sexual behavior were designed to capture a combination of two important sexual behaviors rather than focusing on one specific behavior, such as frequency of intercourse or condom use. This decision was based on the assumption that human sexuality is not a homogenous experience but comprises many behavioral components. To use a single measure of risk-taking misses the full picture of adolescent and maternal sexual risk behavior.

In summary, this study supports the assertion that the family is an important source of influence during the sexual socialization of adolescents. We believe that single mothers, in particular, are in a powerful position to shape their children's sexual behavior because they are likely to be more salient models than are married mothers in terms of sexual decision-making and risk-taking behavior. The quality of mother-adolescent communication about sex is also critical to the reduction of sexual risk-taking behavior among adolescents.

References

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.

Blustein, D., & Starling, M. E. (1994). Helping pregnant teenagers. *Western Journal of Medicine*, *161*, 140-143.

DiClemente, R. J., Durbin, M., Siegel, D., Krasnovsky, F., Lazarus, N., & Comacho, T. (1992). Determinants of condom use among junior high school students in a minority, inner-city school district. *Pediatrics*, *89*, 197-202.

Outra, R., Miller, K. S., & Forehand, R. (in press). The process and content of sexual communication with adolescents in two-parent families. *AIDS and Behavior*.

Forehand, R., & Kotchick, B. A. (1996). Cultural diversity: A wake-up call for parent training. *Behavior Therapy*, *27*, 187-206.

Garcia Coll, C. T., Meyer, E. C., & Brillion, L. (1995). Ethnic and minority parenting. In M. H. Bornstein (Ed.), *Handbook of parenting: Biology and ecology of parenting* (Vol. 2, pp. 189-210). Mahwah, NJ: Erlbaum.

Gardner, W., & Wilcox, B. L. (1993). Political intervention in scientific peer review: Research on adolescent sexual behavior. *American Psychologist*, *48*, 972-983.

Inazu, J. K., & Fox, G. L. (1980). Maternal influence on the sexual behavior of teenage daughters. *Journal of Family Issues*, *1*, 81-102.

Kann, L., Warren, C. W., Harris, W. A., Collins, J. L., Douglas, K. A., Collins, M. E., Williams, B. I., Ross, J. G., & Kolbe, L. J. (1995). Youth risk behavior surveillance—United States, 1993. *MMWR: Morbidity and Mortality Weekly Report*, *44*, 1-57.

Metzler, C. W., Noell, J., Biglan, A., Ary, D., & Smolkowski, K. (1994). The social context of risky sexual behavior among adolescents. *Journal of Behavioral Medicine*, *17*, 419-438.

Miller, K. S., Clark, L. F., Wendell, D. A., Levin, M. L., Gray-Ray, P., Velez, C. N., & Webber, M. P. (1997). Adolescent heterosexual experience: A new typology. *Journal of Adolescent Health*, *20*, 179-186.

Mueller, K. E., & Powers, W. G. (1990). Parent-child sexual discussion: Perceived communicator style and subsequent behavior. *Adolescence*, *25*, 469-482.

Overby, K. J., & Kegeles, S. M. (1994). The impact of AIDS on an urban population of high-risk female minority adolescents: Implications for intervention. *Journal of Adolescent Health*, *15*, 216-227.

Pedhazur, E. (1997). *Multiple regression in behavioral research*. Fort Worth, TX: Harcourt Brace College.

Pick, S., & Palos, P. A. (1995). Impact of the family on the sex lives of adolescents. *Adolescence*, *30*, 667-675.

Romer, D., Black, M., Ricardo, I., Feigelman, S., Kalijee, L., Galbraith, J., Nesbit, R., Hornik, R. C., & Stanton, B. (1994). Social influences on the sexual behavior of youth at risk for HIV exposure. *American Journal of Public Health*, *84*, 977-985.

Rosenberg, P. S., Biggar, R. J., & Goedert, J. J.

- (1994). Declining age at HIV infection in the United States. *New England Journal of Medicine*, 330, 789-790.
- Schmitt, N. (1996). Uses and abuses of coefficient alpha. *Psychological Assessment*, 8, 350-353.
- Sigelman, C. K., Derenowski, E. B., Mullaney, H. A., & Siders, A. T. (1993). Parents' contributions to knowledge and attitudes regarding AIDS. *Journal of Pediatric Psychology*, 18, 221-235.
- Small, S. A., & Luster, T. (1994). Adolescent sexual activity: An ecological, risk-factor approach. *Journal of Marriage and the Family*, 56, 181-192.
- Stanton, B., Li, X., Black, M., Ricardo, I., Galbraith, J., Kaljee, L., & Feigelman, S. (1994). Sexual practices and intentions among preadolescent and early adolescent low-income urban African-Americans. *Pediatrics*, 93, 966-973.
- Thornton, A., & Camburn, D. (1987). The influence of the family on premarital sexual attitudes and behavior. *Demography*, 24, 323-340.

Received December 15, 1997

Revision received September 21, 1998

Accepted October 6, 1998 ■

New Editors Appointed, 2000-2005

The Publications and Communications Board of the American Psychological Association announces the appointment of three new editors for 6-year terms beginning in 2000.

As of January 1, 1999, manuscripts should be directed as follows:

- For **Experimental and Clinical Psychopharmacology**, submit manuscripts to Warren K. Bickel, PhD, Department of Psychiatry, University of Vermont, 38 Fletcher Place, Burlington, VT 05401-1419.
- For the **Journal of Counseling Psychology**, submit manuscripts to Jo-Ida C. Hansen, PhD, Department of Psychology, University of Minnesota, 75 East River Road, Minneapolis, MN 55455-0344.
- For the **Journal of Experimental Psychology: Human Perception and Performance**, submit manuscripts to David A. Rosenbaum, PhD, Department of Psychology, Pennsylvania State University, 642 Moore Building, University Park, PA 16802-3104.

Manuscript submission patterns make the precise date of completion of the 1999 volumes uncertain. Current editors, Charles R. Schuster, PhD; Clara E. Hill, PhD; and Thomas H. Carr, PhD, respectively, will receive and consider manuscripts through December 31, 1998. Should 1999 volumes be completed before that date, manuscripts will be redirected to the new editors for consideration in 2000 volumes.