

Parent-Adolescent Relationships and Adolescent Sexual Behavior: Patterns by Adolescent Gender

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Abstract

The purpose of this study was to examine relations between male and female adolescents' sexual communication with parents, comfort levels in doing so, adolescents' sexual behaviors, and gender patterns. Participants were 63 boys and 95 girls in the ninth through twelfth grades. Results revealed two very different models for boys and girls. Whereas girls' sexual behavior was predicted by most of the variables in this study, the model was unsuccessful in predicting boys' sexual behaviors. Factors related to girls' sexual development remain clearer than those for boys. Implications for sex education curricula and the role of each parent are significant, and are discussed particularly in light of these findings which suggest that boys' needs may be different than those of girls. The importance of including fathers and sons in research was also addressed.

Keywords: adolescence, sexuality, communication, gender, parents

Some studies have shown that 66% of female and 75% of male adolescents have had sexual intercourse by the time they are in the 12th grade (e.g., Centers for Disease Control, 1992; Mosher, Chandra, & Jones, 2005). Other studies indicated that more and more adolescents initiate sexual intercourse at younger ages and, in the United States, over one million teenage girls get pregnant annually (Centers for Disease Control and Prevention, 2004). A concomitant rise in the number of sexually transmitted diseases (Hodson & Wampler, 1988; Forhan et al., 2008) and HIV cases (Gray & House, 1996) among adolescents has also been noted. It is clear that teen sexuality can result in serious consequences.

One factor that has been linked to teen's sexual decision making is parent-adolescent communication about sexuality. For example, when parents and adolescents have had discussions about sexuality, adolescents tended to engage in premarital sexual intercourse less frequently and with fewer partners (Lewis, 1973; Longmore et al., 2009; Sieverding et al., 2005), levels of sexual promiscuity and risky sexual behaviors decreased (Christopherson, Miller, & Norton, 1994; Holtzman & Rubinson, 1995; Ward & Wyatt, 1994), daughters tended to use contraception more (Furstenberg, 1971), daughters were older at first coitus and had fewer children (Brody, Ottey, & Lagrandade, 1976), and teens reported an attempt to limit number of partners and increase their condom use (Leland & Barth, 1993). Parents can make a difference.

Despite this evidence, many parents still do not discuss sexuality issues with their children (Gebhard, 1977; Thornburg, 1981), primarily because the parents may not be comfortable discussing sexual health issues (Casey & Peterson; 1985; Koblinsky & Atkinson, 1982; Simanski, 1998). Teenaged children also reported a similar lack of comfort in discussing sexuality with parents (Fox & Inazu, 1980b). Related to this, Rozema (1986) found that when sexual communication was inhibited, there was a defensive climate between parents and adolescents. Regardless of the explanation for lack of communication, it is clear that an increase in parent-adolescent discussion about sexuality may help adolescents make more informed decisions regarding their sexuality. Therefore, it is necessary, to explore which factors and conditions increase the likelihood that parents and adolescents will discuss sexual topics. It is also important to explore how these communications may be related to sexual outcomes. This study included parent-adolescent comfort in discussing sexual topics.

Demographic differences (e.g., marital status, race, religion, gender, and socioeconomic status) have been explored as possible influences on whether adolescents and parents will discuss sexuality. In the well-known literature review by Fox (1981), it was found that African-American families and single mothers tended to communicate more with their children about sexuality. Fisher, (1990) found that mothers with strong religious beliefs discussed sexuality more with their children. Further on, mothers discussed sexuality with their daughters more than with their sons (Fisher, 1990; Meshke, Bartholomae, & Zentall, 2002). In most studies, mothers were generally found to communicate more with their children than fathers do (e.g., Raffaelli, Bogenschneider, & Flood, 1998). However, it has been suggested that fathers' perspectives on sexual issues have a significant impact on their children (Hutchinson, 2000).

It has been reported that certain parent-adolescent relationship variables (e.g., close relationships), regardless of SES, may be related to an increase in communication about sexuality. Closeness within parental relationships can be regarded as feelings of affection between parent and child with the child feeling supported by the parent (Longmore, Manning, & Giordano, 2001). After exploring the contributions of parent-adolescent closeness, warmth, and attachment, Somers and Paulson (2000) did not find them to be related to parent-adolescent sexual communication or sexual behavior. Additionally, Jaccard, Dittus, and Gordon (1998) found that greater mother-teen relationship satisfaction was related to mothers underestimating their teens' sexual activity levels, suggesting that parents and teens may be close but not necessarily talking about sexuality. Therefore, closeness may not be a key factor that is related to an increased likelihood that teens and parents will feel more comfortable discussing such a sensitive topic as sexuality. In other words, simply having close relationships may not be sufficient for sexual communication to occur.

General openness in families, however can be defined as having a warm and responsive communication climate with the ability to voice firm and consistent expectations (Reuter & Koerner, 2008) yet a high tendency for adaptability (Constantine, 1977). Openness is a different construct than closeness, and it appears to be related to parent-adolescent communication both of a general nature and about sexual topics. For example, more open family communication was related to more self-disclosure of a general nature (Pappini, Farmer, Clark, & Snell, 1988), more communication about sexuality (Fisher, 1990), and more sexual self-disclosure (Garfield & Morgenthau, 1976) by adolescents. A large body of literature about communication patterns within families exists, and it is suggested that if there is a weakness in general communication, it is hard to start communicating about sensitive topics such as sexuality (Fox & Inazu, 1980a). Pappini, Farmer, Clark, & Snell (1988) found that adolescents were more likely to be generally self-disclosing when they viewed their family as being open to change, and when the adolescent did not feel controlled.

Youniss and Smollar (1985) additionally reported that when adolescents perceived their mothers as more understanding and accepting, they felt as if they could communicate more with them. These findings seem to tap into parenting characteristics such as the style or approach used to communicate with their teens. Those parents who were more likely to discuss sexuality with their adolescents were viewed as more emotionally expressive by the teenager and then were also more likely to answer questions about intimacy (Hass, 1979). It can be said that openness in family communication may lay out a greater level of approachability for the teen to the parent. Most of the literature reviewed for this study however, did not focus specifically on *sexual* communication, and in most cases there was no differentiation between all of the four parent-adolescent dyads; thus, these studies did not simultaneously evaluate the potential predictors of sexual behaviors.

Supporting openness as an important construct, a study by Mueller and Powers, (1990), focused on the quality of the parent-adolescent relationship by examining styles of general communication (not specifically about sexuality) and the impact that this had on the adolescents' sexual behaviors. Those researchers found that students who regarded their parents as friendly, attentive, and supportive (generally open families) reported less sexual activity, and those who regarded their parents as expressive and dominant (less openness within families) reported feeling more controlled and engaged in more sexual activity (Mueller and Powers, 1990; Noller & Bagi 1985). Although it could be inferred that the independent measures were tapping comfort in sexual communication between parents and adolescents, Mueller and Powers (1990) did not address whether or not comfort in sexual communication is related to actual discussion of sexual topics.

Perhaps there are many parents who have generally open relationships with their children, or who have close relationships with their children, but may still never openly discuss topics of a sexual nature with them. It may also be that some families believe that they are open communicators (e.g., even authoritative parents), but this openness does not apply to topics of sexual nature. What leads some families to communicate about sexual topics specifically, while others avoid such discussions despite having generally open relationships? Research has shown that parents avoid sexual communication often because of personal discomfort (Croft & Asmussen, 1992), and that perceptions of their own sexual knowledge as well as comfort level may be related to parent-teen discussions about sex (Byers, Sears, & Weaver, 2008). Therefore, is a certain degree of comfort in discussing sexual topics necessary to ensure that sexual communication will occur? And does that combination of variables predict sexual behavior? Answers to these questions are not only important in gaining a better understanding of how to influence parent-teen communication about sexuality, but they may also explain some of the inconsistencies in previous sexuality research findings. In this paper, the role of comfort in discussing sexual topics is explored and how it is related to incidences of sexual communication, as well as the combined role of comfort level and occurrences of sexual communication and their variations on sexual behavior outcomes. These questions should also be answered for fathers and their sons. It is known that mothers tend to do most of the communication about sexuality, and that sexual communication occurs most commonly between mothers and daughters. It is not surprising; therefore, that much research has focused specifically on mothers and daughters. As others have stated (e.g., Raffaelli et al., 1998), though, it is important to consider the relations between these variables for sons and for fathers as well.

Description of the study

There is a need to explore whether adolescents' reports of comfort in talking with parents specifically about sexual topics is related to sexual communication with parents, and whether the pattern differs for each gender. Even less is known about whether the relation between comfort level and communication in turn influences actual sexual outcomes. Communication about sexual issues is important if adolescents are to make educated decisions about their sexuality. Therefore, it is important to know what factors influence whether or not parents and adolescents will communicate or not, and what kind of outcomes can be expected. The purpose of the current study is to explore and clarify potential influences (specifically, comfort in discussing sexuality) on parent-adolescent sexual communication, improve the understanding of what may affect sexual outcomes, and to determine whether the same models exist for boys and girls. This led to the following two research questions: (1) Are adolescents' levels of comfort in discussing sexuality with their mothers and fathers related to how much they communicate about sexuality? (2) Do adolescent comfort level and amount of sexual communication have an impact on sexual behaviors? Results will be examined for mothers and fathers, with their sons and daughters.

This study specifically explores the role of fathers and sons on amount of communication and comfort level within such interactions because there has been an overrepresentation of mothers and daughters in the assessment of sexual communication and outcomes (e.g., Fisher & Hall, 1988; Hass, 1979), so gender differences are expected. This is an exploratory study in with an attempt to build a model with which to better understand the relations among former mentioned variables for sons and daughters with their mothers and fathers. The underlying purpose of this research is obtain information which will help to improve communication between parents and children and, ultimately, influence teen sexuality in a way that prevents STDs, AIDS, and unwanted pregnancies.

Method

Participants

This study included 158 boys ($n=63$) and girls ($n=95$) in the ninth through twelfth grades, ages 14 through 18 (mean age=16.2 years), with approximately equal proportions from each grade level. The participants came from two suburban areas of a large Midwestern city. The samples were comparable to each other demographically, and no significant differences emerged in any statistical analyses. Racial distribution was as follows: Teenagers were primarily Caucasian ($n=138$ or 87.3%), with few being African-American ($n=3$), Asian-American ($n=3$), Native American ($n=2$), Hispanic-American ($n=10$), other ($n=1$), and non-response ($n=1$). Using the Hollingshead Index (1975), 42% of the families were classified as working class and 58% were middle class.

Measures

Demographics. A typical demographics questionnaire was administered, including questions such as age and gender.

Sexual Communication. Due to a lack of adequate existing measures, a scale was created for this study that measured adolescents' perceptions of the frequency of sexuality communication with their parents. A five-point scale ranging from "never" (score=1) to "a lot of times" (score=5) was used to measure frequency of communication between parents and adolescents on a list of twenty sexual topics, with a score of three corresponding to "a few times". The topic list was partially compiled from existing literature and the rest added by the first author to increase topical breadth (a flaw in prior studies on parent-adolescent communication about sexuality). The 20 topics were: sexual reproductive system ("where babies come from"), the father's part in conception ("getting pregnant"), menstruation ("periods"), nocturnal emissions ("wet dreams"), masturbation, dating relationships, petting ("feeling up"), sexual intercourse, birth control in general, whether you personally are using birth control, consequences of teen pregnancy (other than AIDS), Sexually Transmitted Diseases (STDs), love and/or marriage, whether pre-marital sex is right or wrong, abortion, prostitution, homosexuality, AIDS, sexual abuse, and rape. Adolescents were asked to complete the measure for both mothers and fathers separately. Cronbach alpha, a measure of internal consistency reliability, was .93 for maternal and .92 for paternal communication for the participants in this study.

Comfort in discussing sexuality. A scale was created for this study that measures adolescents' comfort level in talking about sexuality with their parents as no measure existed to fit this very specific purpose. Participants responded to the same 20 topics that were used in the measure of sexual communication, using a five-point scale ranging from "too difficult to talk about" (score=1) to "very easy to talk about" (score=5), with a score of three corresponding to "sort of awkward but we talk about it." As with the communication measure, adolescents rated comfort with mothers and fathers separately. Cronbach alpha for comfort in discussing sexual topics was .95 for mothers and .96 for fathers with 158 students in this study.

Sexual Behavior. Sexual behavior was measured using the behavior component of the *SKAT-A* (Sexual Knowledge and Attitudes Test for Adolescents; Leif, Fullard, and Devlin, 1990), which is comprised of 18 questions concerning sexual behavior and experience. Adolescents rated their frequency of involvement in each activity on a five-point scale ranging from "never" (score=1) to "daily" (score=5), with "less than monthly", "monthly", and "weekly" in between. Topics included contraceptive use, sexual intercourse, and discussion with others about sex and contraception. Responses were simply summed up, while higher numbers represented greater amounts or frequencies of sexual behavior. Cronbach alpha was .86 for the participants in this study. Adolescents were also asked to indicate the age at which they first experienced sexual intercourse.

Procedure

After obtaining informed consent permission from their parents, one set of participants took the questionnaires home to complete and bring back the following day. They were encouraged to complete the anonymous questionnaires independently. They returned them to one large group container to ensure that no one else saw their responses to the questions. About 50% of students returned their surveys. At the other school, after obtaining parent permission, students completed the questionnaires as part of a health class. They were also given the option to refuse, but almost 100% of students completed surveys. Only group results were reported. A monetary lottery incentive was given. Participants and their parents were offered the opportunity to receive a copy of the results after the study was completed.

Results

Comfort Level and Amount of Communication

The first purpose of this study was to explore whether adolescents' perceptions of comfort in discussing sexuality with their mothers and fathers was related to amount of communication about sexuality. Bivariate correlation analyses indicated that adolescents' levels of comfort in discussing sexuality were significantly related to communication about sexuality with mothers ($r=.64$; $p<.001$) and fathers ($r=.53$; $p<.001$). Because boys and girls are known to have different frequencies of sexual communication with parents, t-tests were used to determine whether gender differences existed in this sample on the mean scores of comfort in discussing sexuality and parent-adolescent communication about sexuality.

Bonferroni¹ corrections to control for Type I error inflations were used. Levene's Test for homogeneity of variances was not significant ($p > .05$); therefore, the usual pooled samples t statistics are reported. With the current sample size, if the differences between the two groups is expected to be small, then the *a priori* power level is .34, which is small to moderate (Cohen, 1988). If the differences between the groups are expected to be large, then *a priori* power is .92, which is extremely large. T -tests revealed significantly higher mean scores for daughters than for sons on the amount communication about sexuality with their mothers ($t = -4.14$; $df = 148$; $p < .001$; Effect Size = .93), but not with their fathers. Similarly, daughters' average scores were significantly higher than were sons' scores on comfort of discussing sexual topics with mothers ($t = -6.34$; $df = 153$; $p < .001$; Effect Size = .66), but again, not with their fathers. Complete Means and standard deviations of all variables are included in Table 1. Bivariate correlations of all variables can be found in Table 2.

Table 1: Means and Standard Deviations of All Variables

Variable	Mean	Standard Deviation	Min.	Max.
Socioeconomic Status	41.82	8.59	25.50	66.00
Maternal Communication	46.34	17.33	20.00	87.00
Paternal Communication	31.20	12.66	20.00	77.00
Mother Comfort	62.94	21.02	20.00	100.00
Father Comfort	49.01	22.32	20.00	100.00
Sexual Behaviors	2.18	.63	1.00	4.00

Note. ($n = 158$).

Table 2: Correlation Coefficients between Comfort Levels and Amount of Communication

	Maternal Comfort	Paternal Comfort	Maternal Communication	Paternal Communication
Maternal Comfort	1.000			
Paternal Comfort	.6230	1.000		
Maternal Communication	.6372	.2528	1.000	
Paternal Communication	.3564	.5284	.4617	1.000

Note. ($n = 158$). All correlations are significant at $p < .001$. Male and female adolescents' results were not significantly different; therefore, total group data is reported.

Sexual Behavioral Outcomes as a function of Comfort Level and Amount of Communication

The second purpose of this study was to determine if adolescent comfort level and amount of sexuality communication varies by frequency of sexual behaviors. Maternal and paternal communication about sexuality, adolescent ease of discussing sexuality with mothers and fathers, and adolescent age were entered as predictor variables. Age was included because it has been found to be a consistent predictor of sexual behavior in past literature (e.g., Hayes, 1987; Katchadourian, 1990; Masserman & Uribe, 1989; Miller, Christopherson, & King, 1993; Newcomer & Baldwin, 1992; Santelli & Beilenson, 1992). Structural Equations Modeling (SEM) was selected for this study because it is a good exploratory procedure that allows these variables to be simultaneously considered. The statistical software package, AMOS, was used.

The model. The model consisted of five exogenous latent variables (age, father communication, father comfort, mother communication, mother comfort) and one endogenous latent variable (sexual behavior). Each latent variable was measured by one observed variable. In order to achieve an identified model, reliability coefficients were used in constraining the error variances of the observed variables. The coefficient alphas for each of the variables are given in Table 3. The reliability coefficient for age was set to 1.0. Communication about sexuality with fathers was correlated with comfort in discussing sexuality with fathers, as was communication and comfort with mothers. Maximum likelihood was used for estimation.

Table 3: Coefficient Alpha Reliability Coefficients

Variable	Coefficient Alpha
Father Communication	0.92
Father Comfort	0.96
Mother Communication	0.93
Mother Comfort	0.95
Sexual Behavior	0.86

Test of the model. The hypothesized theoretical model previously described was tested using a structural equation model. Bivariate correlations and standard deviations for males and females separately are given in Tables 4 and 5. All of the analyses were run using AMOS (Arbuckle, 1997).

Table 4: Bivariate Correlations and Standard Deviations for Girls (n=77)

	1	2	3	4	5	6
1. Age	1.00					
2. Father Communication	0.03	1.00				
3. Father Comfort	0.23	0.51	1.00			
4. Mother Communication	-0.03	0.45	0.31	1.00		
5. Mother Comfort	0.16	0.27	0.56	0.57	1.00	
6. Sexual Behavior	0.38	0.21	0.00	0.40	0.26	1.00
Standard Deviations	1.38	11.54	21.94	15.87	18.89	10.58

Table 5: Bivariate Correlations and Standard Deviations for Boys (n=53)

	1	2	3	4	5	6
1. Age	1.00					
2. Father Communication	0.17	1.00				
3. Father Comfort	0.14	0.60	1.00			
4. Mother Communication	-0.04	0.63	0.41	1.00		
5. Mother Comfort	0.06	0.57	0.92	0.57	1.00	
6. Sexual Behavior	0.08	0.31	0.23	0.28	0.25	1.00
Standard Deviations	1.39	11.78	22.25	14.41	21.20	11.17

The first step was to test whether girls and boys had the same theoretical model. The model was tested simultaneously for girls and boys. This resulted in a chi-square of 181.144 (df=16; p<0.001). This meant that girls and boys had different theoretical models. In examining the regression coefficients two different models were seen. For girls, sexual behavior was related to age, paternal communication, paternal comfort, and maternal communication. Maternal comfort was not significantly related to sexual behavior for girls. For girls, the model explained 57% of the variance in sexual behavior. For boys, none of the variables were related to sexual behavior ($R^2=.09$). Table 6 summarizes the results for the girls and Table 7 summarizes the results for the boys. Maternal comfort was removed from the original model and the modified model was run for the girls. The following fit indices were obtained: GFI=0.90, NFI=0.72, IFI=0.77 and CFI=0.75.

Table 6: Structural Equation Results for Girls

Relations between Latent Variables				
	Regression Coefficients	Standardized Regression Coefficients	SE	Critical Ratio
Age → Sexual Behavior	3.474	0.454	0.683	5.087
Father Communication → Sexual Behavior	0.216	0.226	0.109	1.991
Father Comfort → Sexual Behavior	-0.213	-0.432	0.055	-3.876
Mother Communication → Sexual Behavior	0.269	0.387	0.086	3.133
Mother Comfort → Sexual Behavior	0.077	0.134	0.070	1.100
Exogeneous Covariances				
	Covariance	Correlation	SE	Critical Ratio
Father Communication ↔ Father Comfort	129.126	0.543	32.641	3.956
Mother Communication ↔ Mother Comfort	170.877	0.614	39.630	4.312

Table 7: Structural Equation Results for Boys

Relations between Latent Variables				
	Regression Coefficients	Standardized Regression Coefficients	SE	Critical Ratio
Age → Sexual Behavior	0.412	0.056	1.047	0.393
Father Communication → Sexual Behavior	0.204	0.228	0.181	1.130
Father Comfort → Sexual Behavior	-0.025	-0.055	0.092	-0.276
Mother Communication → Sexual Behavior	0.105	0.141	0.149	0.704
Mother Comfort → Sexual Behavior	0.051	0.104	0.096	0.533
Exogeneous Covariances				
	Covariance	Correlation	SE	Critical Ratio
Father Communication ↔ Father Comfort	157.263	0.638	42.313	3.717
Mother Communication ↔ Mother Comfort	174.130	0.616	48.677	3.577

Fit indices provide an indication of how well the model fits the data (Bentler & Bonett, 1980). The above-cited Goodness of Fit Indices tell you how much better the model fits the data relative to the most restrictive model, where there are no common factors. All of these fit indices range from zero to one. Bentler and Bonett (1980) suggested that a fit index of .90 or greater indicates a well-fitting model. Three of the fit indices for the current model were less than this, suggesting that there is more work to be done on the model.

A regression analysis was run using the same predictor variables, but with age of first experience with sexual intercourse as the criterion variable. Regression was chosen due to the relatively small number of teens who reported sexual intercourse experience ($n=52$). If the analysis were to be run separately for boys and girls, the sample sizes would become too small for Structural Equation Modeling. Results revealed that none of the variables significantly predicted age of sexual intercourse debut among boys. Only age itself was a significant predictor of girls' age of onset of sexual intercourse, accounting for 55% of the total variance ($R=.74$; $p<.01$).

Discussion

Previous research has demonstrated that communication with adolescents about sexuality can have positive influences on teen sexual development (e.g., Christopherson, Miller, & Norton, 1994; Holtzman & Rubinson, 1995; Leland & Barth, 1993; Ward & Wyatt, 1994). Therefore, it is important to determine what may influence the incidence of sexual communication between adolescents and their parents. The current research was an exploratory study, in an attempt to build a model with which to better understand the relations among these variables for sons and daughters with their mothers and fathers. The underlying purpose of this research is to improve communication between parents and children and, ultimately, influence teen sexuality in a way that prevents STDs, AIDS, and unwanted pregnancies.

This task should not be done without considering the differences for each gender. Gender differences are quite clear in the sexuality literature (Nolin & Petersen, 1992; Papini et al., 1990; Stettin & Kerr, 2000) and were again found in the current study. In this research, female adolescents were significantly more likely to communicate about sexuality with their mothers, and felt more comfortable in doing so, than did boys. No gender differences appeared for comfort and communication with fathers. For both boys and girls, scores for fathers were lower than for mothers. This is generally consistent with past literature.

The current study sought to determine whether the same combination of variables was predictive of sexual behavior in both girls and boys. Interestingly, the variables in the model for girls were successful in predicting sexual behaviors quite clearly, but none of the variables were significant contributors to the statistical model for boys. Before continuing this discussion, however, several limitations must be presented. Among girls, more frequent communication with both parents, less comfort in discussing sexuality with fathers, and older age were related to more frequent sexual behaviors. Although directionality of these relations is unclear, the most likely interpretation of the positive relations found between age, communication, and sexual behaviors is that older adolescents are more likely to be sexually active, which may then stimulate discussions about sexuality between teens and their parents. This seems to support prior research that has found age to be a primary and consistent predictor of sexual activity (Somers & Paulson, 2000). Indeed, the current study also found age to be the only significant predictor of onset of sexual intercourse among female adolescents.

Also significant in the girls' model was comfort in discussing sexuality with their fathers. It was, at first glance, surprising that this was not also true with mothers. However, communication with mothers may be more likely to occur regardless of how comfortable mothers and their adolescents feel about it. Mothers generally tend to assume a majority of the responsibility for day-to-day child-rearing, and sex education may simply become one of those "tasks" that mothers are more likely to take care of. Perhaps comfort in discussing sensitive sexual topics with fathers is more specifically necessary to increase the likelihood that female adolescents and their fathers will communicate about sexuality. Implications for educating parents about how to approach sex education with their children are significant. It is especially important to consider that the same information may not be relevant for both parents. Interventions designed to help parents communicate with their children about sexuality tend to be generic, not making a distinction between potentially different experiences for mothers and fathers (e.g., Wodarski & Wodarski, 1994).

Although research has found that mothers have done much of the sexual communication with their children, especially their girls, it will be important for fathers to know that their participation in sex education can make an impact as well.

Perhaps most striking in these results was that, while all but one of the variables significantly contributed to the model for girls, none of them predicted frequency of sexual behaviors or age of onset of sexual intercourse for boys. This suggests that, although there is an increasingly clear picture of what influences girls, it remains unclear how boys are influenced by their parents regarding sexual development. But because boys, compared to girls, have been found to engage in sexual activity at younger ages (e.g., Traeen, Lewin, & Sundet, 1992) and with more partners (e.g., Katchadourian, 1990), it is important to determine which factors have an impact on their decisions. Parents may be able to play a stronger role in educating their sons about the social pressures that boys often face (i.e., to have sex as soon and with as many people as they can). Children and adolescents are commonly surrounded by these norms without any preparation for and guidance in handling them. There is a variety of research information about how mothers influence their daughters' sexual development, but it is still unclear what effects mothers can have on their sons. Adolescent males would, no doubt, benefit from direct communication about sexual topics, especially given the societal pressures males commonly face, such as to be sexual at early ages, and with multiple partners. Furthermore, even less is known about the impact that fathers can make on their sons.

In any case, boys and girls may have different needs regarding sex education since school-based sex education programs, like parent-training programs, tend to be generic. This discussion does not endorse the automatic separation or separate treatment of the sexes, but rather urges future researchers to continue exploring what teens, and especially boys, need from parents in order to improve sexual communication and, ideally, sexual behaviors. Practitioners must be aware of how boys and girls respond to intervention attempts. The goal of additional research should be to determine what parents' roles in sex education can be, and then ensure that the information is disseminated through public channels that may help parents to learn how they can influence their teens' sexual choices. Teen sexuality continues to be a challenge to study, commonly because of parent and school administrator resistance. Researchers must continue to impress upon the public the importance of studying this aspect of human development in order to add to current knowledge about how to create change.

These findings must also be considered in light of several limitations. The sample is relatively homogeneous, which limits generalizability. Also, the sample size is relatively small, and although it meets minimum standards for the analyses run in this study, future research should ensure that the sub-groups of the sample are larger. Randomization of samples is always desired. Nevertheless, the main goal of this study was to begin to develop a model to describe the patterns of relations in this topic area between boys and their parents and girls and their parents. Future studies should be generated to improve upon this model so to maximally improve the understanding of this topic, which would then provide important information to researchers and practitioners.

References

- Alan Guttmacher Institute. (1994). *Sex and America's teenagers*. New York: Author.
- Arbuckle, J. L. (1997). *AMOS User's Guide* (version 3.6). Chicago, IL: Small Waters Corp.
- Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606.
- Brody, E. B., Ottey, F., & Lagrandade, J. (1976). Early sex education in relation to later coital and reproductive behavior: Evidence from Jamaican women. *American Journal of Psychiatry*, 133, 969-972.
- Byers, E. S., Sandra, E., Sears, A., & Weaver, D., (2008). Parents' reports of sexual communication with children in kindergarten to grade 8. *Journal of Marriage and Family*, 70(1), 86-96.
- Casey, S., & Peterson, L. (1985). Sex education for parents. *Children Today*. (July-August), 11-15.
- Centers for Disease Control. (1992). Selected behaviors that increase risk for HIV infection, other sexually transmitted diseases, and unintended pregnancy among high school students--United States, 1991. *MMWR*, 41(50), 945-951.
- Centers for Disease Control and Prevention. (2004). *Surveillance Summaries*. MMWR 2004:53(No. SS-2).
- Christopherson, C. R., Miller, B. C., & Norton, M. C. (1994, Feb.). Pubertal development, parent/teen communication, and sexual values as predictors of adolescent sexual intentions and sexually related behaviors. Paper presented at the Society for Research on Adolescence, San Diego, CA.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Constantine, L. L. (1977). Open family: A lifestyle for kids and other people. *The Family Coordinator*, 26(2), 113-121.
- Croft, C. A., & Asmussen, L. (1992). Perceptions of mothers, youth, and educators: A path toward de-tente regarding sexuality education. *Family Relations*, 41, 452 – 459.
- Fisher, T.D. (1990). Characteristics of mothers and fathers who talk to their adolescent children about sexuality. *Journal of Psychology and Human Sexuality*, 3 (2), 53-70.
- Fisher, T.D., & Hall, R.G. (1988). A scale for the comparison of the sexual attitudes of adolescents and their parents. *The Journal of Sex Research*, 24, 90-100.
- Forhan, S. E., Gottlieb, S. L., Sternberg, M. R., Xu, F., Datta, S. D., Berman, S., et al. (Eds.). (2008). Prevalence of sexually transmitted infections and bacterial vaginosis among female adolescents in the United States: Data from the National Health and Nutrition Examination Survey (NHANES) 2003–2004. Paper presented at the 2008 National STD Prevention Conference, Chicago.
- Fox, G.L. (1981). The family's role in adolescent sexual behavior. In T. Ooms (Ed.), *Teenage Pregnancy in a Family Context* (pp.73-130). Philadelphia: Temple University Press.
- Fox, G.L., & Inazu, J.K. (1980a). Mother-daughter communication about sex. *Family Relations*, 29, 347-352.
- Fox, G.L. & Inazu, J.K. (1980b). Patterns and outcomes of mother-daughter communication about sexuality. *Journal of Social Issues*, 36(1), 7-29.
- Furstenberg, F., Jr. (1971). Birth control experience among pregnant adolescents: The process of unplanned parenthood. *Social Problems*, 19, 192-203.
- Garfield, M.G., & Morhenthau, J.E. (1976). Sex talks between mothers and daughters. *Medical Aspects of Human Sexuality*, 10, 6-18.
- Gebhard, P. (1977). The acquisition of basic sex information. *The Journal of Sex Research*, 13, 148-169.
- Gray, L. A., & House, R. M. (1996). Adolescents and AIDS: Education, compassion, and reason. In Capuzzi, D., & Gross, D. R. (Eds.), *Youth at risk: A resource for counselors, teachers, and parents* (2nd ed.) (pp. 217-251). Alexandria, VA: American Counseling Association.
- Hass, A. (1979). *Teenage Sexuality*. Los Angeles: Pinnacle Books, 1979.
- Hayes, C.D. (1987). *Risking the future: Adolescent sexuality, pregnancy, and childbearing*. Washington, D.C.: National Academy Press.
- Hodson, D.S., & Wampler, K. (1988). Social class and parental involvement in the sex education of children. *Journal of Sex Education and Therapy*, 14(2), 13-17.
- Hollingshead, A. B. (1975). *Four factor index of social status*. Unpublished manuscript.
- Holtzman, D., & Rubinson, R. (1995). Parent and peer communication effects on AIDS-related behavior among U.S. high school students. *Family Planning Perspectives*, 27(6), 235-268.
- Hutchinson, M. K. (1999). Individual, family, and relationship predictors of young women's sexual risk perceptions. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, 28, 60-67.
- Jaccard, J., Dittus, P. J., & Gordon, V. V. (1998). Parent-adolescent congruency in reports of adolescent sexual behavior and in communications about sexual behavior. *Child Development*, 69(1), 247-261.
- Katchadourian, H. (1990). Sexuality. In Feldman, S., & Elliott, G. R. (Eds.). *At the threshold: the developing adolescent*. Cambridge, MA: Harvard University Press.
- Koblinsky, S., & Atkinson, J. (1982). Parental plans for children's sex education. *Family Relations*, 31, 29-35.
- Leif, H. I., Fullard, W., and Devlin, S. J. (1990). A new measure of adolescent sexuality: SKAT-A. *Journal of Sex Education and Therapy*, 16, 79-91.
- Leland, N. L., & Barth, R. P. (1993). Characteristics of adolescents who have attempted to avoid HIV and who have communicated with parents about sex. *Journal of Adolescent Research*, 8, 58-76.
- Lewis, R. A. (1973). Parents and peers: Socialization agents in the coital behavior of young adults. *Journal of Sex Research*, 9, 156-170.
- Longmore, M. A., Eng A. L., Giordano P. C., Wendy D. Manning W. D., & Buehler, C. (2009). Parenting and adolescents' sexual initiation. *Journal of Marriage and Family*, 71(4), 969-982.
- Longmore, M. A., Manning W. D., & Peggy C. Giordano, P. C. (2001). Preadolescent parenting strategies and teens' dating and sexual initiation: A longitudinal analysis. *Journal of Marriage and Family*, 63(2), 322-335.

- Masserman, J. H., & Uribe, V. M. (1989). *Adolescent sexuality*. Springfield, IL: Charles C. Thomas.
- Meschke, L. L., Bartholomae, S., & Zentall, S. R. (2002). Adolescent sexuality and parent-adolescent processes: Promoting healthy teen choices. *Journal of Adolescent Health, 31*, 264-269
- Miller, B. C., Christopherson, C. R., & King, P. K. (1993). Sexual behavior in adolescence. In Gullotta, T.P., Adams, G.R., & Montemayor, R. (Eds.). *Adolescent Sexuality*. Newbury Park, CA: Sage Publications, Inc.
- Miller, B. C., & Sneesby, K. R. (1988). Educational correlates of adolescents' sexual attitudes and behavior. *Journal of Youth and Adolescence, 17*(6), 521-530.
- Mosher, W. D., Chandra, A., & Jones, J. (2005). Sexual behavior and selected health measures: Men and women 15–44 years of age, United States, 2002. *Advance data from vital and health statistics, 43*, 151–156. Hyattsville, MD: National Center for Health Statistics
- Mueller, K. E., & Powers, W. G. (1990). Parent-child sexual discussion: Perceived communicator style and subsequent behavior. *Adolescence, 25*(98), 469-482.
- Newcomer, S., & Baldwin, W. (1992). Demographics of adolescent sexual behavior, contraceptions, pregnancy, and STDs. *Journal of School Health, 62* (7), 265-270.
- Noller, P., & Bagi, S. (1985). Parent-Adolescent communication. *Journal of Adolescence, 8*, 125-144.
- Nolin, M.J., & Petersen, K.K. (1992). Gender differences in parent-child communication about sexuality: An exploratory study. *Journal of Adolescent Research, 7*, 59-79.
- Pappini, D. R., Farmer, F. L., Clark, S. M., & Snell, W. E. (1988). An evaluation of adolescent patterns of sexual self-disclosure to parents and friends. *Journal of Adolescent Research, 3*(3-4), 387-401.
- Papini, D.R., Farmer, F.F., & Clark, S.M. (1990). Early adolescent age and gender differences in patterns of emotional self-disclosure to parents and friends. *Adolescence, 25*, 959–976.
- Raffaelli, M., Bogenschneider, K., & Flood, M. F. (1998). Parent-teen communication about sexual topics. *Journal of Family Issues, 19*(3), 315-333.
- Rozema, H. J. (1986). Defensive communication climate as a barrier to sex education in the home. *Family Relations, 35*, 531-537.
- Rueter, M. A., & Koerner, A. F. (2008). The Effect of Family Communication Patterns on Adopted Adolescent Adjustment. *Journal of Marriage and Family, 70*(3), 715-727.
- Santelli, J. S., & Beilenson, P. (1992). Risk factors for adolescent sexual behavior, fertility, and sexually transmitted diseases. *Journal of School Health, 62*(7), 271-279.
- Somers, C. L., & Paulson, S. E. (2000). Students' perceptions of parents-adolescent closeness and communication about sexuality: Relations with sexual knowledge, attitudes, and behaviors. *Journal of Adolescence, 23*, 629-644.
- Sieverding, J. A., Adler, N., Witt, S., & Ellen, J. (2005). The influence of parental monitoring on adolescent sexual initiation. *Archives of Pediatric Adolescent Medicine, 159*, 724-729.
- Simanski, J. W. (1998). The birds and the bees: An analysis of advice given to parents through the popular press. *Adolescence, 33*(129), 33-45.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development, 71*, 1072-1085.
- Thornburg, H. D. (1981). Adolescent sources of information on sex. *The Journal of School Health, 51*, 247-277.
- Traeen, B., Lewin, B., & Sundet, J. M. (1992). The real and the ideal: Gender differences in heterosexual behaviours among Norwegian adolescents. *Journal of Community and Applied Social Psychology, 2*, 227-237.
- Ward, L. M., & Wyatt, G. E. (1994, February). *An examination of the multi-dimensional nature of parental sexual communication and its effects on adolescent sexual behavior*. Poster presented at biennial meeting of the Society for Research on Adolescence, San Diego, CA.
- Wodarski, L. A., & Wodarski, J. S. (1995). *Adolescent Sexuality: A Comprehensive Peer/Parent Curriculum*. Springfield, IL: C. C. Thomas.
- Youniss, J., & Smollar, J. (1985). *Adolescent Relations with Mothers, Fathers, and Friends*. Chicago: University of Chicago Press.