The Role of Parents in Early Adolescent Sexual Risk-Taking Behavior

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Abstract: The primary purpose of this study was to better understand the role of parents in early adolescents' sexual attitudes and behavior, as parents are ecologically an important proximal factor. Predictor variables included were mother and father approval of premarital sex, parent-adolescent communication about sexuality, and parental social support. Religiosity was also included. The participants were 194, male (n=89) and female (n=105) students in the 7th and 8th grades (ages 12-15, mean=13.24), primarily African-American and Mexican-American and of lower socioeconomic status, from two middle schools in an urban school district of a large city in the Midwest of the U.S.A.. Variance in most criterion variables was significantly explained by various combinations of these parenting variables. However, none of these parenting variables predicted adolescents' intentions to avoid pregnancy, plans sexual intercourse debut, or plans for continuing sexual intercourse if already started (n=34). Contributions to existing literature, as well as implications for prevention and intervention, are discussed.

Keywords: Parenting, adolescence, risk taking, sexuality.

THE ROLE OF PARENTS IN EARLY ADOLESCENT SEXUAL RISK-TAKING BEHAVIOR

Parents undoubtedly have influence on teens' sexual risk-taking behavior. Indeed, studies described in this literature review, support this. However, the magnitude of parental influence varies. This is likely due to the selection of specific parent variables included in individual studies. Inclusion of a comprehensive set of parent variables is important to broaden our understanding of the role of parents in teens' sexual risk taking. That was the primary aim of this research. The focus was on early adolescence, as these are pivotal developmental years.

From an ecological perspective, parents are among the most proximal of influences in the microsystem (e.g., Bronfenbrenner, 1977 [1]; Pianta, 2000) [2]. From the perspective of an ecological model, these proximal factors are believed to most powerfully shape development. Based on the forthcoming literature review, the parent variables selected for this study as most likely to be related to adolescent sexual risk-taking: parental approval of premarital sex, parent-adolescent communication about sexuality, and parental social support. However, other, less proximal, forces are also likely to be important. In this study, the importance of religion and the general amount of religious observance of families and adolescents was expected to be important, based on existing research. It was, therefore, included. This combination of forces within an adolescent's ecology is expected to capture a greater proportion of variance in sexual risk-taking than has been captured by studies with other variable choices.

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Parent Approval of Teen Sexuality

Parent approval of sexuality appears to be related to adolescents' sexual behavior. For example, Dittus and Jaccard (2000) [3], in their study of 10,000 adolescents ranging from seventh to eleventh grade, found that adolescents who were most satisfied with the relationship they had with their mothers and who perceived their mothers' attitudes as disapproving of premarital sex were less likely to initiate sexual activity or become pregnant. This study also showed that the more satisfied adolescents were with their relationship with parents the more likely it was that they had used birth control at their last sexual intercourse. A study conducted among 568 adolescent African American girls showed a similar relationship between parents' approval and adolescent sexual behavior (Maguen & Armistead, 2006) [4]. In this study adolescents delayed the onset of sexual intercourse when they perceived their parents' attitudes about sex as more restrictive and when they reported less conflict with their parents. Similarly, another survey conducted among white 15 and 16-year-olds found that daughters of more traditional parents delayed sexual activity longer when their parents discussed either sex and or TV programming with them (Moore, Peterson, & Furstenberg, 1986) [5]. Here, traditional parents were those who highly endorsed such statements as "children are better off if their mothers do not work outside the home" using a five point scale. Besides the delaying of sexual activity, parental approval has also been observed to be related to other aspects of adolescent sexual behavior. Likewise, according to Jaccard, Dittus, and Gordon (1996) [6] adolescents' perceptions of maternal disapproval of sexual activity and adolescents' having stronger relationships with their mothers were both related to increased rates of abstinence, less frequent sexual intercourse, and more consistent use of

contraception among a sample of 751 African American adolescents.

Parent-Adolescent Communication about Sexuality

Communication among parents and adolescents has also been found to be related to sexual risk-taking behavior among adolescents. In a study conducted on a sample of 8,098 high school students, adolescents who discussed Human Immunodeficiency Virus (HIV) with their parents were less likely to have had multiple partners, unprotected sex, or to have injected drugs than did those who did not discuss HIV with their parents (Holtzman & Rubinson, 1995) [7]. Similarly, Luster and Small (1994) [8] found that low-risk females, defined as those who had only one partner and always used contraception, were more likely to report having discussed birth control with their mothers than were those defined as high-risk, defined as those who had multiple partners and never or rarely used contraception. Timing of these discussions also seems to be relevant to adolescent sexual behavior. For example, Miller, Levin, Whitaker, and Xu (1998) [9] found that mothers' discussion of condom use with adolescents *before* adolescents' sexual debut was more strongly related to condom use among adolescents than was mothers' discussion of this topic *after* the onset of sexual activity among adolescents.

Parents' style of communication may also be related to adolescent sexual behavior. Miller, Benson, and Galbraith (2001) [10] discovered from their extensive literature review that open, positive, and frequent communication about sex was related to adolescents being abstinent, delaying their first sexual intercourse, as well as having fewer partners. Whitaker *et al*., (1999) [11] found that parent communication among minority adolescents about sexuality and risks associated with sex may be related to more condom use; however, this was only if the parents were skilled, comfortable, and open in their discussion. Here, an eight item scale was designed to measure adolescents' views on their mothers' openness, skill, and comfort in discussing sexuality and risks associated with sex. They included such statements as "My mother tries to understand how I feel about topics like this" and "My mother and I talk openly and freely about these topics."

There are gender-related patterns in parent-adolescent sexual communication. According to DiIorio, Kelley, and Hockenberry-Eaton (1999) [12], for example, male and female adolescents were generally more likely to discuss sex with their mothers than with their fathers. Furthermore males were more likely to discuss sex with their fathers. This study also found that parents discussed different topics depending on if their adolescent was male or female. Abstinence was discussed more with females than males whereas Sexually Transmitted Diseases (STDs)/Acquired Immune Deficiency Syndrome (AIDS) and protection was discussed more with males. Both male and female adolescents who discussed sex more with their mothers than with peers in this study were less likely to have had sexual intercourse and were more likely to have more conservative values about sex. Similarly there are also differences in parent communication among different ethnicities. For example, it was reported in a study by Somers and Vollmar (2006) [13] that, among the sample of 672 adolescents, African American and Hispanic adolescents reported feeling closest to their mothers. However, there was more communication about sex between Caucasian adolescents and their mothers.

Not all studies support the idea that parent communication is related to safer sexual behavior. Furstenberg, Herceg-Baron, Shea, and Webb (1984) [14] sampled mothers and daughters from family planning clinics and found that communication between them was not related to consistency of birth control use. It was also found that although family communication rose when daughters started going to the clinics, the daughters did not report feeling more comfortable in talking to their mothers about sex or birth control. In another study, which involved a sample of 157 adolescents, Somers and Paulson (2000) [15] reported that parental communication was not related to sexual behavior and that age was more strongly related to sexual behavior in comparison to other variables. It was suggested in these studies that more communication and more closeness starts when adolescents begin engaging in sexual behavior.

Parental Social Support

Parental support has also been shown, overall, to be inversely related to adolescent sexual behavior. Lack of parental support, measured in terms of how understood adolescents felt by their parents as well as the degree to which they felt that their parents were interested in them, was related to greater depressive symptoms. These symptoms were then in turn found to be related to more frequent sexual intercourse (Whitbeck, Hoyt, Miller, & Kao, 1992) [16]. Additionally, depressive symptoms were more strongly associated with sexual activity for females than for males. In a sample of 2,567 teens from rural Midwestern counties, adolescents who were engaged in higher sexual risk taking behavior (defined as having multiple partners and rarely or never using a condom) compared to those who were abstainers or those who were oppositely defined as low risk, reported lower levels of parental support (Luster & Small, 1994) [8]. Here, parental support was measured using three items: My mother/father cares about me, my mother/father is fair in enforcing family rules, and my mother/father is there when I need her/him.

Similarly, among youth in the welfare system, feeling connected to a caregiver was related to more frequent use of contraception (James, Montgomery, Leslie, & Zhang, 2009) [17]. In a study of 368 adolescents Scaramella, Conger, Simons, and Whitbeck (1998) [18] likewise found that warm parenting behaviors reduced the risk of involvement in a pregnancy. However, in Perkins, Luster, Villarruel, and Small's (1998) [19] study, adolescent report of family support was not found to be related to adolescent sexual activity. Overall, despite some inconsistency in findings, studies appear to support a link between parental support and sexual risk taking behavior in adolescents.

Family Religiosity

Although family religiosity is inversely related to sexual intercourse among adolescents, it has been shown to be positively related to the use of contraception. Adolescent religiosity has also been shown to be related to later onset of

sexual intercourse. This was found to be true even after controlling for age, race, parent education, and the availability of romantic partners (Rotosky, Regnerus, & Wright, 2003) [20]. The family's level of religiosity has also been shown to be inversely related to sexual activity (Manlove, Logan, Moore, Ikramullah, 2008) [21]. In an earlier study, Manlove, Terry-Humen, Ikramullah, and Moore (2006) [22] surveyed adolescents aged 12 to 14, and found that family religiosity was also associated with delaying of first sexual intercourse. This was true for the entire sample except among black adolescents. However, both studies by Manlove *et al*., (2006, [22] 2008) [21] also found that religiosity was negatively related to consistency of contraceptive use among male adolescents.

Similarly, Perkins *et al*., (1998) [19] found that low religiosity was a predictor for sexual intercourse. This was true for Caucasian and Latino males but not for African American males. Studer & Arland (1987) [23] found a similar result for females. Specifically, sexually active females who attended church frequently were less likely to use contraception. However, others have shown that religiosity and frequent religious attendance among adolescent females were related to delay of onset of sexual debut (Rostosky, Wilcox, Wright, & Randall 2004 [24]; Jones *et al*., 2005) [25].

Purpose of the Current Study

Based on this literature review, it is apparent that parent variables are generally important in understanding adolescent sexual development and sexual risk taking. However, because most studies have generally focused on one or two predictor variables at a time, the current study was designed to examine the role of parents more comprehensively. One goal was to maximally predict parents' contributions in explaining variance in adolescent sexuality and sexual risk taking. Another goal was to examine the relative contributions of these individual parenting factors in order to understand which may be more important than others in understanding adolescent sexual development. The inclusion of a variety of dependent measures is also a unique feature of this current study. The sexual outcome variables used in this data collection are comprehensive and include a combination of many current sexual behaviors, students' planned future behaviors, attitudes about premarital sexual activity, sexual self-efficacy in response to perceived peer pressure to engage in sexual behavior, communication with others about sexuality, and intention to avoid teenage pregnancy. It is believed that this combination of independent and dependent measures provides a unique contribution to the existing literature on this topic.

METHOD

Participants

Participants were 194 male (n=89) and female (n=105) students in the 7th and 8th grades from two middle schools in an urban school district of a large city in the Midwest in the U.S.A. All were African-American and Mexican-American, primarily lower socioeconomic status (as assessed by free and reduced cost lunch status). These students' ages ranged from 12 to 15 (mean=13.24). In terms of level of sexual risk-taking in the sample, 34 students (17.5%) reported having experienced sexual intercourse at the time of data collection.

Measures

Data were collected from adolescents' perspectives. A descriptive survey was utilized to collect data on age, gender, school grade, etc. The primary study measures are described next. All existing measures have demonstrated good reliability in previous studies. Predictor variables are presented first, then criterion variables.

Parental Approval of Premarital Sexuality

Created for the purposes of this research, adolescents' reported on their mothers and fathers separately to assess each parent's a) approval of premarital sex while in high school as well as b) approval before marriage in general. Response options ranged from 1 ("strongly disagree") to 5 ("strongly agree").

Parent-adolescent Communication about Sexuality

Sexual communication with each parent separately was measured using the Sexual Communication Scale (SCS) (Somers & Canivez, 2003) [26]. There are 20 items that reflect a variety of sexual topics (e.g., kissing, oral sex, STDs, etc.). An additional item, "Abstinence," was added for this study, resulting in 21 topics. Adolescents responded on a 5 point scale (ranging from "never" to "often") regarding how frequently they have received communication from each parent regarding each topic. Alphas for the current sample were .93 for mothers and .95 for fathers

Parental Social Support

A single item was created for this study, "There are adults who care about me at home." This single item was selected as a representative item common to measures of social support from parents.

Religiosity

A single item was used to measure religiosity, based on what is commonly used in other studies—"How religious is your family?" Responses were made on the following four point scale: "not religious", "somewhat religious", "quite religious", and "very religious."

Dependent Measures

There were nine dependent measures: some existing measures, some modifications of existing measures, and some created for the purposes of this research:

1) Adolescents' attitudes toward premarital sex. Premarital sexual attitudes was assessed with a five item subscale from Kirby's (1990) [27] Mathtech Attitudes and Values scales, e.g., "People should not have sex before marriage." Response options ranged from one ("Strongly Disagree") to five ("Strongly Agree"). Kirby reported an alpha coefficient of .94 for this five item scale. In the current sample, the five item scale did not hold. The sample appeared to have difficulty with two of the items, and responded very inconsistently to them, and thus, a 3 item version was used for analyses. This three item scale yielded an alpha of .89 in the current sample.

2) Personal intentions to avoid teen pregnancy. This four item subscale is from the Teen Attitude Pregnancy Scale (TAPS; Somers, Johnson, & Sawilowsky, 2002) [28] Somers & Canivez (2003) [26]. page 11., e.g., "It is very important to me to use birth control to protect myself from pregnancy." Response options ranged from one ("Strongly Disagree") to five ("Strongly Agree"). Alphas ranged from .68 to .82. Alpha was .71 in the current sample.

3) Sexual Self-efficacy (personal strength to reject sexual temptations and risky situations). This four item subscale also comes from the TAPS (Somers *et al*., 2002) [28], e.g., How sure are you that you could say no to your boyfriend/girlfriend if he/she wanted to have sex and you didn't?" Response options were one ("very unsure") to five ("very sure"). Alphas ranged from .68 to .82. Alpha was .74 in the current sample.

4) Level personal sexual experimentation. This single item was created for the purposes of this research, primarily because this is an early adolescent population with only a minority of students having experienced sexual intercourse at the time of data collection. There were five response options, coded one through five respectively: "I have not even thought about having sexual intercourse", "I have thought about having sexual intercourse, but have not done it yet", "I have had sexual intercourse one time", "I have had sexual intercourse a few times", "I have had sexual intercourse many times."

5) Frequency of sexual behaviors/activity. A four-item "sexual activity" (kissing, petting or fondling, oral sex, and sexual intercourse) subscale was used. It is a shortened list of items from the SKAT-A (Sex Knowledge and Attitudes Test for Adolescents) (Leif, Fullard, & Devlin, 1990) [29]. Students indicated their frequency of engagement in these four sexual behaviors using a one ("never") to five ("daily or almost every day") scale. Responses were summed to create a "total sexual behavior" variable. For the full instrument, prior research has reported cronbach alpha reliability coefficients of.86 (Somers & Paulson, 2000) [15] and .88 (Somers, Gleason, Johnson, & Fahlman, 2001) [30]. Cronbach's alphas for the four-item "sexual activity" version of the scale (kissing, touching, oral sex, and sexual intercourse) were also .86 and .88. The alpha was .63 for the current sample.

6) Frequency of unprotected sex. A single item, "How often do you have unprotected sex" was rated on a five point scale ranging from one ("never") to five ("daily or almost every day").

7) Planned age of first sexual intercourse. Those who self-reported as virgins were asked to indicate at what age they think that they want to wait until they have sex for the first time.

8) Plans for continuing having sex if have already started. Those who self-reported as non-virgins were asked to indicate whether or not (yes/no) they planned to continue having sex or not.

9) Frequency of talking with others about sexual topics involved five questions: Communication with a) boy/girlfriends and b) peers about a) contraceptives and b) sexual intercourse. These additional "sexual behavior" items are from the SKAT-A (Leif, Fullard, & Devlin, 1990) [29]. A fifth item was created for this current research--communication with friends about abstinence. Each item was used as an individual single-item measure.

Procedure

After parental consent was obtained, adolescents' made their own decision to participate or not. Only approximately 3% of parents refused to permit participation, and no students refused. During data collection, students were fully supervised. Survey completion occurred in a single session at their schools in the auditorium. They were given paper with which to cover their responses in order to ensure privacy. When they turned in their responses, they were placed into a covered bin to increase the sense of anonymity of responses. All procedures were approved by the IRB.

RESULTS

Means and standard deviations for all study variables are included in Table **1**. A correlation matrix was first run in order to examine individual level correlations between the study predictor and criterion variables (Table **2**). The remaining analyses were stepwise multiple regression analyses, each with the following nine variables entered as predictors: Maternal approval of premarital sex in high school, maternal approval of premarital sex ever before marriage, paternal approval of premarital sex in high school, paternal approval of premarital sex ever before marriage, maternal communication about sexuality, paternal communication about sexuality, parental approval of teen pregnancy, social support from home, and family religiosity. There were 13 regression analyses conducted, each using one of the dependent measures listed earlier. Results are summarized next.

The analysis for personal intentions to avoid teenage pregnancy was not significant. With attitudes toward premarital sex as the dependent measure, 38% of the variance was explained (R^2=.375, F=12.14, df=9, 182, p<.001). Beta weights revealed that paternal communication about sexuality (ß = -.13, p = .051), maternal approval of premarital sex ever before marriage (ß = .34, p < .001), and paternal approval of premarital sex in high school (ß = -.25, p = .001) were the significant contributors to the model. Family religiosity approached significance (ß = .11, p = .073).

With sexual self efficacy as the dependent measure, 20% of the variance was explained (R^2=.195, F=4.93, df=9, 183, p<.001). Paternal approval of premarital sex in high school (ß = -.27, p < .01) and support from home (ß = .17, p < .05) were the significant contributors.

When level of personal sexual experimentation was entered as the dependent measure, 25% of the variance was explained (R^2=.248, F=6.71, df=9, 183, p<.001). Beta weights indicated that both maternal (ß = .19, p < .05) and paternal (ß = .27, p < .01) approval of premarital sex in high school were the significant contributors to the model. Paternal communication about sexuality (ß = .14, p = .067)

Table 1. Descriptive Statistics for all Variables

Variables	Mean	SD	Min.	Max.
Predictor Variables				
Parental Approval of Teen Parent	1.40	.95	1.00	5.00
Maternal Approval Sex in High School	1.76	1.12	1.00	5.00
Maternal Approval Sex before Marriage	3.68	1.35	1.00	5.00
Paternal Approval Sex in High School	1.77	1.15	1.00	5.00
Paternal Approval Sex before Marriage	3.32	1.50	1.00	5.00
Mother Communication Total	52.95	20.04	21.00	99.00
Father Communication Total	38.48	19.57	21.00	105.00
Parent Social Support	4.70	.74	1.00	5.00
Family Religiosity	2.44	.99	1.00	4.00
Criterion Variables				
Adolescent Premarital Sex Attitude	3.09	1.23	1.00	5.00
Personal Intentions to Avoid Pregnancy	10.75	3.37	3.00	15.00
Sexual Self-efficacy	15.29	3.90	4.00	20.00
Sexual Experimentation	1.98	1.10	1.00	5.00
Sexual Behavior Total	6.18	2.45	4.00	15.00
Frequency of Unprotected Sex	1.08	.36	1.00	4.00
Sexual Debut Plan	22.60	15.76	11.00	99.00
Continue Sex	.58	.50	.00	1.00
Talking with Boy/Girlfriend Birth Control	1.29	.86	1.00	5.00
Talking with Boy/Girlfriend Sex	1.79	1.17	1.00	5.00
Talking with Friends Birth Control	1.55	1.00	1.00	5.00
Talking with Friends Sex	2.42	1.36	1.00	5.00
Talking with Friends Abstinence	1.81	1.15	1.00	5.00

and family religiosity (ß = -.13, p = .065) approached significance.

Total sexual behaviors was entered as the next dependent measure, in which case 24% of the variance was explained (R^2=.244, F=6.55, df=9, 183, p<.001). The beta weights for maternal approval of premarital sex in high school (ß = .26, p < .01) and maternal communication about sexuality (ß = .15, p < .05) indicated that those variables were the significant contributors to the model.

With frequency of unprotected sex as the dependent measure, 10% of the variance was explained (R^2=.102, F=2.30, df=9, 183, p<.05). Beta weights revealed that maternal approval of premarital sex in high school (ß = .19, p < .05) and paternal communication about sexuality (ß = .16, p < .05) were the primarily contributors.

There were nonsignificant results for planned age of first sexual intercourse and plans for continuing having sex if they have already started.

Next, five more regression analyses were run for the variables involving frequency of talking with others about sexual topics (communication with friends and boy/girlfriends about sexual intercourse and contraceptives, and communication with friends about abstinence). With talking with boy/girlfriend about birth control as the dependent measure, 9% of the variance was explained (R^2=.093, F=2.09, df=9, 183, p<.05). Beta weights revealed that maternal approval of premarital sex in high school was the primary contributor to the model (ß = .32, p = .001), with communication from fathers approaching significance (ß = .15, p = .068). Talking with boy/girlfriend about sex was also significant (R^2=.227, F=5.97, df=9, 183, p<.001), but paternal communication (ß = .16, p < .05) and paternal approval of premarital sex in high school (ß = .23, p < .01) were the significant contributors, with maternal approval of premarital sex in high school approaching significance (ß = .16, p = .069).

Table 2. Correlations Between Study Variables

Adolescent Variables								
Family Variables	**Adolescent Premarital Sex Attitude**	**Personal Intentions to Avoid Pregnancy**	**Sexual Self-efficacy**	**Sexual Experimen-tation**	**Sexual Behavior Total**	**Frequency of Unprotected Sex**	**Sexual Debut Plan**	**Continue Sex**
Parental Approval of Teen Parent	-.16*	-.01	-.11	.09	.06	.05	-.07	.17
Maternal Approval Sex in High School	-.41***	-.06	-.27***	.40***	.40***	.24***	-.17*	.07
Maternal Approval Sex before Marriage	.46***	.03	.21**	-.12	-.30***	-.15*	.12	-.42*
Paternal Approval Sex in High School	-.40***	-.05	-.33***	.42***	.29***	.16*	-.16*	.20
Paternal Approval Sex before Marriage	.30***	-.05	.14	-.08	-.28***	-.17*	.12	-.28
Mother Communication	.07	.07	.08	.11	.15*	-.03	.03	-.28
Father Communication	-.16*	-.10	-.00	.22**	.16*	.13	-.09	.14
Parent Social Support	.04	.08	.19**	-.02	.01	.07	.13	.03
Family Religiosity	.26***	.07	.21**	-.18*	-.09	-.03	.09	.08

Talking Items					
Family Variables	**Boyfriend/ Girlfriend Birth Control**	**Boyfriend/ Girlfriend Sex**	**Friends Birth Control**	**Friends Sex**	**Friends Abstinence**
Parent Approval Teen Parent	-.02	.06	-.08	.08	-.12
Maternal Approval Sex in High School	.22**	.37***	.20**	.21**	-.04
Maternal Approval Sex before Marriage	-.00	-.20**	.01	-.10	.05
Paternal Approval Sex in High School	.07	.37***	.03	.29***	-.08
Paternal Approval Sex before Marriage	-.02	-.12	-.06	-.08	.01
Mother Communication	.10	.08	.23***	.17*	.17*
Father Communication	.17*	.22**	.05	.19**	.11
Parent Social Support	.05	.05	.07	-.10	.05
Family Religiosity	-.03	-.17*	.01	-.17*	.02

Note. *** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

Talking with friends about birth control (R^2=.125, F=2.92, df=9, 183, p<.01) was significant, with maternal approval of premarital sex in high school ($ß$ = .33, p = .001) and maternal communication about sexuality ($ß$ = .24, p < .01) the primary contributors. Talking with friends about sex was also significant (R^2=.155, F=3.72, df=9, 183, p<.001), with paternal approval of premarital sex in high school the primary contributor ($ß$ = .24, p < .01), and maternal communication and personal religiosity approaching significance ($ß$ = .15, p = .06). Finally, talking with friends about abstinence was not significant.

DISCUSSION

Several themes were observed in these data analyses on this sample of American adolescents. An integration of the regression and correlation results is used to make the following observations and interpretations. None of these parenting variables successfully predicted adolescents' personal intentions to avoid pregnancy, plans for onset of sexual intercourse, or plans for continuing sexual intercourse for those who already started. Other factors than these parental variables must be explored in future research.

However, variance in most of the criterion variables studied *was* significantly explained by various combinations of these parenting variables.

A large proportion of variance in adolescents' attitudes about premarital sex (e.g., whether they believe they should have sex before marriage or not) was explained by these parenting variables. However, the directionality of some relations was unexpected. When parents were less likely to approve of their teens having sex while in high school, the teens themselves had more conservative attitudes about premarital sex (e.g., that they should wait until marriage). However, when parents were less likely to approve of sex ever before marriage, the teens reported more liberal attitudes (e.g., that sex before marriage is okay). This information would be useful to parents as they plan their educational efforts with their children. There may be noteworthy differences in teens' and parents' attitudes regarding at what age it is acceptable to have sex and whether there is any age before marriage that is acceptable.

Interestingly, communication about sexuality from mothers was generally not related to these outcome variables. Communication about sexuality from fathers was related to about half of the variables. However, it was related to more sexual behavior, lower sexual self-efficacy, and more liberal attitudes about premarital sex on the part of teens. Although this seems counterintuitive, because these data are correlational the best explanation is likely that those teens are seeking such communication because they are already curious about or engaging in sexual behavior. This then necessitates more communication by parents. In fact, older adolescent age has been suggested as the strongest predictor of sexual communication and behavior in prior research (e.g., Somers & Paulson, 2000) [15].

Interestingly, social support from home was only related to teens' sexual self-efficacy. The direction of the relations was as expected—more support, higher efficacy to resist risky situations. However, support from home was expected to be related to more of the outcome variables. It may be that the measurement of "support" in this study was limited, in that it was a single item about home support in general, and we inferred this to comprise support from parents. This limitation is discussed further.

Similarly, family religiosity, which was assumed by us to be a reflection of parental values, was mostly unrelated to these adolescents' sexual outcomes. There was much variability in levels of religiosity among this sample, and thus, despite that the measure utilized a single item, it still was not significantly related to most outcomes. It is possible that a multi-dimensional measure of family religiosity (including not only attitudes but actual behaviors such as religious institution attendance) could be related to sexual outcomes, as it has been found to be important in prior research on adolescent sexuality (e.g., Manlove *et al.*, 2008) [21]. Parental approval of teenage pregnancy was also not related to any outcomes.

Additional analyses were run using teens' communication with peers and boyfriends/girlfriends about important sexual issues (intercourse, contraception, and abstinence). In general, more communication with parents was related to more communication with peers. Again, it is not likely a causal relation, and instead, as was explained earlier, is more likely to be reflecting simultaneous patterns of development (e.g., as adolescents mature, they are more curious, they talk more about sex with all people in their lives). It could be interpreted as positive that as adolescents are talking with parents, and hopefully obtaining correct information, they are also talking with peers, again hopefully with correct information. This may underscore the importance of making sure that adolescents are armed with accurate information so that when they talk with peers, the spread of information is correct.

Regarding the role of maternal and paternal values in how much adolescents talk with their peers and boyfriend/girlfriends about sex and contraception, a similar pattern as with sexual behavior was observed. Specifically, when mothers approved more of sex while in high school, teens talked more with their friends and boyfriends/girlfriends about both sex and contraception. Fathers' approval of sex in high school was only related to the teens' communication with peers and boyfriend/girlfriends about sex. The most likely explanation is the same developmental explanation offered above. The maternal-paternal difference could be explored further in additional studies.

However, it was also interesting that most of these parent variables did not help to understand teens' amount of talking about *abstinence* with their friends. There was only a small but significant correlation between sexual communication from mothers and more talking with friends about abstinence. This general lack of findings may suggest that talking about abstinence is not as mainstream, at least in this sample of adolescents, as is talking about sex and contraception. Implications may be for student education programs, especially those involving peers, peer pressure, and other peer dynamics.

A final noteworthy observation of these data is that the amount of explained variance is low in some cases (e.g., as low at 9%). This indicates that there are many more variables that account for more variance but that were not included in this study. Individual cognitions (e.g., risk judgments, consideration of consequences), peer behaviors, and parental monitoring are several factors that, likely explain portions of this variance, and could be included in future research. Additional limitations are discussed next.

Although there were important findings revealed in this research, several limitations must also be acknowledged in light of directions for future research. The study focused on parental contribution to sexual outcomes, and did not include other factors (e.g., media, peers, etc.). Also for example, as mentioned above, the measure of social support was a single item, and it was a general item about support from home, from which we inferred that adolescents would be responding about their parents. An improved measure could be used in future studies. Other single item measures could be expanded to more items to improve reliability. Family religiosity could be measured in more detail as well. Additionally, the correlation between mothers' and fathers' values (r=.66) and mothers' and fathers' communication (r=.40) was only moderately strong. Although we considered these variables independently in analyses, perhaps future studies should expand consideration of the role of parental

consistencies and inconsistencies in adolescents' sexual development. One more obvious limitation is that this sample of adolescents is young. While this was because of the design of this study, as we were interested in this age group who is on the cusp of sexual initiation, this population is still relatively not sexually experienced. This same set of parent variables could be explored with an older sample of adolescents. Other demographic groups (non urban, other races/ethnicities, adolescents from other cultures and countries, etc.) could also be studied. And, of course, longitudinal patterns would be critical to explore in understanding the development of sexuality through different developmental periods. Data were taken from adolescents' perspectives only, and richer information could be gleaned by considering mutliple respondents' perspectives.

Despite limitations, however, many unique and important findings were revealed and offer contributions to the existing body of literature. Implications of these findings lie primarily in the development of educational efforts, both of a prevention and intervention nature. It is important that program development be done balancing the study limitations but also considering findings such as which of these parental variables was found to make the strongest and most consistent contribution to sexual outcomes. Specifically, this would mean considering the strongest variables (e.g., parental values and communication), versus variables that made only some contribution (e.g., support, religiosity), and variables that made some contribution versus those that made no contribution (e.g., parent attitudes about teen pregnancy). It is also important to tailor programs considering which of the sexual outcome variables were (e.g., sexual behavior, sexual attitudes, etc.) and were not (e.g., personal intentions, planned onset of intercourse, etc.) explained by this combination of parent variables. This knowledge may help to guide program development in directions that may improve success in helping adolescents develop healthy attitudes and behaviors.

CONFLICT OF INTEREST

None declared.

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