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Abstract: Parent-teen communication about sexual topics was examined in 666 mother-teen and 510 father-teen pairs. Parents and their 8th- through 12th-grade children completed parallel surveys that assessed demographic, relationship, and attitudinal variables hypothesized to be linked to sexual communication. Logistic regression analyses were used to determine which variables were linked to teens' reports of "one good talk" about each of three sexual topics (whether teen sex is okay, the dangers of AIDS and other sexually transmitted diseases, and birth control) in the past year. Aside from gender of parents and teens, demographic variables were largely nonsignificant in the final models. Instead, relationship and attitudinal variables were linked to sexual discussions in both mother-teen and father-teen dyads. Discussion focused on implications for program development and directions for future research.

Parent-Teen Communication About Sexual Topics

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One of the biggest threats to the well-being of American teenagers is early and unprotected sexual activity. By the 12th grade, two thirds of girls and three quarters of boys engage in sexual activity, often without effective contraception (Centers for Disease Control, 1992). As a result, more than

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one million teenage girls become pregnant each year (Alan Guttmacher Institute, 1994), and sexually active adolescents have the highest sexually transmitted disease rates of all age groups (Quinn & Cates, 1992). Given these disturbing statistics, there is an urgent need to identify factors that promote responsible sexuality among teens. Although the impact of parents is often debated or discounted, young adults typically name parents as important sources of sex education (Bates & Joubert, 1993; Yarber & Greer, 1986), and a growing body of research reveals linkages between parent-child communication and adolescent sexual behavior and attitudes (Fisher, 1986; Holtzman & Rubinson, 1995; Moore, Peterson, & Furstenberg, 1986; Treboux & Busch-Rossnagel, 1990). Most important, sexual discussions with parents have been linked to less risky sexual behavior among teenagers (Casper, 1990; Fox & Inazu, 1980; Holtzman & Rubinson, 1995; Luster & Small, 1994). This research suggests that parent-teen sexual discussions do influence teenagers' sexual attitudes and behavior; however, factors associated with such discussions are not well understood. Identification of characteristics of parents who discuss sexual issues with their teenage children would provide important information for educators and practitioners.

Most research on the role of parents in sexual socialization has focused on identifying demographic predictors of parent-child communication about sex (Fox & Inazu, 1980; Furstenberg, Herceg-Baron, Shea, & Webb, 1986; Leland & Barth, 1993; Moore et al., 1986; Sigelman, Derenowski, Mullaney, & Siders, 1993; Young & Core-Gebhart, 1993). This research indicates that daughters are more frequently the target of sexual communication than sons (Moore et al., 1986; Young & Core-Gebhart, 1993), and mothers communicate more with teens than fathers do (Baldwin & Baranoski, 1990; Nolin & Petersen, 1992; Sigelman et al., 1993). Few other consistent findings have emerged; factors significant in some studies (e.g., child's age, parent's age, household composition, parent's level of education, and maternal employment status) are often not significant in others. The conclusion drawn by Fox and Inazu (1980) nearly 20 years ago is still valid today: "Apart from gender, there appears as yet to be no identifiable cluster of sociocultural or social psychological characteristics of parents who are consistently and effectively involved in communicating about sexuality with their teens" (p. 26).

The goal of the present analysis was to identify previously neglected predictors of parent-child sexual communication, including parental beliefs about the child's sexual behavior, attitudes regarding teen sex, and worries about negative consequences of sexual activity. The significance of parental beliefs about their teen's sexual behavior was suggested

by Fox and Inazu (1980), who found that the focus of mother-daughter communication differed before and after the daughter's sexual debut. These authors speculated that before teenage girls become sexually active, their mothers attempt to prevent sexual experimentation by "moralizing" and providing general information about sex. Once mothers know or suspect their daughters are sexually active, they may shift to the role of guide, gearing discussions toward practical matters, such as birth control. Thus, we hypothesized that parental beliefs about their child's sexual behavior would influence discussion of sexual topics.

Parental values about sexuality and beliefs about possible negative outcomes of teen sexual activity might also influence sexual communication. Researchers often assume that all parents want to dissuade their children from having sexual intercourse, when in fact this may not be true (Jaccard & Dittus, 1991, 1993). For example, Jaccard and Dittus (1991) found that approximately one fifth of parents in their study said it would be acceptable for their teenager to have sex once or twice with a steady boyfriend/girlfriend, and approximately one tenth said they would not discourage their child from having sex. Differences in parental attitudes toward teen sex may influence the focus of parent-teen sexual communication. Similarly, parental perceptions of the cost of a teenager's sexual activity may influence the nature and extent of sexual discussions. In an examination of family and peer influences on teenage women's contraceptive behavior, Nathanson and Becker (1986) found that parents who would be negatively affected by their daughter's pregnancy (in their study, lower income African American parents who would probably be drawn into caring for grandchildren) were more likely to support their daughter's decision to seek contraception than those who could "afford to interpret contraception in moral rather than in practical terms" (p. 521). These findings led us to predict that parents who are more accepting of teen sexuality, believe that their child's peers are sexually active, and worry about peer pressure to initiate sexual activity will be more likely to discuss sexual topics, especially birth control or sexually transmitted diseases.

In addition to examining the influence of previously neglected attitudinal and belief variables on sexual communication, the present study attempted to address four methodological limitations from prior research (for a full discussion of these limitations, see Jaccard & Dittus, 1993). One limitation is that respondents are often asked about sexual discussions during the teen's entire life, making it difficult to explore linkages between communication and characteristics of the parent-child dyad (e.g., Baldwin & Baranoski, 1990; Barth, Leland, Kirby, & Fetro, 1992; Casper, 1990; Fisher, 1986; Newcomer & Udry, 1985; Nolin &

Petersen, 1992; Treboux & Busch-Rossnagel, 1990). Another limitation is that parent-child communication is sometimes assessed with a single item, making it impossible to examine patterns of discussion about specific topics (e.g., Moore et al., 1986). In the present study, we examined discussions within the past year about three distinct topics: whether teen sex is okay, the dangers of AIDS and other sexually transmitted diseases (STDs), and birth control. A third methodological limitation of previous research is that information is typically obtained from only one member of the dyad, usually the teen (Barth et al., 1992; Bates & Joubert, 1993; Casper, 1990; Furstenberg et al., 1986; Moore et al., 1986; Treboux & Busch-Rossnagel, 1990), with the parent contacted only occasionally (Fisher, 1986; Sigelman et al., 1993; Young & Core-Gebhart, 1993). In the present study, data were obtained from both members of the parent-teen dyad, reducing biases resulting from use of self-report data and permitting an examination of whether parental attitudes (assessed from the parent perspective) are linked to effective sexual communication (assessed from the teen perspective). Finally, unlike prior research that has focused almost exclusively on mother-teen dyads, we hoped to extend knowledge about the role fathers play in sexual socialization by examining parent-child discussions separately in mother-teen and father-teen dyads.

METHOD

SAMPLE AND PROCEDURES

Respondents were 8th- to 12th-grade students and their parents. In these analyses, we report on responses provided by 666 matched mother-teen pairs and 510 matched father-teen pairs. The teen and parent samples and the matched samples are described below.

Teens. Students were drawn from an urban, a suburban, and a rural school district in a single Midwestern county. Following procedures approved by the University's Institutional Review Board and participating school districts, parents were sent notification letters and asked to call the school if they objected to their child's participation in a survey administered during a regular class period. Participation rates ranged from 84% to 96% across the schools; overall, 88% of enrolled students completed the survey. Nonparticipation was primarily due to student absence (64% of nonparticipants) rather than refusal by parent or child (28%) or exclusion by the school due to language difficulties or learning disabilities (8%).

In two schools, all students in the target grades were surveyed; in two larger schools, a representative subset of classrooms was selected by school guidance personnel.

A total of 1,237 8th- to 12th-grade students completed a 160-item self-report survey. Responses were recorded directly onto computer scannable forms precoded with a unique identifier for each student. Seven teens were excluded for providing unusable data (e.g., implausible or contradictory responses) and three for erasing the identification code from their response sheet. Thus, 1,227 students provided usable data.

Parents. Mothers and fathers were asked to complete a parallel 131-item mail survey that was precoded with the same identification number assigned to the target teen. After two mailings, nonrespondents were contacted by telephone and encouraged to participate. A total of 1,306 parents returned completed surveys, yielding a response rate of 60% after adjusting for single parent households and families who had moved during the study. About 10% ($n = 130$) of the parent surveys were unusable: 7 were returned blank, 45 had no matching data from the target teenager, and 78 were completed for the wrong child in the family. Thus, 1,176 parents provided surveys that could be matched to a student survey.

Matched samples. The matched samples consisted of 666 mother-teen pairs (representing 54.4% of participating teens) and 510 father-teen pairs (representing 41.6% of participating teens). The majority of both mothers (97%) and fathers (94.5%) described themselves as White (not Hispanic), and about three quarters (79% of mothers and 74% of fathers) had continued their education beyond high school (additional demographic characteristics are reported below). The mother-teen and father-teen samples overlap to some extent because surveys were received from both parents for 66% of the teens. However, mother-teen and father-teen pairs were examined separately for two reasons. The first was that focusing only on mother-father-teen triads would exclude all teens living with only one parent as well as those with data from only one parent. The second reason was that mother-father differences in sexual communication were a focus of the present analyses.

To determine how representative the matched samples were, we compared students whose parent(s) provided data to those whose parent(s) failed to do so on a set of demographic and behavioral measures. Teens whose parents did not participate were significantly more likely to attend the rural rather than the suburban school, be in special education or alternative classes, be from an ethnic minority group, and not be living

with two biological parents ($p < .0001$ for all comparisons). In addition, students whose parents did not participate had lower grade point averages (GPAs) ($p < .001$) and were more likely to report running away in the past year ($p < .02$); they also had higher scores on a substance use scale ($p < .10$). Thus, students whose parents provided data differed from those whose parents failed to do so in a number of ways that limit generalizability of the findings.

PARENT MEASURES

The parent survey assessed a variety of parenting practices, beliefs, and values. Of interest in this study were demographic variables (parent age, education, employment status, and family structure) as well as measures of sexual communication, parental beliefs and values about sexuality, and quality of the parent-child relationship. Table 1 shows means and standard deviations of continuous variables and distributions of categorical variables. Coding of the demographic variables is described in Table 1; other measures are detailed below.

Parent-child communication. Frequency of discussion of three sexual topics was assessed: whether it's okay for teenagers to have sex (teen sex), the dangers or risks of getting AIDS, HIV, or STDs (dangers STDs), and birth control. Parents responded on a 5-point scale (0 = *never*; 1 = *discussed, but not in last year*; 2 = *discussed once or twice in last year*; 3 = *discussed several times in last year*; 4 = *discussed many times in last year*).

Parent responsiveness. Parents responded to six items assessing quality of the parent-child relationship adapted from the Inventory of Parent-Adolescent Attachment (Armsden & Greenberg, 1987). Items were rated on a 5-point scale (0 = *never* to 4 = *always*). A sample item was "My child and I spend time just talking with each other." A Parent Responsiveness scale was created by averaging across the six items ($\alpha = .84$ for both mothers and fathers).

Parent beliefs about the child's sexual behavior. Parents indicated how likely they thought it was their child "is or has been sexually active (has sexual intercourse)" on a 7-point scale (0 = *definitely not* to 6 = *definitely*).

Parent beliefs about peer sexual behavior. Parents indicated how likely they thought it was that "your child's close friends" and "other

TABLE 1
Descriptive Statistics for Predictor Variables
Assessed on Parent Survey

Continuous Variables ^a	Mothers (n = 666)		Fathers (n = 510)	
	M	SD	M	SD
Parent age (years)	42.2	5.2	44.5	5.4
Parent education ^a	4.25	1.22	4.52	1.38
Parent employment ^b	1.12	0.68	1.67	0.54
Discussed whether teen sex is okay	2.66	1.10	1.93	1.27
Discussed dangers of STDs	2.59	1.10	2.0	1.25
Discussed birth control	2.02	1.30	1.28	1.27
Parent responsiveness	2.96	0.62	2.57	0.66
Believe child has sex	1.10	1.68	1.05	1.45
Believe friends have sex	2.16	1.72	2.23	1.52
Believe other kids have sex	4.27	1.43	3.97	1.35
Birth control attitudes	2.53	0.63	2.38	0.65
Parent worries	0.93	0.83	0.91	0.88
Parent competence	2.63	0.88	2.09	.97
<i>Categorical Variables</i>	<i>Percentage</i>		<i>Percentage</i>	
Family structure ^c				
Two parents in home	85.2		94.5	
One parent in home	14.8		5.5	
Values regarding teen sex ^d				
Less accepting	55.4		52.9	
More accepting	44.6		47.1	

a. 8-point continuous variable (0 = *less than 6 years*, 4 = *some college*, 7 = *graduate degree*).

b. Number of hours of employment per week (0 = *less than 20*, 1 = *21 to 40*, 2 = *41 or more*).

c. Coded as 0 = *two parents in home*, 1 = *one parent in home*.

d. Coded as 0 = *less accepting*, 1 = *more accepting*.

children your child's age" were sexually active on the same scale (0 = *definitely not* to 6 = *definitely*). These two items were significantly but not highly correlated (mothers' $r = .38$, fathers' $r = .42$) and did not scale acceptably for either mothers ($\alpha = .56$) or fathers ($\alpha = .59$); thus, they were analyzed separately.

Birth control attitudes. Parents indicated how much they agreed with the statement, "I want my child to know about birth control" on a 4-point scale (0 = *strongly disagree* to 3 = *strongly agree*).

Parent worries about their child's sexuality. Four items adapted from Benson, Williams, and Johnson (1987) assessed how much parents worried about sexual issues (e.g., "That my child will be pressured into having sex"). Parents responded on a 5-point scale (0 = *not at all* to 4 = *very much*). The four items were averaged to form a Parent Worries scale (alpha for mothers = .84, fathers = .86).

Parent competence. Parents indicated how well they felt they did at helping their children understand "my values about sexuality" and "the dangers of AIDS" on a 7-point scale (0 = *poor* to 6 = *excellent*). These items were averaged to create a Parent Competence scale (alpha for mothers = .83, fathers = .84).

Parent values regarding teen sex. Parents were classified as more or less accepting of teen sex based on their responses to a multiple-choice item. Parents who were less accepting of teen sex indicated that premarital sex was always wrong, inappropriate for teens, or acceptable only among teens age 17 or older. Parents who were more accepting of teen sex were those who indicated that teen sex was inevitable and should be dealt with as a reality, as well as those who said teen sex was acceptable if the couple was engaged to be married, in a committed relationship, in agreement about having sex, or practicing safe sex.

TEEN MEASURES

In addition to age and gender, several variables assessed from the teen perspective were included in the analysis. Table 2 shows means and standard deviations of continuous variables and distributions of categorical variables.

Teen sexual behavior. Teens indicated if they had ever been pregnant or made someone pregnant and if they had been sexually abused (due to community concerns, other items about sexual activity were dropped at all but one of the participating schools).

Personal talk. As a measure of the overall parent-child relationship, teens indicated whether they had "one good talk" about personal problems with either or both parents in the past year using the following response categories: no, mother only, father only, both mother and father. Responses were coded to indicate presence or absence of a personal talk with each parent.

TABLE 2
Descriptive Statistics for Predictor Variables
Assessed on Teen Survey

Continuous Variables	Mother-Teen Dyads (n = 666)		Father-Teen Dyads (n = 510)	
	M	SD	M	SD
Age (years)	15.3	1.5	15.4	1.5
Categorical Variable	Percentage		Percentage	
Gender ^a				
Male	48.6		51.0	
Female	51.4		49.0	
Ever been/made someone pregnant (%yes) ^b	4.0		4.2	
Ever sexually abused (%yes) ^b	6.1		5.6	
One good talk with parent about personal problems in past year (%yes) ^b	59.8		35.4	

a. Coded as 0 = *male*, 1 = *female*.

b. Coded 0 = *no*, 1 = *yes*.

Teen reports of sexual communication. Teens reported whether they had one good talk with either or both parents in the past year about whether teen sex is okay, birth control, and dangers of sexually transmitted diseases using the same response scale. Again, responses were coded to indicate presence or absence of discussion about each topic with each parent.

RESULTS

PRELIMINARY ANALYSES

The outcome variables in this study were teens' reports of sexual communication with mothers and fathers in the past year. Preliminary analyses revealed that significantly more daughters than sons reported talking about each of the three sexual topics with mothers, but no gender differences in communication with fathers were found (see Table 3). Additional analyses (not shown) revealed that about one half (49%) of the teens did not report one good talk with their mother about any sexual topic; 19% discussed one topic, 16% two, and 16% all three topics. Overall, teens were more likely to report discussing whether it's okay for teens to

TABLE 3
Proportion of Teens Reporting One Good Talk
About Sexual Topics in Past Year

	<i>All</i>	<i>Sons</i>	<i>Daughters</i>
Mother-teen pairs	666	324	342
Whether teen sex is okay	41.4	30.6	51.8****
Sexually transmitted diseases	30.0	21.9	37.8****
Birth control	26.6	14.2	38.3****
Father-teen pairs	510	260	250
Whether teen sex is okay	22.2	24.3	20.1
Sexually transmitted diseases	18.2	18.1	18.5
Birth control	10.6	12.7	8.4

NOTE: Significant gender differences (sons vs. daughters) based on χ^2 statistic with continuity correction.

**** $p < .0001$.

have sex (41%) than the dangers of STDs (30%) or birth control (27%) with their mothers. The majority (70%) of teens had not had one good talk with their father about any sexual topic: 16% discussed one, 7% two, and 7% all three topics. Teens were most apt to report talking with fathers about whether it's okay for teens to have sex (22%), followed by the dangers of STDs (18%) and birth control (11%).

Prior to conducting the main analyses, multicollinearity among the predictor variables was examined by computing zero-order correlations. In mother-teen dyads, 28% ($n = 54$) of the 190 correlations among predictor variables were significant ($p < .05$); correlations were moderate, and only 14 of the coefficients exceeded .30. The number of significant correlations among predictor variables was smaller for the father-teen dyads; 15% ($n = 29$) of the correlations were significant, with 14 of the coefficients exceeding .30. Not surprisingly, the strongest correlations were among parental reports of frequency of discussion of different sexual topics. Because of the moderate size of correlations among the predictor variables, multicollinearity concerns were deemed to be minor.

LOGISTIC REGRESSIONS

Logistic regression analysis was used to examine which of the demographic, relationship, and attitudinal variables were associated with teen reports of sexual discussions with mothers and fathers. Logistic regression permits identification of factors that are related to a dichotomous

outcome (in this case, presence or absence of one good talk about each sexual topic) and provides information on how well individual variables predict outcome group membership. In these analyses, variables were entered in four blocks (parent demographics, teen demographics, relationship variables, and parent attitude and belief variables), yielding information about the explanatory value of each set of factors as well as of individual variables. Classification analysis revealed the proportion of dyads correctly classified at each step, permitting examination of whether inclusion of each additional block of variables improved the accuracy of classification.

Results of the three logistic regressions examining predictors of mother-teen discussions of the three sexual topics are presented in Table 4. The top portion of the table displays statistics for the four blocks (parent demographics, teen demographics, relationship variables, parent attitude and belief variables); the bottom portion displays statistics for individual predictor variables. Model statistics for the three regressions show that the predictive value of parent and teen demographic variables was limited, and the proportion of teens correctly classified increased when relationship and attitudinal variables were added. For conversations about whether teen sex is okay, 72% of the teens were classified correctly in the final model, compared to 58% of cases in the initial step. More important, the proportion of teens correctly classified as having discussed whether teen sex is okay with their mother increased from 0% on the first step to 63% on the Past step (not shown in table), suggesting that the relationship and attitudinal variables were useful predictors of such conversations. Overall, the proportion of teens correctly classified in the analysis of discussions about the dangers of AIDS and other STDs increased only slightly (from 70% to 72%); the proportion of teens correctly classified as having said "yes" to this question increased from 0% on the first step to 28% on the last step. Finally, in the analysis of discussions about birth control, the overall proportion correctly classified increased from 73% to 80%; the proportion of teens correctly classified as having discussed this topic increased from 0% to 46%.

Statistics for individual variables reveal that none of the mother demographics predicted discussions about whether teen sex is okay or the dangers of AIDS and other STDs; however, children of older mothers were less likely to say they had discussed birth control. The only teen demographic variable emerging as a predictor of all three topics was the teen's gender; daughters were more likely than sons to report sexual discussions. Age, which emerged as a significant predictor of two topics in early steps, dropped out in later stages of the analysis. Teen behavior predicted discussion of two of the topics. Teens who reported a prior

TABLE 4
Logistic Regressions for Predictors of Teen Reports of Sexual Discussions With Mother in Past Year

Classification Analysis	Teen Sex okay (n = 585)		Dangers STDs (n = 586)		Birth Control (n = 584)	
	χ^2	Percentage Correct	χ^2	Percentage Correct	χ^2	Percentage Correct
Parent demographics	—	58.1	—	70.1	6.8**	72.8
Teen demographics	31.7***	61.2	23.4***	70.5	78.6***	77.0
Relationship qualities	105.9***	71.6	62.8***	72.7	61.5***	78.9
Attitudes and beliefs	9.5**	72.0	5.5*	72.35	22.6***	79.8

Model Statistics	b	SE	Exp (b)		b	SE	Exp (b)	
			b	SE			b	SE
Parent demographics								
Age	‡				-.05*	.02	.95	
Education	‡				‡			
Employment	‡				‡			
Family structure	‡				‡			
Teen demographics								
Age	.04	.07	1.0	‡	.15	.08	1.2	
Sex	.44*	.19	1.6	.42*	.20	1.5	1.34***	.24 3.8
Ever pregnant	‡			‡	1.09*	.54	3.0	
Ever abused	‡		.77*	.39	2.2	‡		
Relationship quality								
Responsiveness	‡			‡	‡			
Frequency talk on topic	.66***	.10	1.9	.32***	.10	1.4	.34***	.10 1.4
Personal talk	1.45***	.21	4.3	1.50***	.23	4.5	1.24***	.26 3.4
Parent attitudes and beliefs								
Child has sex	‡			‡	.31***	.07	1.4	
Friends have sex	.18**	.06	1.2	‡	‡			
Others have sex	‡			‡	‡			
Values teen sex	‡			‡	‡			
Birth control	‡			‡	‡			
Parent worries	‡		.27*	.12	1.3	‡		
Competence	‡			‡	.38**	.15	1.5	

NOTE: Statistical significance of individual coefficients are based on the Wald statistic.
‡Final model excludes variables not significant in earlier steps.
p* < .05. *p* < .01. ****p* < .001.

pregnancy (themselves or a sexual partner) were more likely to have discussed birth control with mothers, and prior sexual abuse predicted discussion of the dangers of STDs.

Two of the three relationship variables were associated with discussion of all three topics. Teens who reported one good talk with their

TABLE 5
Logistic Regressions for Predictors of Teen Reports of Sexual Discussions With Father in Past Year

Classification Analysis	Teen Sex okay (n = 445)		Dangers STDs (n = 444)		Birth Control (n = 444)	
	χ^2	Percentage correct	χ^2	Percentage correct	χ^2	Percentage correct
Parent demographics	—	77.3	—	81.1	—	88.7
Teen demographics	—	77.3	—	81.1	4.5*	88.7
Relationship qualities	70.7***	78.4	63.3***	82.7	58.5***	89.9
Attitudes and beliefs	70.7***	78.4	13.9***	83.1	7.5**	89.2

Model Statistics	b	SE	Exp (b)		b	SE	Exp (b)	
			b	SE			b	SE
Parent Demographics								
Age	‡				‡			
Education	‡				‡			
Employment	‡				‡			
Family structure	‡				‡			
Teen Demographics								
Age	‡				‡			
Sex	‡				‡			
Ever pregnant	‡				‡			
Ever abused	‡				‡	1.59*	.65 4.9	
Relationship quality								
Responsiveness	‡				‡			
Frequency talk on topic	.38***	.10	1.4	.43***	.12	1.5	.30*	.13 1.3
Personal talk	1.76***	.25	5.8	1.74***	.27	5.7	2.37***	.40 10.7
Parent attitudes and beliefs								
Child has sex	‡			‡	‡			
Friends have sex	‡			‡	‡			
Others have sex	‡		.28*	.11	1.3	.37**	.14 1.45	
Values teen sex	‡		.71**	.27	2.1	‡		
Birth control	‡		‡		‡			
Parent worries	‡		‡		‡			
Competence	‡		‡		‡			

NOTE: Statistical significance of individual coefficients are based on the Wald statistic.
‡Final model excludes variables not significant in earlier steps.
p* < .05. *p* < .01. ****p* < .001.

mother about personal issues in the past year were more likely to also report discussing each sexual topic, and mother's report of frequency of conversations about each topic was significantly related to teen reports of sexual discussions. Maternal responsiveness was not linked to teen reports of sexual discussions. In the parent attitudes and beliefs section of Table 4, the

mother's belief about her own child's sexual activity predicted discussions of birth control, and the belief that her child's friends are sexually active predicted conversations about whether teen sex is okay. Maternal worries about sexuality were significantly associated with discussions of the dangers of STDs but not the other two topics. Finally, mother's feelings of competence about communicating with her teen about sexuality predicted teen reports of conversations about birth control.

The same analyses were conducted for father-teen dyads (see Table 5). Although fewer linkages emerged for father-teen dyads as compared to mother-teen dyads, a similar pattern was observed in that the predictive value of demographic variables was low and the addition of relationship quality and attitudinal measures improved the three models, albeit modestly. As shown in the top portion of Table 5, the proportion of dyads correctly classified in each analysis changed only slightly from the initial to the final step. Specifically, the proportion of teens correctly classified as having discussed whether teen sex is okay increased from 0% on the first step to 34% on the last step (not shown in table); the increase was smaller for conversations about STDs (from 0% to 26%) and birth control (from 0% to 10%). The model χ^2 for each of the three logistic regressions for father-teen discussions was lower than for mothers. However, examination of individual statistics reveals linkages between several of the relationship and attitudinal variables and sexual discussions with fathers.

The only demographic variable to emerge as a significant predictor of father-teen discussions was teen report of sexual abuse, which was linked to having discussed birth control. However, identical to findings for mothers, teen reports of personal talk with father and father's reports of frequency of sexual discussions emerged as significant predictors of all three discussion topics. Among the attitudinal variables, father's belief that other teens are sexually active predicted conversations about the dangers of STDs and birth control, and fathers who were more accepting of teen sexuality were more likely to have teens who reported discussing the dangers of STDs.

DISCUSSION

The main goal of this analysis was to identify previously neglected predictors of parent-teen communication about sexual topics. As expected, we found that attitudinal and belief variables were stronger predictors of sexual communication than demographic characteristics that

have been the focus of prior research. Gender was the only major demographic influence on whether sexual communication occurred. Consistent with prior research, we found that teens were more likely to discuss sexual topics with mothers than fathers, suggesting that mothers retain the primary responsibility for sex education in the home. This was true even in single-parent households; family structure, one of the demographic variables included in our analysis, was not significantly linked to teen reports of sexual discussions with either fathers or mothers, although the small number of single-parent households may have limited our ability to detect group differences. Also consistent with prior research, we found that daughters were more likely than sons to report sexual communication with mothers, a finding that may reflect the potentially graver consequences of early sexual activity for girls than boys (i.e., premature pregnancy as well as social stigma due to the continuation of the sexual double standard).

None of the other demographic variables emerged as a consistent predictor of parent-teen discussions about sexual topics. Instead, relationship and attitudinal variables were linked to sexual discussions in both mother-teen and father-teen dyads. Two variables emerged as significant predictors of all three discussion topics in both mother-teen and father-teen dyads. Not surprisingly, teens whose parents reported more frequent communication about a particular sexual topic were more likely to say they had at least one good talk with their parent regarding that topic. Teen reports of a personal talk with their parent during the past year also predicted sexual discussions. The finding that parents who talk to their teens about other personal topics are more likely to talk to them about sex was also reported by Jaccard and Dittus (1991) and reinforces that researchers should take into account the larger context in which sexual communication occurs (Jaccard & Dittus, 1993). Interestingly, parent ratings of responsiveness were not linked to teen reports of sexual communication; perhaps open communication is more important for fostering sexual discussions than is parental support or warmth.

As predicted, parental beliefs about their child's and his or her peers' sexual behavior were linked to teen reports of sexual communication. For mothers, believing the teen's friends are sexually active was linked to discussions about whether teen sex is okay; for fathers, believing that other teens have sex was linked to discussions about the dangers of AIDS and other STDs and birth control. In addition, parental concern regarding sexual activity was associated with communication about sexual topics; maternal worries about the child's sexuality and paternal beliefs that teen sex is inevitable or acceptable were linked to discussions of the dangers of

AIDS and other STDs. This finding supports speculations by Fox and Inazu (1980) that once mothers know or suspect that daughters are engaging in sexual activity, they may attempt to protect their child by providing practical information. Examination of what predicted teen reports of one good talk about birth control with mothers reinforces this notion; discussions of birth control were linked to a prior teen pregnancy and mother's belief that her teen is sexually active.

It may be that parents who are more concerned about sexuality communicate more clearly or directly, resulting in their teen reporting that discussions have occurred, whereas those who are less concerned are more vague or indirect. One important issue we did not address was clarity of communication or messages conveyed during the communication. These factors may all affect the likelihood that adolescents will report that communication occurred. Interestingly, parental ratings of how competent they felt at communicating sexual messages to their teens were not significantly related to teen reports of discussions, with one exception. Mothers who felt more competent at communicating about sexuality were more likely to have teens who reported discussing birth control.

These analyses have a number of implications for research and practice on parent-child communication. First, research on parent-teen communication should be as specific as possible; we found somewhat different patterns of relations for each topic, suggesting that there may be no single set of predictors of parent-teen discussions about sexuality. Second, research on predictors of parent-teen sexual communication should include parental beliefs about teen sexuality; in the present analysis, most demographic predictors were not significant or dropped out in later stages of the analysis. Implications of this article for parent education and program development include the importance of providing education to promote parent-teen discussions about sexual and nonsexual issues. Our analyses suggest that encouraging parents to be warm and responsive is not enough; responsiveness was not a significant predictor of sexual discussions, but overall communication (reported by teens) was. Another suggestion is that program developers make parents aware of the realities of teen sexuality, because parental concern appears to be linked to enhanced communication. Although we do not endorse scare tactics, it seems that a certain degree of parental concern is needed before effective communication occurs. This is supported by research showing that parents must be aware of what children are doing before they can take action to change their behavior (Bogenschneider, Wu, Raffaelli, & Tsay, 1997; Patterson & Guillion, 1968). Our findings also dramatize the need for increasing sexual communication with teenage boys, who do not appear

to be receiving adequate information about sexuality from either mothers or fathers.

LIMITATIONS AND FUTURE DIRECTIONS

Because parent-teen sexual communication has been linked to responsible sexuality, knowing what factors lead parents and teens to communicate effectively would be valuable to practitioners and program developers. The present study differed from most prior research in that it involved both members of the parent-teen dyad, permitting an examination of whether parental attitudes and beliefs assessed from the parent's perspective were linked to teen reports of sexual communication. Other methodological improvements included assessment of specific discussion topics within the past year, assessment of parental beliefs and attitudes as well as demographic variables, and investigation of father-teen as well as mother-teen dyads. Despite these methodological strengths, there are several shortcomings to this study that limit our conclusions and should be rectified in future research.

One limitation is the cross-sectional nature of the data, which makes it impossible to draw inferences about the direction of relations among study variables. For example, we cannot tell whether parental concern leads to sexual discussions or whether discussions lead to worries about the teen's sexual activity. Another limitation is that our sample was not representative of the school population; as described earlier, students whose parents did not participate were lower achievers and reported more problem behavior than those whose parents did take part. Finally, our sample was primarily Caucasian and the majority of parents had education beyond high school. Future research can build on our findings by addressing some of these methodological limitations, examining how parent-teen communication about different discussion topics is linked to actual sexual behavior, and identifying additional characteristics of parents who are successful at communicating with teens about sexuality.

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