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Quality of parent communication about sex and its relationship to risky sexual behavior among youth in psychiatric care: a pilot study

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Abstract

Background: The number of HIV infections among adolescents is increasing, and youth in psychiatric care are at particular risk because of their high rates of risky sexual behavior.

Methods: As part of a larger longitudinal study examining AIDS-risk behavior among adolescents in psychiatric care, this pilot study investigated the relationship between parent communication about sex and sexual risk-taking among treatment-seeking adolescents. Adolescents reported their risky sexual behavior (e.g., inconsistent condom use, sex with multiple partners), and parents reported how frequently they bring up topics related to sex, HIV/AIDS, and birth control. Parents and adolescents participated together in videotaped discussions of fictional vignettes describing situations related to sex, birth control, and AIDS/HIV. Quality of the parent–teen discussions was coded based on a system developed by Whalen, Henker, Hollingshead, and Burgess (1996) to code AIDS-related discussions.

Results: Quality but not frequency of parent–teen communication was associated with adolescent sexual risk-taking, and ethnic differences in communication were found.

Conclusions: Findings from this pilot investigation underscore the importance of studying the relationship between parent–teen communication and risky sexual behavior among troubled youth and provide direction for the development of family-based intervention programs that focus on parental behavior during conversations with teens.

Keywords

Adolescent sexual behavior; HIV-risk; parent-teen communication; psychiatry

Abbreviations:

AIDS Risk Behavior Assessment (ARBA)

A dramatic rise in teenage sexual activity over recent decades and high rates of risky sexual behavior, including sex with multiple partners and inconsistent condom use, have placed adolescents at increased risk of HIV and other sexually transmitted diseases (Centers for Disease Control and Prevention, 2000). Youth seeking psychiatric care are at especially high risk because they are more likely than other teens to be sexually active, more likely to have multiple partners, and less likely to use condoms (Brown, Danovsky, Lourie, DiClemente, &

Ponton, 1997; Donenberg, Emerson, Bryant, Wilson, & Weber-Shifrin, 2001). Thus, understanding factors related to high-risk sexual behavior among adolescents in psychiatric care is an important step in developing prevention and intervention programs to impede the spread of HIV among these youth.

The family is one of the earliest and most important influences on adolescent sexual development and sexual socialization (Perrino, Gonzalez-Soldevilla, Pantin, & Szapocnik, 2000) and plays an important role in sexual risk-taking among teens in psychiatric care (e.g., Donenberg, Wilson, Emerson, & Bryant, 2002). One parental influence that has received a great deal of attention regarding its relationship to adolescent sexual risk-taking is parent–adolescent communication. Theory suggests that the quantity and quality of parent communication plays a crucial role in the extent that parents influence their children (Neapolitan, 1981) and bears great potential for reducing adolescent risky sexual behavior by fostering responsible sexual decision-making (Rodgers, 1999). Studies assessing the relationship between parent–teen communication about sex and adolescent sexual behavior have conceptualized communication in a variety of ways, including whether or not it has occurred, its frequency, how much information is conveyed, the content of communication, and the quality or process. The most consistent findings for normally-developing youth suggest that the quality of parent–teen sexual communication is more relevant to reducing risky sexual behavior than other dimensions of the communication process. Specifically, parent–teen communication that is open, receptive, and comfortable is associated with less sexual experience and less risky sexual behavior among adolescents (e.g., Dutra, Miller, & Forehand, 1999; East, 1996; Miller, Norton, Fan, & Christopherson, 1998; Whitaker, Miller, May, & Levin, 1999). Other findings based on retrospective reports of adults and college students suggest that parent communication about sex during childhood and adolescence characterized as more friendly, impression-leaving, attentive, and open and less judgmental, prohibitive, contentious, and dramatic is associated with less sexual behavior and sexual risk-taking during adolescence (Mueller & Powers, 1990; Ward & Wyatt, 1994). Overall, the research suggests that *how* parents communicate with their teenagers is more important than whether, how frequently, or to what extent they discuss these issues.

Research on family factors related to HIV-risk behavior among youth in psychiatric treatment has largely ignored the role of parent–teen communication. Communication in families affected by mental health problems is often strained (Brown et al., 1997), however, and some of the same maladaptive communication patterns associated with adolescent psychopathology are also related to risky sexual behavior. For example, less open and more problematic communication is associated with adolescent depression (Tulloch, Blizzard, & Pinkus, 1997), and communication between parents and youth with externalizing problems has been characterized as hostile and negative (Donenberg & Weisz, 1997; Heller & Baker, 2000). Elevated rates of risky sexual behavior among youth in psychiatric care may be due to or maintained in part by dysfunctional parent–teen communication patterns. Thus, understanding how these factors are linked for youth in psychiatric treatment is an important step in designing appropriate interventions to target this vulnerable group of teens and their families.

In addition to addressing a high-risk, yet understudied, group of teenagers, this small-scale pilot study uses behavioral observations, a highly informative yet underutilized methodology, to examine the parent–teen communication process. All of the studies assessing the relationship between parent–teen communication quality and adolescent sexual risk-taking have relied on self-report scales or interviews to assess the quality of parent–adolescent communication about sex. Self-report data, however, are subject to a variety of biases and may not accurately reflect the nature of parent–child communication. Some researchers have used observational techniques to examine the relationship between parent communication about AIDS-related issues and adolescents' knowledge and attitudes about AIDS (Leftkowitz, Kahlbaugh, Au, &

Sigman, 1998; Whalen, Henker, Hollingshead, & Burgess, 1996), but we have found no studies to date that employ observational methods to explore the relationship between parent communication about sex- and AIDS-related issues and troubled adolescents' sexual risk-taking.

The present study is a pilot effort to clarify the link between parent-teen communication and risky sexual behavior for youth in psychiatric treatment using a multidimensional approach to examine both the quality and frequency of communication. We hypothesized that the quality of parents' communication about sex would predict adolescent sexual risk-taking better than the self-reported frequency of their conversations about sex, birth control, and HIV/AIDS. The literature cited above suggests that more responsible sexual behavior occurs when communication with parents is more open, receptive, comfortable, friendly, attentive, and impression-leaving, and less dramatic, contentious, judgmental, or prohibitive. Based on these findings with normally developing adolescents, we expected less risky sexual behavior among troubled teens whose parents engaged in more open and receptive, or *mutual*, discussions with them, were more *supportive*, were less *directive*, were less *withdrawn*, and showed less *disagreement*. These 5 codes were chosen specifically for this study because literature supports their association with sexual risk-taking (e.g., Dutra, Miller, & Forehand, 1999; East, 1996; Miller, Norton, Fan, & Christopherson, 1998; Mueller & Powers, 1990; Ward & Wyatt, 1994; Whitaker, Miller, May, & Levin, 1999).

Method

Participants

Subjects ($N = 30$) were a subset of a larger longitudinal study of HIV/AIDS risk behavior in clinically disturbed teens for whom complete data were available. Participants were adolescents in treatment at an outpatient psychiatric clinic in urban Chicago and their primary caregiver (83% mothers, 10% fathers, 7% other females). At the adolescent's first clinic appointment, research staff asked parents and teens for permission to use questionnaires completed as part of the standard clinical protocol for research, and 89% of families agreed. We invited families who gave permission to use their clinical data for research to return to the clinic and participate in a parent-adolescent videotaped interaction and a structured diagnostic interview. Forty-three families agreed (34%), and parents and caretakers were paid for their participation.¹ Participation in the videotaped procedures and structured interview required an additional 2-hour visit to the clinic beyond the family's usual appointment, and this reduced the number of families willing to participate. A subset of 30 parent-adolescent videotaped interactions is the focus of this small pilot study. Of the 43 participants who completed the videotaped discussion, 13 were excluded from the present study for the following reasons: 5 videotapes were used for training purposes, 2 videotapes were uncodable due to technical errors in recording, 4 participants had siblings in the study, 1 participant's self-report data was incomplete, and 1 participant discussed a different set of vignettes. Relative to the larger sample, youth in this sample did not differ significantly in terms of age, gender, ethnicity, or sexual risk behavior (i.e., vaginal sex, oral sex, sex while using drugs/alcohol, sex with someone with unknown sexual history, sex without a condom, global risky sex). Thus, this small sample is representative of the larger study sample.

Adolescents were between the ages of 13 and 19 ($M = 15.7$, $SD = 1.48$), an age group that captures the period during which sexual experimentation frequently begins (Boyer & Kegeles, 1991). Within the sample, 53% were female, and subjects were ethnically diverse: 47%

¹Due to changes in funding sources, payment for completing the videotaping and CDISC ranged from \$20 to \$30, and some parents received \$15 for their travel and parking.

African-American, 27% Caucasian, 10% Latino, 10% biracial, 3% Asian/Pacific, and 3% other. Compared to US Census data for Chicago (U.S. Census Bureau, 2000), there are somewhat more African Americans (47% vs. 37%), somewhat fewer Caucasians (27% vs. 42%), somewhat more biracials (10% vs. 3%), somewhat fewer Latinos (10% vs. 26%), and somewhat fewer 'others' (3% vs. 14%) in our sample, but the diversity of the sample and ethnicities represented are roughly generalizable to the Chicago area. A range of socioeconomic backgrounds were represented, but SES was not associated with ethnicity or risky sexual behavior. Youth in this sample met diagnostic criteria for a range of psychiatric diagnoses according to self and/or parent report on the Computerized Diagnostic Interview Schedule for Children, Fourth Edition (Costello, Edelbrock, Dulcan, Kalas, & Klaric, 1984; Shaffer, Fisher, Piacentini, Schwab-Stone, & Wiks, 1991): social phobia (7% parent), panic disorder (7% parent), separation anxiety disorder (3% self), generalized anxiety disorder (10% self), obsessive compulsive disorder (4% parent, 35% self), post traumatic stress disorder (9% self), major depressive disorder (21% parent, 31% self), dysthymia (4% parent, 7% self), mania (4% parent, 7% self), hypomania (3% self), attention deficit hyperactivity disorder (21% parent), oppositional defiant disorder (14% parent), and conduct disorder (4% parent, 17% self). Given the range of internalizing and externalizing problems represented, this sample is relatively generalizable to other adolescent outpatient populations. Youth were excluded from the larger study if they 1) were identified by clinic staff as mentally retarded or with known organic impairment that might interfere with their cognitive functioning (e.g., brain injury); 2) were wards of the Department of Children and Family Services (DCFS); 3) did not speak English; 4) did not live with a guardian or caretaker.

Data collection site

The outpatient clinic used in this study serves urban youth, a population at particularly high risk for contracting the AIDS virus (Vera, Reese, Paikoff, & Jarrett, 1996). According to the 1999 Illinois AIDS/HIV Surveillance Report conducted by the Illinois Department of Public Health, the primary communities served by this site have high rates of AIDS infections, and youth living in areas with a high incidence of AIDS are at greater risk of infection (Burke et al., 1990). Chicago ranks 6th highest among US metropolitan areas in terms of cumulative AIDS cases (Centers for Disease Control and Prevention, 2001), with an estimated 6,470 people currently living with AIDS (City of Chicago, 2000). African Americans account for 57% of all new HIV/AIDS cases in Chicago, Caucasians account for 27%, and Hispanic/Latinos account for 15% (City of Chicago, 2000). In addition to the prevalence of HIV/AIDS in Chicago, youth at the site used in this study report high rates of sexual behavior and a range of risky sexual behaviors (Donenberg, Wilson, Emerson, & Bryant, 2002; Donenberg et al., 2001).

Measures

Sexual risk-taking.—The AIDS Risk Behavior Assessment (ARBA) is a structured interview designed specifically for use with adolescents to assess their self-reported sexual behavior, drug/alcohol use, and needle use associated with HIV-infection. It was derived from four well-established measures of sexual behavior and drug/alcohol use (Dowling, Johnson, & Fisher, 1994; IBS, 1991; Needle et al., 1995; NIDA, 1995; Watters, 1994; Weatherby, Needle, & Cesari, 1994). Youth self-administered the ARBA using a standard walkman and recorded their responses on a questionnaire, but an interviewer stayed in the room to answer questions and ensure item comprehension. The ARBA assesses a continuum of sexual risk-taking, including type of sexual behavior (i.e., anal, oral, vaginal), frequency of sexual intercourse, age of sexual debut, number of sexual partners, condom use, and sex with high-risk partners (i.e., a prostitute, someone who has HIV or AIDS, injection drug user, someone with unknown sexual history). Thus, it was an appropriate measure of HIV-risk behavior, as opposed to merely assessing sexual experience. Risky sexual behavior was derived by

summing the number of sexual partners in the past 3 months, and assigning one point each if participants had sex while using drugs/alcohol, without a condom, and with a high-risk partner (sexual history was not known). Thus, higher scores indicated greater sexual risk-taking. Research supports use of a composite measure of sexual risk-taking (Donenberg, Wilson, Emerson, & Bryant, 2002; Donenberg et al., 2001; Kotchick, Dorsey, Miller, & Forehand, 1999).

Quality of communication about sex.—This study measured parent communication about sex through a videotaped parent–adolescent discussion of four fictional vignettes describing sex-related situations involving parents and adolescents. These vignettes were created by the second author and her research team and cover a wide range of adolescent experiences related to issues of birth control, condom use, and sexual behavior. A series of semi-structured questions served as the basis for discussions. We developed two versions of each vignette, one for boys with a boy as the main character, and one for girls with a girl as the main character. As an example of a vignette:

Wanda/Jack's mom was doing the laundry and found some condoms in Wanda/Jack's pants' pocket. She wants to talk to Wanda/Jack about the condoms and find out if Wanda/Jack is having sex, but she isn't sure how to bring up the subject. The time is never good because Wanda/Jack is always in her/his room listening to music, and her/his mom is tired after working all day. What might Wanda/Jack's mom want to say to her/him? How can her/his mom bring up the subject? How might Wanda/Jack respond? Should Wanda/Jack be having sex?

The four vignettes and semi-structured questions were typed on a sheet of paper and given to participants in a predetermined, counterbalanced order. Participants were given fifteen minutes to discuss these four vignettes and an additional vignette not used in this study. Review of the tapes indicates that parents and youth discussed the vignettes and were engaged in the task.

Coding of parent–adolescent interactions.—A team of four undergraduate students independently coded each of the discussions based on the system developed by Whalen et al. (1996). This coding system was developed from the literature on family process specifically to code parent–adolescent discussions of AIDS-related issues. Five variables were used in the present study, each rated on a scale from 1 to 9: 1) *mutuality*, or the degree to which parents and adolescents interact on a relatively equal basis and their opinions and values are held as equally important and worthwhile; 2) *directiveness*, or the degree to which parents behave in a demanding or dominant manner; 3) *support*, or the degree to which parents show encouragement in the form of praise, compliments, approval, admiration, validation, affirmation, agreement, or acknowledgement of adolescents' thoughts and feelings; 4) *disagreement*, or behavior intended to correct or change adolescents' actions or opinions, disagree, take issue, or express a different view; and 5) *withdrawal*, or the degree to which parents disengaged from, avoided, or refused to talk to the adolescent.

To prevent rater bias, coders did not view the videotapes prior to coding and were blind to participants' level of sexual risk-taking. Training required approximately ten 2-hour sessions and involved reviewing relevant literature, studying the coding system, practice-coding videotapes, and clarifying points of confusion in the coding system.

Except in rating the code mutuality, which necessitated considering the dyad as a whole, only parent behavior was rated. The procedure for coding each parent–adolescent discussion was as follows: 1) Raters viewed one segment of interaction (defined as the discussion of one vignette) and reviewed that segment as many times as needed; 2) For that segment, they rated each of the five variables; 3) This procedure was repeated for all four segments. To determine inter-rater reliability, independent ratings were averaged across the four segments for each

subject, resulting in four sets of averaged scores (one for each coder) for each subject. As Table 1 shows, inter-rater reliability was strong, ranging from .79 for Disagreement to .94 for Mutuality (Cronbach's alpha). The four rater averages were then averaged to calculate a final score on each variable for each subject. These five final scores, calculated by averaging individual scores across the four segments and across the four raters, were used in the data analysis.

Generalizability of the videotaped interactions.—To determine whether the videotaped discussions reflected parent–adolescent communication about sex as it occurs at home, parents and adolescents completed a 4-item Post-Discussion Questionnaire (adapted from Heavey, Layne, & Christensen, 1993) after the discussion. This questionnaire asked the participants whether 1) they were interested in the discussion; 2) they participated in the discussion; 3) they told their parent/adolescent how they felt; and 4) it was representative of discussions they have at home about similar issues. Participants responded on a Likert-type scale (i.e., 1 = not at all true, 4 = very true).

Frequency of communication about sex.—Caregivers reported how frequently they brought up the topics of sex, HIV/AIDS, and birth control with the adolescent (i.e., never, occasionally, sometimes, often, very often).

Demographic data.—Caregivers provided information about the adolescent's age, gender, and ethnicity, and the family's socioeconomic status.

Data analysis

We determined frequencies of sexual experience (vaginal, anal, oral), risky sexual practices (number of partners, sex while using drugs or alcohol, sex without a condom, sex with a high-risk partner), parent and adolescent responses on the Post Discussion Questionnaire, and parent-reported communication about sex, HIV/AIDS, and birth control. As previous research has suggested that parent communication about sex and adolescent sexual behavior differ based on adolescents' gender (Miller, Norton, Fan, & Christopherson, 1998) and ethnicity (Ward & Wyatt, 1994), we tested gender and ethnic differences in the communication variables (mutuality, directiveness, disagreement, humor, withdrawal, emotional expressiveness, support) and risky sexual behavior using One-Way ANOVAs. Where the ANOVAs were significant, we examined between group effects post-hoc using Least Squares Differences (LSD) tests. Older adolescents are more likely to be sexually active and less likely to take precautions against HIV (Kotchick, Shaffer, Miller, & Forehand, 2001). Thus, we examined the relationship between age and the predictor and outcome variables. We also used 2-tailed Pearson Correlations to test the associations between each of the communication variables and frequency of communication and risky sexual behavior. This small pilot project is one of the first studies to test whether observed parent–teen communication is related to risky sexual behavior among troubled youth, and thus, we wanted to maximize our ability to detect effects and limit Type II error. Therefore, we used an alpha of .05 to determine significant effects.

Results

Frequencies

Sexual experience and sexual risk-taking.—Rates of sexual experience and sexual risk-taking in this pilot sample did not differ significantly from those among youth in the larger study; 50% of the sample reported vaginal and/or oral sex ($p = .956$ vaginal; $p = .193$ oral)²

² p -values represent significance of the difference between pilot sample and larger sample, based on One-Way ANOVA.

and among sexually active adolescents, 47% reported sex with someone whose sexual history was unknown ($p = .881$), 20% reported two or more partners ($p = .530$), 80% reported sex without a condom ($p = .312$), and 53% reported sex while using drugs or alcohol ($p = .666$). These data are consistent with earlier findings (Donenberg, Wilson, Emerson, & Bryant, 2002; Donenberg et al., 2001) of high rates of sexual risk-taking in this population. Boys and girls did not differ significantly in terms of risky sexual behavior ($p = .057$), and there was no association between age and level of sexual risk-taking ($p = .098$). There were, however, significant ethnic differences in risky sexual behavior ($p = .004$); biracial teens were more risky than Caucasian ($p = .014$) or African American teens ($p = .001$), and Latino youth were more risky than African Americans ($p = .017$).

Generalizability of discussions.—Parents and adolescents were generally interested in ($M = 3.40$, $SD = .93$ parents; $M = 3.17$, $SD = .87$ adolescents) and honest ($M = 3.70$, $SD = .60$ parents; $M = 3.23$, $SD = .94$ adolescents) with each other during the discussions. Parents were more likely than teens to report that the laboratory discussions were similar to discussions at home ($M = 3.03$, $SD = 1.03$ parents; $M = 2.40$, $SD = 1.10$ teens), but research supports correspondence between parent behavior displayed in a laboratory interaction and parallel behaviors exhibited in the home (Dadds & Sanders, 1992).

Communication variables

Table 1 shows the means and variability of the communication ratings. On average, subjects in this sample exhibited moderate levels of mutuality, directiveness, and support. Parents in this sample showed low levels of disagreement and withdrawal, and thus, findings with these variables should be interpreted with caution. Several communication variables were moderately correlated (see Table 2). However, given the considerable unshared variance accounted for by these variables, we considered them separately in the data analysis.

Gender, ethnic, and age differences in communication about sex

One-Way ANOVAs did not support any significant gender differences in the quality of parents' communication about sex. However, ANOVAs revealed significant ethnic differences in levels of mutuality ($p = .001$), parent directiveness ($p = .045$), and parent support ($p = .019$). Post-hoc mean comparison tests (LSD) revealed higher levels of mutuality among Caucasian ($p = .001$) and biracial subjects ($p = .000$) than among African American subjects and higher levels of mutuality among biracial subjects than Latino subjects ($p = .018$). Caucasian parents were coded as more supportive than African American parents ($p = .008$) or Latino parents ($p = .009$), and biracial parents were coded as more supportive than African American parents ($p = .047$) or Latino parents ($p = .025$). African American parents, furthermore, were more directive than Biracial parents ($p = .005$). Table 3 shows the means and standard deviations of each of the communication variables for the ethnic groups represented. There were no significant correlations between age and any of the predictor or outcome variables.

Risky sex and quality of communication

Table 4 shows the correlations between the communication variables and adolescents' risky sexual behavior. Analysis revealed significant correlations between risky sex and mutuality (.48, $p = .007$) and between risky sex and parents' disagreement ($-.41$, $p = .026$). Contrary to our hypothesis, adolescents who engaged in the most risky sexual practices also participated more equally in discussions of sex with their parents. Furthermore, the adolescents whose parents disagreed with them most during discussions of sex engaged in the least risky sexual practices. As shown in Table 1, the parents in this sample did not provide high levels of disagreement. Based on the level of disagreement reflected by parents in this sample, youth whose parents moderately disagreed with them were less likely to engage in risky sexual

behavior. No other relationships between the communication variables and risky sexual behavior were statistically significant. The relationship between parent directiveness and risky sex, however, approached significance ($-.34, p = .070$). There was some tendency for adolescents whose parents were more directive to engage in less risky sexual practices, and with a larger sample size, this effect might be clarified. On the other hand, this trend may merely reflect the connection between parents' levels of directiveness and both disagreement and mutuality (see Table 2), rather than a unique effect of directiveness.

Because of the ethnic differences in the mutuality of discussions and in risky sexual behavior, we controlled for ethnicity by entering this variable first into a hierarchical regression model predicting risky sexual behavior from mutuality. For the purposes of regression, ethnicity was represented as two dummy-coded variables distinguishing the largest ethnic groups in the sample: (1) Caucasian vs. not Caucasian; (2) African American vs. not African American. The relationship between mutuality and risky sexual behavior held up even when we controlled for being African American (R^2 change = .147, $p = .030$) or being Caucasian (R^2 change = .281, $p = .003$). In fact, being African American ($R^2 = .068, p = .088$) or Caucasian ($R^2 = -.035, p = .89$) accounted for very little variance in adolescents' risky sexual behavior while mutuality explained a moderate amount of the variance. Because previous research has found a strong connection between adolescent age and sexual behavior (Kotchick, Shaffer, Miller, & Forehand, 2001), and because parents might be more likely to have mutual discussions with older teens, we tested the interaction between age and mutuality but found that it was not significant in predicting risky sexual behavior (R^2 change = .026, $p = .349$).

Frequency of communication about sex and risky sex

Parents varied in the frequency that they reported discussing sex, birth control, or HIV/AIDS with their adolescents. Regarding discussions of sex, 20% of parents said they never brought up this topic, 70% said they brought up the topic at least occasionally, and only 10% reported bringing up the topic of sex very often. When asked how often they brought up the topic of HIV/AIDS with their adolescent, 30% of parents said they never brought up this topic, 67% said they brought up the topic of HIV/AIDS at least occasionally, and only 3% said they discussed this topic very often. Similarly, 37% of the parents said they never brought up the topic of birth control, 60% said they brought up the subject at least occasionally, and 3% said they brought up the topic of birth control very often. Thus, very few parents have frequent discussions of sex, HIV/AIDS or birth control with their adolescents, and many parents never engage in such discussions with their adolescents. Parents' reported frequency of communication with their adolescents about sex, HIV/AIDS, or birth control, however, was not significantly related to adolescents' risky sexual behavior or sexual experience.

Discussion

This small-scale pilot study represents a first step in examining the relationship between parent communication about sex and risky sexual behavior among adolescents in psychiatric care. The findings underscore the importance of studying this issue using observational data to assess the quality of parent-teen communication, but replication of these findings with larger samples is necessary to determine the strength and validity of the effects. Nonetheless, our findings provide initial directions for more extensive investigation and point to aspects of parent communication that might play an important role in risky sexual behavior among teens in psychiatric care. Results also suggest potentially important family-based intervention targets for troubled youth, such as increasing parental directiveness during parent-teen discussions of sex-related topics.

Three findings from this pilot study are noteworthy. First, findings suggest that the way parents of troubled youth discuss sex, birth control, and HIV is more related to their teens' sexual

behavior than how often they have such discussions. These results are not surprising considering the lack of consistency in the literature on the relationship between frequency of parent communication and teen sexual behavior, especially when linear designs are used and other aspects of the communication process are ignored. Moreover, interaction patterns in families of teens in psychiatric treatment tend to be maladaptive, and these parents may lack effective tools for communicating with their teens, especially about sensitive and uncomfortable topics such as sex. It is possible that frequency and quality of conversations interact to affect adolescent sexual risk behavior, but the small-scale nature of this study prohibited testing these associations. Nevertheless, these data suggest that programs designed to reduce sexual risk-taking among youth in psychiatric treatment may be more effective if they include teaching parents how to talk to their teens about sex, rather than merely encouraging such communication.

Second, this pilot study found two significant relationships and one marginally significant relationship between the quality of parents' communication about sex and adolescents' risky sexual behavior: 1) Adolescents who engaged in mutual discussions with their parents practiced the most risky sexual behavior; 2) Adolescents whose parents disagreed somewhat with them during discussions of sex were less likely to engage in risky sexual behavior; 3) Adolescents whose parents were more directive during discussions of sex were less risky. These findings taken together are consistent with evidence that increased parental control may protect troubled urban youth from engaging in risky sexual behavior (Donenberg & Emerson, 1999). Although positive, open communication among normally developing adolescents may be protective against sexual risk-taking, mutual non-directive discussions with troubled adolescents, whose family relations are strained, may be less effective and even serve to promote risky behavior in at least one important way. Troubled youth suffer from an array of deficits, including poor interpersonal relationships, cognitive deficits, impulsivity, self-destructive tendencies, affective instability, and adverse life circumstances, all of which predispose them to behave in health-compromising ways (Brown et al., 1997). Without adequate parental guidance and limit-setting, these youth may be less equipped to negotiate sexual decisions and relationships. Greater mutuality in these families, moreover, may represent lack of appropriate boundaries between parent and child and the absence of necessary parental guidance to help youth negotiate sexual situations, rather than a healthy level of openness. Indeed, evidence is accumulating that greater parental direction and control is linked to reduced risk-taking for urban teens.

The correlational data presented here do not provide information about causality, and it is possible that youth who are already sexually active and engaging in risky behaviors may take a more active role in sexual discussions with parents. Further examination of observed parent-adolescent discussions with a larger sample and longitudinal data will permit determinations of causality that are not possible here. Nonetheless, these preliminary findings suggest that the link may be different for teens in psychiatric care than for other adolescents. Based on these preliminary results, adolescents may benefit from interventions that strengthen parenting behavior and clarify boundaries between youth and parents. Indeed, family-based interventions for youth in psychiatric care that emphasize parental directiveness, limit-setting, and assertiveness during discussions of sexuality and HIV/AIDS may prove beneficial in strengthening parents' role in promoting responsible sexual behavior among these high-risk teenagers.

Finally, results of this study revealed ethnic differences in parents' communication about sex. In this pilot sample, African American and Latino parents engaged in less mutual discussions with their adolescents than Caucasian or biracial parents, and high levels of mutuality were associated with greater sexual risk-taking. Less mutuality in conversations about sex may therefore be protective for urban, minority adolescents. These preliminary results suggest that future research should consider the influence of ethnicity in the relationship between parent-

teen communication and adolescent sexual risk-taking, and studies with larger samples will likely clarify the nature and significance of these ethnic differences. Similar, family-based interventions focusing on parent–teen communication may need to be adapted for different ethnic groups.

This small-scale pilot study, limited by its preliminary nature, underscores the utility of using behavioral observations to study the relationship between parent–teen sexual communication and risky sexual behavior among troubled youth. Power to detect effects in this preliminary study was limited by the small sample size, and thus, future research with a larger sample may reveal relationships that were not detected here, including important mediating and moderating factors (e.g., frequency of communication about sex). The methodology used in this study would be augmented by inclusion of additional behavioral codes to tap important constructs not included here, self-reports of communication quality, an examination of adolescents' observed behaviors associated with sexual risk-taking, qualitative analysis, and an assessment of other dimensions of the communication process, such as timing, content, and parent attitudes toward adolescent sex. Other research has found different patterns for boys and girls in terms of sexual behavior, parent–teen communication, and links between them (Miller, Norton, Fan, & Christopherson, 1998), but this study revealed similar parental behaviors for boys and girls. There may be gender differences that were not detected here because of the small sample size, making this an important focus of future research. Finally, results from this study cannot be generalized to non-clinic populations, though behavioral observations may also prove useful in assessing links between parent–teen communication and risky sexual behavior among normally developing youth. Nonetheless, youth in psychiatric treatment are at high risk for engaging in risky sexual behavior, and this study addresses a much-needed gap in the literature by examining links between parenting and risky sex among this understudied group of teens.

This pilot study is a first step in the process of identifying linkages between parent–teen communication and adolescent sexual risk-taking for youth in psychiatric care. Using observational data, even with limited power to detect effects, two significant relationships and one marginal relationship emerged. Adolescents whose parents had less mutual discussions, disagreed with them, and were more directive engaged in less sexual risk-taking. These findings provide a springboard for future research on parent–teen communication in relation to sexual risk-taking and for the design and implementation of prevention programs focusing on parent communication as a method of reducing risky sexual behavior among troubled adolescents.

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Table 1
 Variability and inter-rater reliability of communication variables¹

	Mutuality	Directiveness	Disagreement	Withdrawal	Support
Mean	5.45	4.35	1.78	2.26	4.7
Standard deviation	1.15	1.28	.53	.64	1.25
Minimum	3.08	1.92	1.06	1.25	2.88
Maximum	8.00	8.94	2.88	4.42	7.25
Inter-rater reliability ²	.94	.87	.79	.84	.85

¹ Rated by four independent raters on a scale from 1 to 9.

² Cronbach's alpha.

Table 2

Correlations between communication variables

Mutuality	Mutuality 1.00	Directiveness	Disagreement	Withdrawal	Support
Directiveness	-.56 ^a	1.00			
Disagreement	-.26	.54 ^a	1.00		
Withdrawal	-.29	.10	.23	1.00	
Support	.63 ^a	-.27	-.31	-.41 ^b	1.00

^a
p < .01.^b
p < .05.

Table 3

Ethnic differences in communication*

	Mutuality	Directiveness	Negative feedback	Withdrawal	Support
Caucasian (<i>n</i> = 8)	6.21 ^a	3.9	1.63	2.16	5.63, ^{ab}
African American (<i>n</i> = 14)	4.78	4.87 ^c	1.94	2.22	4.25
Latino (<i>n</i> = 3)	5.33	4.47	1.88	2.26	3.58
Biracial (<i>n</i> = 3)	7.1, ^{ab}	2.64	1.17	1.94	5.68, ^{ab}
Other (<i>n</i> = 2)	4.84	4.97	2.02	3.46	4.42

* Mean scores.

^a = greater than African American ($p < .05$).

^b = greater than Latino ($p < .05$).

^c = greater than biracial ($p < .05$).

Table 4
Correlations between communication variables and adolescents' risky sex

	Risky sex
Mutuality	.495 ^a
Directiveness	-.323 ^c
Disagreement	-.385 ^b
Withdrawal	-.034
Support	.139

^a $p < .01$.

^b $p < .05$.

^c $p < 0.1$.