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**PARENTING AND ADOLESCENTS' SEXUAL INITIATION**

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## **Parenting and Adolescents' Sexual Initiation**

### **ABSTRACT**

This paper draws on social control and social learning theories to examine the role of dating-specific attitudes and practices as predictors of adolescents' sexual initiation. We include attention to the adolescent's reaction to control attempts as a further means of assessing family dynamics (i.e., frequency of dating disagreements). The study uses longitudinal data from 697 adolescents who were not sexually active at the first interview as well as separate interviews with parents. In models that include all parenting variables, parental caring, parents' preferences that the child should delay sex, and the frequency of dating disagreements are significant predictors of initiation of teen sexual activity.

## Parenting and Adolescents' Sexual Initiation

It is widely recognized that different phases of childhood and adolescence involve distinct concerns and challenges. As such, parenting differs across developmental periods (Conger, Conger, & Scaramella, 1997; Pearson, Muller, & Frisco, 2006). During adolescence parents face new challenges as teens make dating choices and spend time with current or potential romantic partners. Of course there is continuity in some domains as parents maintain interest in and express care and concern for their children's academic success, well-being, and the like, whether it is grade school or high school years. However, dating places youths and parents in new and uncertain terrain. How parents interact and communicate about dating is critical to understand because teens' first sexual experiences occur most often in the context of dating relationships (Manning, Giordano, & Longmore, 2006; Manning, Longmore, & Giordano, 2005; Marin, Kirby, Hudes, Couyle, & Gomez, 2006; Meschke, Zweig, Barber, & Eccles, 2000). Because parents can be a countervailing force to peers and romantic partners who are more likely to approve of sexual activity (Dittus, Miller, Kotchick, & Forehand, 2004), we assess parenting practices associated with dating, which may deter youths' early sexual initiation.

Employing data from the Toledo Adolescent Relationships Study (TARS), we include general parenting measures previously found to be associated with adolescents' behavioral compliance and parenting measures that are specific to issues of dating and sexuality. We use longitudinal data from 697 adolescents who were not sexually active at the first interview and separate interviews with parents. Drawing on the tenets of social control and social learning frameworks, along with the parental 'basics' of caring and monitoring, we assess dating-specific "independence-giving" (e.g., Bulcroft, Carmody, & Bulcroft, 1998) as an additional measure of *social control*, and parents' attitudes and own early sexual history as indices of *social learning*

processes. We also assess variations in the *dynamics of communication* between parents and adolescents as indexed by discussions of sexual issues and the frequency of disagreements about dating. To date few studies have included parenting indicators that tap dating and sexuality-specific dynamics, along with more general indices of caring and control.

Of course there is more to adolescent sexual activity than simply parenting practices. Adolescents' social and personal characteristics influence both the likelihood of sexual initiation, and the nature/impact of parenting practices; thus, we explore how high risk personal characteristics might moderate the influence of parenting practices. Our analyses also include demographic characteristics, which influence sexual debut, and which may interact with parenting in affecting adolescents' sexual debut.

## BACKGROUND

Prior research on parenting and adolescents' sexual behavior typically employs a social control or social learning perspective or emphasizes the nature of communication dynamics between parent and child. Although these domains and theoretical perspectives often are viewed as competing explanations, our view is that: (1) each of these aspects of parenting contributes to an understanding of variations in child behavior choices; and (2) it is important to move beyond generic indicators, and to include attention to issues of dating and sexuality specifically.

### *Social Control Framework: The Importance of Caring and Monitoring*

According to social control theories (e.g., Hirschi, 1969), parents are inhibitory in their effects on adolescents' behavior through (a) expressions of caring and attachment; and (b) constraining involvement in particular activities through control strategies. *Parental caring* reflects to youths that they matter to parents, and is commonly measured in terms of behaviors

such as praising, hugging, and encouraging the child (Rollins & Thomas, 1979; Rosenberg & McCullough, 1981). Adolescents who feel close and cared for are likely to internalize parental values; as such, parental caring provides the foundational bedrock for compliance.

Overwhelmingly, studies find that parental caring is associated with positive outcomes including delayed sexual activity (e.g., Davis & Friel, 2001; Huebner & Howell, 2003; Miller, Forehand, & Kotchick, 1999; Miller, McCoy, & Olson, 1986; Pearson et al., 2006; Resnick et al., 1997; Sieverding, Adler, Witt, & Ellen, 2005; Taris, Semin, & Bok, 1998). During all developmental periods parental caring is important, but especially during adolescence expressions of care reflect the parents' understanding that youths need additional guidance and support while striving for independence from parental authority (Hair, Moore, Garrett, Ling, & Cleveland, 2008).

In contrast to caring, parental control refers to the constraints placed on a child's behavior by parents through direct and/or indirect means, and often is measured in terms of monitoring. Compared with expressions of care, controlling behavior is a more complicated parenting task because effects on socialization outcomes are not uniformly positive, and because adolescents often resist control attempts (Gecas & Seff, 1990) leading to conflict, which may exacerbate the behaviors that parents are trying to control. *Monitoring*, nevertheless, is a critical parental responsibility that influences whether interactions with current or potential romantic partners are encouraged or discouraged, and commonly is assessed by asking parents whether their children are permitted to stay home alone, need to tell parents where they are, and/or have curfews. The best evidence for the importance of monitoring is found in longitudinal studies, with greater monitoring predicting lower odds of adolescents' sexual initiation at both twelve month (Sieverding et al., 2005) and four year intervals (Longmore, Manning, & Giordano, 2001). Thus monitoring appears to be effective by limiting opportunities in which youths are outside of

parental purview.

Yet, monitoring is a complex process involving some checking up on the part of parents as well as setting limits on adolescents' behavior (Kan et al., 2008; Madsen, 2008; Simpkins & Parke, 2002). Simpkins and Parke (2002) found that rules are distinct from other aspects of monitoring, such as parents' knowledge of adolescents' behavior and whereabouts. In this study we believe that it is important to distinguish between (1) behavioral monitoring; and (2) limiting adolescents' independent choices with respect to dating. *Limiting adolescents' independent choices* versus independence-giving is a key parental struggle during the adolescent period. As youths get older it is developmentally appropriate for parents to encourage adolescents to make independent decisions in various domains of their lives. Unlike monitoring which occurs in varying degrees throughout childhood and adolescence, allowing youths to make dating choices is likely new for parents. The struggle for parents is that dating is one domain in which greater independence may be problematic because of the association between dating and the ease of availability of a sex partner. Consequently parents may attempt to control adolescents' exposure to dating by limiting the independent choices that youths are allowed to make, such as whom to date and how often. Madsen (2008:1046) for example, conceptualizes the parental role as that of "supervisor[s] of adolescents' romantic partnerships through the specific parenting practice of rule setting." In other words, parents control behavior by setting rules for dating, which limit adolescents' autonomy.

We noted earlier that differing control practices may be more or less effective in delaying sexual onset. What is the likely effect of limiting adolescents' dating choices at a time and in a domain that teens are pushing for greater autonomy? Based on ideas from Brehm and Brehm's (1981) reactance theory, which suggests that individuals do not like to feel controlled and react

negatively to control tactics, we argue that limiting independent choices, because it allows for some choice, albeit limited, will likely result in compliance. Thus, rule setting, which limits dating choices, may function as a primary preventive measure in reducing or delaying the onset of sexual activity. Additionally, limiting dating choices may act as an intervention measure among youths with high risk personal, social, and demographic characteristics such as those youths already engaging in substance use, performing poorly in school, reporting that their friends are sexually active, and other risk factors associated with early sexual activity (e.g., Doyle, Brendgen, Markiewicz, & Kamkar, 2003). On the other hand, because teens desire greater autonomy, they may be less compliant with dating rules, in which case, limiting independent dating choices may not be significantly associated with sexual debut.

Based on the key tenets of social control theory, then, we expect that parental caring and behavioral monitoring may prevent adolescents from acting on their intentions to have sex by reducing prospective opportunities. However, limiting adolescents' independent dating choices is also expected to be associated with delaying sexual initiation. Moreover, given that sexual activity occurs most often in the context of dating relationships, and because individuals inherently do not like to feel controlled, we expect the effect of limiting independent choices associated with dating to be stronger than the effect of general monitoring in delaying adolescents' sexual initiation. To our knowledge the relationship between limiting independent dating choices and adolescent sexual initiation, while controlling for parental caring and monitoring, has not been examined in a large-scale longitudinal study.

Some parents, however, may hold relatively permissive attitudes or believe sexual activity is appropriate or inappropriate under certain conditions, such as whether it occurs with a steady or long-term dating partner, or as long as effective birth control is used. Consequently,

adolescents may perceive that their parents care, internalize parental values, be compliant with parental wishes, and still not delay sexual onset. These ideas suggest the need to examine social learning processes, which highlight the importance of parental attitudes, in addition to parental caring and control practices.

### *Social Learning Processes: The Importance of Parental Attitudes and Behavior*

*Parents' attitudes* regarding premarital sexual behavior and the appropriate age at which to have sex may foster a social environment that influences adolescents' attitudes and sexual behavior. Compared with behavioral monitoring and limiting choices, this is a more indirect strategy in that the ultimate objective is, not to control or limit behavior, but for the adolescent to internalize the parent's perspective on dating and sexual activity. Davis and Friel (2001) and Miller et al. (1999), for example, found positive relationships between maternal attitudes toward sex and adolescents' sexual activity; and similarly, adolescents engaged in sexual activities at earlier ages when they perceived parental approval of premarital sex and birth control (Jaccard & Dittus, 2000). Thus, studies have demonstrated the inhibitory influence of conservative parental attitudes and beliefs about adolescent sexual activity.

Building on these prior studies, we emphasize that parents' attitudes are likely imbued with general views on the nature of opposite sex relationships including stereotypes and expressions of cynicism. Lefkowitz et al. (2003), for example, examining the nature of mothers' and adolescents' discussions of safe sex and abstinence, found that conversations shifted to other adolescent concerns such as love, dating, romance, and opposite sex relationships. As such, an additional objective of the current study is to examine the influence of parents' views on dating and opposite sex relationships. For example, parents may reveal commonly-held, but



stereotypical, beliefs that boys are only interested in girls for sex, or girls are too sexually aggressive. We examine parents' conservative views centering on gender trust/mistrust and open versus more suspicious views of opposite sex relationships. Consistent with the prior literature on the influence of parents' conservative attitudes, we expect that these views will have an inhibitory effect on adolescents' sexual initiation. We move beyond the prior literature on conservative attitudes, however, by more explicitly focusing on cynicism regarding adolescents' opposite sex relationships.

Additionally, a more specific indicator of conservative versus permissive attitudes that may influence whether an adolescent is sexually active is the age that parents believe it is appropriate for their own child to have sex. That is, it is possible to hold permissive attitudes regarding adolescent sexuality, but, nevertheless, hold more conservative attitudes when it comes to the age that one's own adolescent should have sex. Net of whether parents hold conservative/cynical attitudes about adolescent romantic relationships in general, we expect that parents who report an older appropriate age for their child to have first sexual intercourse will influence their child to delay sexual activity. Because this attitude provides a behavioral script for how to be compliant (i.e., do not have sex while in high school), it likely will be a more effective deterrent than generally phrased conservative/cynical attitudes.

*Parents' own history* likely influences adolescents' sexual initiation to the extent that there is greater parental acceptance of comparable behavior. That is, parents who had early sex may be less critical of their teens engaging in earlier sexual activity; conversely, it is possible that such parents may more vigilantly discourage early sexual activity. The weight of the evidence, however, supports the former position. For example, Hovell et al. (1994) found that greater sexual experience was reported among adolescents who believed their mothers had

premarital sex; and African American males were more likely to have had sex if their father had been a teen parent (Rucibwa, Modeste, Montgomery, & Fox, 2003). As such, we expect that parents' age at first sexual intercourse is positively associated with adolescents' sexual onset.

Summarizing, drawing on the social learning framework, we examine parents' conservative views of adolescents' opposite sex relationships, the appropriate age for their child to have sex, and the parents' own age at first sex as influences on adolescents' sexual initiation. We anticipate that both attitudinal measures will be associated with delayed sexual onset, but parents' views on the appropriate age for their child to be sexually active will have a stronger inhibitory effect. The parents' own history of early sexual activity also likely influences adolescents' sexual onset, with parents' earlier sexual debut being associated with adolescents' earlier sexual initiation. We note that prior studies have examined conservative attitudes, as well as parents' views of the appropriate age for their child to have sex; however, examining both attitudinal variables, net of parents' own history, as well as parental caring and control practices, has not been examined in previous studies.

#### *Communication Dynamics: Sexual Communication and Dating Disagreements*

*Sexual communication* refers to parents' and adolescents' discussions of contraception, abstinence, or sexually transmitted infections. Specific conversations about sex, contraception, and abstinence, however, are rather rare events (e.g., Lefkowitz, Boone, Au, & Sigman, 2003; Lefkowitz, Romo, Corona, Kit-fong, & Sigman, 2000); nevertheless, much research has examined the effects of sexual communication on adolescents' attitudes and behavior (e.g., Davis & Friel, 2001; Lefkowitz et al., 2000; Lefkowitz et al., 2003; Meschke, Bartholomae, & Zentall, 2000; Pearson et al., 2006). However, results are mixed with some studies showing positive relationships and others showing negative relationships between sexual communication

and adolescents' sexual initiation. For example, Davis and Friel's (2001) and Resnick et al.'s (1997) cross-sectional analyses of the National Longitudinal Study of Adolescent Health (Add Health) found that maternal communication about sex is associated with a greater likelihood of earlier sexual initiation for both adolescent girls and boys. Conversely, others report that mother and daughter communication about sexual risk decreased the odds of daughters' sexual debut (Pearson et al., 2006). Reviewing predictors of adolescents' intended sexual behavior, Buhi and Goodson (2007) report a range of incongruent findings but, nevertheless, generally concluded that greater parental communication is related to greater sexual activity.

Lefkowitz et al. (2000), however, provide clarity to these disparate findings by emphasizing that observed findings may differ depending on who is reporting on the occurrence of sexual communication. They found in their study of sexual communication that parents primarily talked and youths listened. As a result of this disconnect, parents may believe conversations about sex have occurred whereas youths may not. Additionally, it is likely that sexual communication is most effective as a deterrent when it occurs prior to adolescents' sexual initiation (Meschke et al., 2000) as opposed to after the fact. As such, we examine the effect of sexual communication from the adolescent's perspective on sexual debut twelve months later.

*Frequency of dating disagreements* is associated with one of the central parental tasks, which is to control and guide youths' behavior. However, to the extent that parents and youths engage in hostile, confrontational, or disagreeable interactions, teens are at risk of engaging in problematic behaviors (Conger et al., 1997) including sexual activity (Taris & Semin, 1997). Certainly, disagreements are a common form of communication, and as teens try to assert independence disagreements may occur more often. The frequency of disagreement or arguing with parents about dating likely reflects disconnections between parental rules and adolescents'

desires to comply or not to comply, and scholars have found in cross-sectional studies that dating rules affect the quality of relationship with parents (Madsen, 2008). Smetana (1988) suggests that disagreements may arise as youths question the legitimacy of parental authority, and we argue that one domain in which youths might question authority is that of dating. Quatman, Sampson, Robinson, and Watson (2001) and Dowdy and Kliwer (1998) found that adolescents who dated, compared with non-daters, reported more conflict with parents. However, it is not clear whether the increased frequency of conflicts necessarily were about dating, and whether such disagreements influenced adolescents' sexual initiation net of other known correlates including dating itself.

Summarizing, we examine the effect of perceived sexual communication from the adolescents' perspective to assess whether youths believe such conversations have occurred. Moreover, because communication is most useful prior to sexual behavior, like our other measures, this measure is from the time of the first interview (i.e., prior to sexual intercourse), and we expect that greater perceived communication about sex will be related to adolescents' delayed sexual onset. Additionally, we expect that the frequency of disagreements with parents about dating at the time of the first interview will increase the odds of adolescents experiencing sexual initiation as teens struggle with parents to establish romantic relationships on their own terms. Whereas other studies have examined sexual communication, prior work has not examined whether the frequency of disagreements about dating among youths who have not had sex predicts sexual initiation, net of the other correlates discussed.

## CURRENT INVESTIGATION

Building on the social control framework, we assess the extent to which caring, monitoring, and limiting dating choices affect adolescent sexual debut. Drawing from the social

learning framework, we assess whether parents' attitudes and own sexual history affect adolescent sexual debut. We also assess whether communications about sex and frequency of dating disagreements affect sexual debut. We expect that greater caring and monitoring, limiting independent choices about dating, parents' conservative attitudes, greater perceived communication about sex, and fewer disagreements about dating will be associated with lower odds, and parents' early sexual history will be associated with higher odds of sexual initiation.

We contribute to the body of literature on parenting and adolescents' sexual activity by including well known and rather unique measures of social control, social learning, and communication processes. Most prior parenting studies using the social control framework focus on monitoring or rules, and do not examine independence-giving with respect to dating. Studies using a social learning framework typically emphasize permissive versus conservative attitudes, and do not ask parents the age in which sexual activity is appropriate for their child. Examining parents' own age at first sexual intercourse, often examined in demographic research, typically is not examined along side other important socialization pathways. Whereas studies have examined communication processes about sexual issues, and have elicited topics in which parents and youths disagree, most have not directly assessed the frequency of disagreeing specifically about dating. We include contextual effects, which may moderate the relationship between parenting practices and adolescents' sexual debut. Lastly, many prior studies are based on cross-sectional data (for exceptions see Longmore et al., 2001; Pearson et al., 2006; Sievarding et al., 2005). In recent reviews (e.g., Buhi & Goodson, 2007; Guilamo-Ramos & Bouris, 2007) of the studies examining the influence of parents on adolescents' sexual activity, a noted limitation is the overemphasis on cross-sectional data. Using longitudinal data allows us

to more clearly specify the relationship between parenting practices and adolescent sexual initiation.

The analyses also include *personal* and *demographic characteristics*, which have been found to be related to sexual initiation. Studies report that adolescents who are more religious are less likely to have had sexual intercourse (Davis & Friel, 2001; Meier, 2003). Additionally, individuals with dating partners, and those dating for a longer duration, are more likely to initiate sexual activity (Manning et al., 2006). Additional personal and social characteristics associated with adolescent sexual activity include: academic grades, frequency of alcohol use, depressive symptoms, and whether friends are sexually active (Buhi & Goodson, 2007). It is our expectation that these factors independently affect adolescents' sexual debut. Further, social control, social learning, and communication processes may differ by such characteristics and will be examined.

*Demographic characteristics* are important in their own right, but they may moderate the effects of parenting in predicting adolescents' sexual debut. Specifically, parenting may affect sexual debut differently in differing family structures. Adolescents, for example, from single parent families are more likely to report early sexual activity compared to adolescents from two parent families (Davis & Friel, 2001; Santelli, Lowry, Brener, & Robin, 2000). Consistent with the social control perspective, studies find that divorced or single parents provide less monitoring of adolescents; consistent with the social learning perspective, divorced or single parents report more permissive attitudes about sex; and, divorced or single parents communicate greater acceptance of premarital sexual behavior (e.g., Davis & Friel, 2001; Miller et al., 1999; Resnick et al., 1997; Taris et al., 1998). We evaluate whether parenting effects differ by family structure.

Gender, age, race/ethnicity, and social class background are also correlates of sexual initiation. Research shows that boys' sexual initiation occurs, on average, at age 17, and girls' sexual initiation occurs, on average, at age 17.6 (Alan Guttmacher Institute, 2004). Older adolescents are also more likely than younger adolescents to be sexually experienced (Santelli et al., 2000). Based on data from the Youth Risk Behavior Surveillance System (YRBSS, 2002), Dittus, Miller, Kotchick, and Forehand (2004) report that African American youths (63%) are more likely to have initiated sexual intercourse relative to White (43%) and Hispanic youths (48%). Higher rates of sexual initiation are also associated with disadvantaged background, and parents' educational level (Buhi & Goodson, 2007). These findings suggest the necessity of including demographic characteristics in our analyses.

Summarizing, in addition to examining social control, social learning, and communication processes, we examine known personal characteristics associated with adolescent sexual activity including: religiosity, whether youths are dating and how long, academic grades, alcohol use, reported depressive symptoms, and whether friends are sexually active. Demographic characteristics that we examine include: family structure, gender, age, race, mothers' education, and the percent of the neighborhood living below the poverty level. We also examine interactions between the parenting practices, social/personal characteristics associated with high risk behavior, and the demographic characteristics.

## DATA AND METHOD

### *Data*

The Toledo Adolescent Relationships Study (TARS) sample ( $n = 1,321$ ) was drawn from the year 2000 enrollment records of all youths registered for the seventh, ninth, and eleventh

grades in Lucas County, Ohio, a largely urban metropolitan environment that includes the city of Toledo. The sample universe encompassed records elicited from 62 schools across seven school districts. All of the schools complied with our requests for these data, as this information is legally available under Ohio's freedom of information act. The stratified, random sample was devised by the National Opinion Research Center, and includes oversamples of African American and Hispanic adolescents. Unlike school-based studies, school attendance was not a requirement for inclusion in the sample and most interviews were conducted in the respondent's home using preloaded laptops to administer the interview as a means of maintaining the adolescent's privacy. Parents and adolescents were interviewed in separate rooms. The first wave of data collection included the parent's interview. The second wave of data collection, from which we derive the dependent variable, sexual initiation, was conducted in 2002, one year after the initial data collection. Based on Census data, the socio-demographic characteristics of Lucas County closely parallel those of the nation in terms of race (13% in Toledo and 12% in the U.S. are African American); education (80% in Toledo and 84% in the U.S. are high school graduates); median income (\$50,046 in Toledo and \$50,287 in the U.S.); and marital status (73.5% in Toledo and 75.9% in the U.S. are married couple families).

The sample is first limited to those respondents who were virgins at wave 1 ( $n = 894$ ), and who were re-interviewed at wave 2 ( $n = 803$ ). Ninety percent of this analytic sample was interviewed at both intervals. Comparing the respondents at wave 1 and wave 2, differences in gender, age, race, and family structure are not statistically significant.

The parent respondents include 698 mother/step-mothers, 83 dad/step-dads, 21 female relatives, and 1 male relative. In initial multivariate models we included a dummy variable reflecting whether the parental respondent was the mother (yes/no). Because it was not



significant, we present the more parsimonious models, which do not include this variable. The parents' mean age and standard deviation are 41.7 and 6.8, respectively.

With respect to racial and ethnic identification, 69.1 percent of respondents identified themselves as White; 19.4 percent as African American, 9.0 percent as Hispanic, and 2.5 percent as "other" racial/ethnic background. Youths were between the ages of 12 and 19 at the time of the first interview.

### *Missing Data*

As with most social science research, there are missing data in our sample. The majority of the missing data are from the parent-rated items. The parent questionnaire was a paper survey, and as a result there were more items that were skipped than in the adolescent questionnaire, which was completed on the computer. If listwise deletion is used in our analyses, we lose 106 cases (13% of the sample). Analyses were performed to determine if those 106 cases differ from the 697 cases that remain in the sample. There were significant differences in family structure, with the dropped cases more likely to come from a single parent family. Multiple imputation was used to handle the missing data problem. Multiple imputation, performed in SAS, involves missing values being imputed based on the other values in the data set (Allison, 2002; Rubin, 1987). The first step (PROC MI) creates  $m$  data sets based on  $m$  plausible values predicted using data augmentation. The second step involves analyzing the data from each new dataset, in this case using logistic regression, and saving the coefficients in a new data set. Finally, PROC MIANALYZE is used to combine the  $m$  estimates of the parameters and standard errors.

### *Dependent Variable Measured at Wave 2*

*Having had sexual intercourse*, the dependent variable, is measured by asking respondents at wave 2: “Have you ever had sexual intercourse (sometimes this is called ‘making love,’ ‘having sex,’ or ‘going all the way’)?” Respondents who reply yes are classified as having had first sexual intercourse between interview waves.

#### *Social Control Parenting Practices Measured at Wave 1*

*Parental caring* is measured by asking adolescents the extent to which they agree with the following: (1) “My parents often ask about what I am doing in school;” (2) “My parents give me the right amount of affection;” (3) “My parents trust me;” (4) “I’m closer to my parents than a lot of kids my age;” and (5) “I feel close to my parents.” Responses on a five-point scale range from strongly disagree to strongly agree with higher scores indicating greater agreement. The scale score is calculated as the mean of the items, multiplied by five. The mean score is 20.

Cronbach’s alpha for this scale is .75.

*Monitoring* is measured by asking parents how often the following statements are true: (1) “When my child is away from home, she/he is supposed to let me know where she/he is;” (2) “I call to check if my child is where she/he said she/he would be;” (3) “I ask who my child is going out with;” (4) “My child has to be home at a specific time on the weekends;” (5) “I ask where my child is going;” and (6) “I wait up for my child to get home at night.” Responses on a four-point scale range from none of the time to all of the time with high scores indicating greater monitoring. The scale score is calculated as the mean of the items, multiplied by six. The scale mean is 21.1, and the range is 8-24. Cronbach’s alpha for this scale is .62.

*Limits on independent dating decisions* is measured by asking adolescents: “How often do your parents let you make your own decisions about: (1) your social life; (2) who you can date; and (3) how often you can date?” The responses on a five-point scale range from very

often to never with higher scores reflecting less independent decision-making about dating. The scale score is calculated as the mean of the items, multiplied by three. The mean score is 7 and the range is 3-15. Cronbach's alpha for this scale is .83.

#### *Social Learning Parenting Practices Measured at Wave 1*

*Conservative attitudes about dating* are measured by asking parents: "To what extent do you agree or disagree with the following statements:" (1) "boys are only after one thing;" (2) "girls are too aggressive nowadays;" (3) "I think some children have too much freedom to be around the opposite sex;" (4) "boys and girls play emotional games with each other;" (5) "I think some parents allow their children too much freedom to date;" (6) "it's better not to get too serious about one boy/girl in high school;" and (7) "nowadays girls are too boy crazy."

Responses on a five-point scale range from strongly disagree to strongly agree with high scores indicating greater parental conservatism about dating. The scale score is calculated as the mean of the items, multiplied by seven. The scale mean is 21.3, and the range is 7-30.

Cronbach's alpha for this scale is .71.

*Preferred age for their child to have first sex* is measured by asking parents: "What is the appropriate age for your child to start having sex?" Responses range from 15 to 35 years old, and the mean is 21.4. Because the responses tended to be bimodal, and to be consistent with our interest in whether parents' approve of their child having sex during the high school years, we classify responses as "18 years or younger" (22.3%) and "19 or older" (77.7%).

*Parent's age at first sex* is measured by asking: "At what age did you first have sexual intercourse?" Responses range from 10 or younger to 32 and the mean is 17.6 years.

#### *Dynamics of Parent-Child Communication at Wave 1*

*Sexual communication* is measured from adolescents' responses to the following prompt

and subsequent statement: “Tell me how much you agree or disagree with the following statements. My parents: (1) sometimes talk to me about sex; (2) sometimes talk to me about birth control; and (3) sometimes talk to me about waiting to have sex until I am married.” The responses on a five-point scale range from strongly disagree to strongly agree with higher responses indicating greater agreement. The scale score is calculated as the mean of the items, multiplied by three. The scale mean is 9.1 and the range is 3-15. Cronbach’s alpha is .76.

*Frequency of dating disagreements* is measured by asking adolescents: “How often do you and your parents have disagreements or arguments about your dating?” Responses include (1) never, (2) hardly ever, (3) several times a year, (4) twice a month, (5) once a week, and (6) two or more times a week. The mean score is 1.7 and the range is 1-6.

#### *Personal Characteristics Measured at Wave 1*

*Religiosity* is measured by asking the adolescent: “How important is religion in your life?” Responses on a five-point scale range from not at all important to very important with higher scores indicating greater importance. The range is 1 to 5, and the mean is 3.4. *Currently dating* is measured by asking the adolescent: “Is there someone you are currently dating – that is a girl/guy that you like and who likes you back?” and “How long have you been together?” Respondents who answered they are currently dating and have been together for over a year are classified as (1) currently dating for over 1 year. Respondents who answered they are currently dating and have been together for less than 1 year are classified as (2) currently dating for less than 1 year. All others are classified as (0) not currently dating. Dummy variables are created for the purposes of multivariate analyses with not currently dating as the contrast category.

*Grades* are measured by asking respondents: “What grades did you get in school this year?” Responses range from (1) mostly A’s to (9) mostly F’s. The mean is 3.5. *Alcohol frequency* is

measured by asking respondents: “In the past 12 months, how often have you drunk alcohol?” Responses to this question range from (1) never to (9) more than once a day. The mean is 1.6.

*Depressive symptoms* is a seven-item version of the Center for Epidemiological Studies’ depressive symptoms scale (CES-D). This measure asks respondents how often each of the following statements was true during the past seven days: (1) “you felt you just couldn’t get going;” (2) “you felt that you could not shake off the blues;” (3) “you had trouble keeping your mind on what you were doing;” (4) “you felt lonely;” (5) “you felt sad;” (6) “you had trouble getting to sleep or staying asleep;” and (7) “you felt that everything was an effort.” Response categories range from never to everyday with higher scores indicating greater frequency of occurrence. The scale score is calculated as the mean of the items, multiplied by seven. Cronbach’s alpha is .77. The mean is 15.7, and the range is 7 to 50.

*Friends had sex* is measured by asking respondents: “How many of your friends do you think have had sex?” Responses range from (1) none to (6) all of them. The mean is 2.1.

#### *Demographic Characteristics Measured at Wave 1*

*Family structure* is measured by asking the adolescent: “During the past 12 months, who were you living with most of the time?” Adolescents who indicated they lived with only one biological parent were coded 1. Respondents who indicated they lived with both biological parents were coded as 2. Respondents who indicated they lived with one biological parent and their parent’s spouse or partner were coded as 3 to reflect a step-family. Respondents who did not fall into one of the previous categories were coded as 4 “other” (e.g., living with grandparents or other relatives, foster care, etc.). For the purposes of multivariate analyses, dummy variables were created with “two biological parents” as the contrast category.

*Gender* is self-reported. Fifty-four percent of the respondents are female and nearly 46 percent are male. *Age* is calculated from the adolescent's date of birth and the date of the interview. The mean age of respondents is 14.7. *Race/ethnicity* is classified into the following categories: White, African American, Hispanic, and other race/ethnicity. White is the contrast category in the multivariate analyses. *Mother's education* is measured from the parent's questionnaire completed primarily by mothers. If the father answered the questionnaire and he was married or living with someone we ask: "How far did your partner go in school?" Otherwise, we use the question: "How far did you go in school?" (The responses reflect the educational level of 705 biological mothers, 9 adoptive mothers, 4 foster mothers, 14 step-mothers, 2 fathers' partners, 21 female relatives, 44 biological fathers, 2 step-fathers, 1 mother's partner, and 1 male relative). The answer categories were coded as 1 if the parent had less than a high school education, 2 if the parent had a high school education, and 3 if the parent had more than high school education. Dummy variables were created for the purposes of multivariate analyses with high school as the contrast category. *Percent neighborhood poverty* is a census variable for the teen's residential block group, which was determined by address. It reflects the percent of neighborhood population living below the poverty level.

### *Analytic Strategy*

We use logistic regression to predict the likelihood of having sex one year later among youths who were virgins at time 1. Table 1 includes percentages and means, and allows us to assess which variables influence sexual debut at the bivariate level. In Table 2, model 1 includes the parenting variables (i.e., parental caring, monitoring, limiting independent dating choices, parents' conservative attitudes, parents' preferred age for their child to have sex, parents' own age at first sex, sexual communication, and disagreements about dating). Model 2 adds in the

personal and demographic characteristics (i.e., adolescent's religiosity, dating status and duration, grades, alcohol frequency, depressive symptoms, belief that friends had sex, gender, age, race, family structure, mother's education, and percent poverty) to determine if the effects of the parenting variables remain significant net of these known correlates of adolescents' sexual initiation.

We use a Chow test to determine whether models should be run separately for boys and girls. We examine interactions between the personal characteristics associated with high risk behaviors (religiosity, dating status, low grades, alcohol frequency, depressive symptoms, and belief that friends had sex) and the parenting variables. Interactions are also examined between the demographic indicators (age, race, mother's education, family structure, and neighborhood poverty) and the parenting variables. The variables in all interactions are centered to control for multicollinearity (Jaccard, Turrisi, & Wan, 1990). Blocks of interactions were tested separately (e.g., gender interactions, race interactions, family structure interactions, etc.).

## RESULTS

### *Descriptive Analyses*

In Table 1, of the total sample ( $n = 803$ ), 26.5 percent ( $n = 213$ ) of the adolescents report that they had first sexual intercourse between the time of the first and second interview. At the bivariate level, the social control correlates associated significantly with adolescents' first sexual intercourse include perceptions of parental caring, and limits on independent dating decisions. Adolescents who perceive a greater sense of parental caring are less likely to initiate sexual intercourse. Adolescents who make fewer independent decisions regarding dating are less likely to initiate sexual intercourse. Parents' monitoring of adolescents' behavior, at the bivariate level, however, is not associated with first sexual intercourse.

[Table 1 about here]

Regarding the social learning processes, parents' reports of a younger age as being appropriate for their child to have first sex and parents' own younger age at first sex are significantly associated with adolescents initiating sex between interview waves. Parents' conservative attitudes toward dating are not related to adolescents' sexual initiation at the bivariate level.

At the bivariate level, one of the communication indicators is associated with teen sexual initiation. Adolescents' perceptions that parents communicate about sexual issues does not distinguish between youths who did and did not report first sexual intercourse between the interview waves. Greater frequency of dating disagreements, however, is associated with adolescents' sexual intercourse.

Regarding adolescents' personal characteristics, a larger proportion of those who initiated sex report currently dating at wave 1 (59.1%) as compared to those who did not have sex between the interview waves (24.2%). Those who initiated sex also report receiving lower grades in school, drinking alcohol more often, and having more friends who have had sex. The associations between religiosity and sexual initiation and depressive symptoms and sexual initiation are not statistically significant at the bivariate level. At the bivariate level, then, dating, lower grades, alcohol use, and having friends who are thought to be sexually active, measured at time 1, influence adolescents' sexual initiation one year later.

The demographic correlates associated with adolescents' initiating sex between the two interviews include family structure, age, race/ethnicity, mother's education, and the percentage of neighborhood poverty. Compared to those who did not have sex between the interview



waves, a larger proportion of those did live in single parent families (25.4% as compared to 19.7%). The mean age for those who initiated sex is 15.4 whereas the mean age for those who did not is 14.4. Additionally, a larger proportion of those who report first sexual intercourse between the interview waves are African American (28.2% as compared to 16.3%) and Hispanic (11.7% as compared to 8.0%), have mothers who report lower education (high school) (70.0% as compared to 62.8%), and a smaller proportion of those who had sex have mothers who attended college (19.9% as compared to 28.6%). Finally, adolescents who reported having first sexual intercourse are more likely to live in neighborhoods with higher percentages of poverty. The association between gender and sexual initiation is not statistically significant at the bivariate level. Thus, as other studies have also shown, variables reflecting social disadvantage including family structure, parents who are less educated, and poverty influence adolescents' sexual debut.

### *Multivariate Analyses*

Table 2 shows the coefficient estimates and odds ratios for the logistic regression of having had sexual intercourse between interviews for youths who were virgins at wave 1. In general, the multivariate findings mirror the bivariate findings. The first model includes just the parenting indicators, and the second model adds the personal and demographic correlates to the model.

Model 1 shows that parental caring is associated negatively with adolescents' sexual initiation, net of the other correlates. Consistent with expectations, limiting adolescents' independent dating decisions is associated negatively with sexual initiation. Those youths who have less dating autonomy are less likely to initiate first sex. As in the bivariate model monitoring is not related significantly to adolescents' sexual initiation in the multivariate model.

Consistent with social learning processes, Model 1 also shows that the parent's preferred age for their child to have sex is related significantly to adolescents' sexual initiation.

Adolescents whose parents want them to be over 18 when they first have sex have lower odds of having had sex. Additionally, the parents' own age at first sex is related to adolescents' sexual initiation. However, as reported at the bivariate level, parents' conservative attitudes are not related statistically to adolescents' sexual initiation net of the other parenting correlates.

Regarding communication dynamics, greater frequency of disagreements about dating positively affects adolescents' sexual initiation. Mirroring the bivariate results, sexual communication is not significantly associated with adolescents' sexual initiation, net of the other parenting variables.

[Table 2 about here]

Model 2 includes the influence of the personal and demographic correlates in addition to the parenting practices. As noted in the background section, conceptually, the influence of control tends to be complicated, and this is reflected in our findings. Monitoring, although not significant at the bivariate level or in the first model, which includes only the parenting variables, approaches significance with the addition of the personal and demographic variables ( $p = .08$ ), and the effect is positive suggesting that greater monitoring increases the odds of adolescents' sexual initiation. Additional analyses yield two important outcomes. First, age suppresses the effect of monitoring. The variables are significantly negatively correlated ( $r = -.29, p < .001$ ); that is, older youths are monitored less than younger teens. However both, being older and less monitoring, are related positively to initiating sex. In a logistic regression model (available from authors) that contains only monitoring and age, monitoring is a significant negative predictor of initiating sex. Frequency of disagreements about dating mediates this relationship causing

monitoring to not reach significance at the .05 level in Model 2. Monitoring significantly predicts more disagreements about dating, which is significantly related to initiating sex. Parental caring continues to be negatively associated with adolescents' sexual initiation. Limiting adolescents' independent dating decisions is no longer statistically significant in Model 2. The addition of age to the model explains the effect of limiting dating decisions. Older adolescents make more independent dating decisions, and older adolescents are more likely to initiate sex.

Of the social learning measures, only the parent's preferred age for their child to have first sex remains significantly related to having sex between interview waves. The effect actually increases. The parent's own age at first sex is no longer significantly related to adolescents' initiating sex. Additional analyses (available from authors) reveal that race, currently dating, and grades each separately reduces the effect of parents own history to non-significance. Parents who had first sex at younger ages are more likely to be African American or Hispanic, have children who are dating, and have children who are getting lower grades in school.

The final set of parenting indicators are communication processes. Parental communication about sex is not associated with adolescents' initiating sex between interview waves. The effect of disagreements about dating is reduced slightly in Model 2, but remains statistically related to adolescents' initiating sex. Teens who disagree more often with their parents have greater odds of having first sex between the interview waves. Additional analyses (available from authors) find that having more friends who are sexually active and currently dating both reduce the effect size of disagreements about dating. Adolescents who report more friends having sex and adolescents who are currently in a relationship that has lasted over a year

are more likely to report having more disagreements about dating with their parents and are more likely to report initiating sex.

With respect to personal characteristics associated with sexual initiation in the multivariate models, adolescents who report that they were currently dating at wave 1, regardless of the duration of the relationship, have higher odds of having sex as compared to adolescents who were not dating. Adolescents with lower grades in school are more likely to have sex. Finally, adolescents who report more friends who have had sex have higher odds of initiating sexual activity. Regarding the demographic characteristics, age and race/ethnicity are significantly associated with initiating sex between interview waves. Older adolescents have higher odds of having experienced first sexual intercourse. African American and Hispanic youths also have higher odds of having first sex as compared to White youths.

We next examine whether the same model predicts sexual initiation for both boys and girls. We perform a chow test to determine if the model should be run separately for male and female respondents (Chow, 1960). The chow test indicates that separate models are not warranted ( $\chi^2_{(25)}=22.59, p>.05$ ), suggesting that the covariates, including parenting processes, operate in a similar manner for male and female adolescents. Interactions are tested between the demographic indicators (age, race, mother's education, family structure, and neighborhood poverty) and the parenting variables. None of the interactions with the demographic variables are significant, indicating that the effects of the parenting practices on adolescent sexual onset do not vary by gender, age, race, mother's education, family structure, and neighborhood poverty. We also tested interactions between the personal characteristics (religiosity, dating status, low grades, alcohol frequency, depressive symptoms, and belief that friends had sex) and the parenting variables. Net of main effects, only the interaction between parents' age at first sex

and adolescents' reported depressive symptoms is significant; this suggests that the effect of parents' prior behavior (i.e., early age of first sex) has a greater effect for youths reporting depressive symptoms (results available from authors). Overall, the effects of the parenting processes do not differ according to teens' demographic or personal characteristics.

## DISCUSSION

During the adolescent period, parents encounter some new challenges as their children become involved in dating activities. In spite of the popular culture emphasis on adolescents' non-romantic sexual liaisons, the majority of first sexual experiences takes place within the context of dating relationships (Manning et al., 2006). As such, it is important to assess whether the manner in which parents interact and communicate with youths about dating and sexual issues is associated with delaying adolescents' sexual initiation. We use longitudinal data and only examine cases in which the adolescent was not sexually active at wave 1. Thus, it is clear that the predictor variables are measured prior to sexual activity – unlike many cross-sectional studies. Parenting practices examined are those which likely influence behavioral compliance.

The importance of the development of bonds of attachment and the effective monitoring of youths' behavior is well established. Consistent with many prior studies, expressions of caring are associated with lower likelihood of adolescents' sexual initiation over the twelve month interval. Based on some prior work (e.g., Longmore et al., 2001), we were uncertain whether the effect of parental caring would remain significant net of monitoring and independence-giving. We find that parental caring matters with respect to delaying adolescents' sexual onset net of other variables including frequency of disagreements about dating, frequency of sexual communication, demographic background, religiosity, dating itself, monitoring, and

independence-giving. This suggests, then, that parental caring is particularly important because it reflects the parents' understanding that youths need additional direction and support while striving for autonomy.

We examined two control measures, limiting adolescents' dating choices and monitoring. Limiting dating choices is negatively associated with adolescents' sexual initiation, net of the other parenting practices. Moreover, as expected, its effect on delaying sexual initiation is stronger than that of monitoring. However, it is not significant with the inclusion of the personal and demographic correlates. Limiting adolescents' independent dating decisions becomes non-significant in Model 2, due to the addition of age. Older adolescents make more independent dating decisions, and older adolescents are more likely to initiate sex. As youths get older it is developmentally appropriate for parents to encourage adolescents to make independent decisions in various domains of their lives, and dating is one such domain.

We had anticipated that monitoring would negatively influence adolescents' sexual debut; however, monitoring is not significant, net of the other parenting practices. Including personal and demographic correlates in the model changes this relationship. In the model which includes known personal and demographic correlates of adolescents' sexual activity in addition to the parenting practices, monitoring approaches significance, but the effect is positive – not negative as anticipated. Our explanation for this finding is found in several supplemental analyses. Age and monitoring are negatively related; thus age suppresses the effect of monitoring because older youths are less likely to be monitored, as well as more likely to engage in sexual activity. Moreover, frequency of dating disagreements mediates the relationship between monitoring and sexual initiation: greater monitoring is associated with frequency of disagreements, which significantly predicts sexual initiation. This reflects the complexity of

using control techniques as a means to enforce compliance, and specifically in this case, to delay adolescents' sexual onset. Monitoring may be less suitable as youths become older, although it is an effective practice with regard to delaying sexual onset. However, it is also associated with greater frequency of dating disagreements, which is associated with adolescents' sexual initiation. Summarizing, we reiterate that compared with expressions of care, controlling behavior is a more complicated parenting task because adolescents often resist such attempts leading to disagreements, which may exacerbate the probability of the behaviors that parents are trying to control.

A focus on parenting practices such as parental caring and monitoring, however, does not complete the roster of ways in which parents influence their children. In addition to social control dynamics, we draw from the social learning framework, which suggests that parents influence children through their own prior behavior and the expression of their attitudes. We find that parents' own early sexual debut influences adolescents' sexual debut, a finding noted in many demographic studies. Additional analyses reveal, however, that parents who had early sex are likely to come from more disadvantaged backgrounds. At first glance, it might appear then that parenting, itself, is overshadowed by parents' own socioeconomic background. However, we see the picture as more hopeful with respect to the influence of parenting practices. Parents' belief that their child should be older than eighteen to have sex is a significant predictor of whether youths engaged in first sexual intercourse. Additionally, because this attitude provides a behavioral script for how to be compliant (i.e., do not have sex while in high school), it likely is a more effective deterrent than more generally phrased conservative attitudes. We can view this as parents' essentially expressing to youths how they can be compliant to parental wishes. We argued that parents can act as a countervailing force relative to peers who are more likely to

encourage sexual activity, and essentially this is what we find in the results. In fact, the parents' belief that their child should wait until he/she is at least 18 years old to become sexually active, is a stronger predictor than whether the adolescents believes that his/her friends are sexually active. This is an important finding because it underscores that parents are in a unique position to shape adolescents' early sexual activity.

Regarding the dynamics of parent-child communication, this study adds to the prior literature in showing that adolescents' perceptions of greater frequency of disagreements about dating are associated with increased odds of sexual initiation, net of other known family process variables. Additionally, adolescents who report more friends having sex and adolescents who are currently in a relationship that has lasted over a year are more likely to report having disagreements about dating with their parents.

The limitations of this study point to a number of directions of future research. First, it will be important in future research to include a wider range of parenting variables in our analyses. For example, Buhi and Goodson (2007) note in an extensive review of the predictors of adolescent sexual behavior, that time home alone is a stable predictor of adolescent sexual debut. This is one item in our six-item monitoring scale; thus it will be important to disentangle whether time home alone distinctly influences adolescents' sexual initiation net of the variables examined here including monitoring. Examining whether, and how, beliefs about the appropriate age for sex is conveyed to the child from the parent will also broaden our understanding of this family dynamic. Lefkowitz and colleagues (2000) have made some important initial steps by focusing on whether mothers' communication style might be altered experimentally to increase mothers' comfort level in discussions of sexuality and AIDS, and to act less judgmentally. It is possible that this line of research could be extended to include



interventions that might enhance mothers' skills in conveying their views about the appropriate age for sexual activity in similarly less judgmental ways. An additional next step is to examine data from both parents. There is some evidence to suggest that the parent's gender is relevant especially with respect to socialization processes (e.g., Updegraff et al., 2001). Particularly with reference to dating, it would be useful to know if fathers or mothers are more likely to be influential in a direct or indirect manner. Fourth, with regard to dating disagreements, we are essentially measuring frequency. We know the frequency with which parents and adolescents argue about dating, and we have some evidence connecting frequency of dating disagreements with adolescents' beliefs that friends are sexually active and dating relationships of long duration, but it would be useful to know other additional topics that cause dating disagreements as well as the intensity of the conflicts.

With respect to the frequency of sexual communication, which is not significantly associated with sexual debut in our study, it would be useful, perhaps, to distinguish between conversations about sexual morality as opposed to conversations about sex and birth control (e.g., Regnerus, 2005). Similarly, it would be useful to measure parents' beliefs about the effectiveness of contraceptives, which relate directly to the frequency of parent-teen sexual communication (e.g., Swain, Ackerman, & Ackerman, 2006). Additionally, although religiosity is not associated with sexual debut in this study, future research should emphasize multidimensional measures of religious behavior, which have a greater likelihood of being associated with sexual activity (e.g., Lefkowitz, Gillen, Shearer, & Boone, 2004).

This study joins other recent research in attempting to explore the various ways that parents' influence adolescents' early sexual activity. The findings contribute to a growing body of research that suggests that it is important to explore both the perspectives of adolescents and

parents in understanding social experiences. Parents are an important source for information on sexuality and opposite sex relationships, but equally important is how adolescents' perceive these interactions.

In conclusion, we believe that developing interventions to delay the onset of sexual activity among adolescents may be enhanced with a better understanding of how parenting might influence first sexual intercourse. We contribute to this goal by demonstrating empirically that several parenting variables associated with dating may influence sexual initiation, even after other significant predictors are taken into account. Moreover, although some studies pit the tenets of social control against social learning, we argue for the importance of looking at these processes in tandem along with communication because all likely underlie adolescents' compliance with parental desires. We believe an integrated approach will allow us to better capture the 'push and pull' of the adolescent period as parents attempt to guide youths' dating behavior and youths attempt to gain greater independence.

## REFERENCES

- Alan Guttmacher Institute. (2004). *U.S. Teenage Pregnancy Statistics*. New York: Alan Guttmacher Institute.
- Allison, P. D. (2002). *Missing Data*. Thousand Oaks, CA: Sage Publications.
- Brehm, S. S., and Brehm, J. W. (1981). *Psychological Reactance: A Theory of Freedom and Control*, New York: Academic Press.
- Buhi, E. R., & Goodson, P. (2007). Predictors of adolescent sexual behavior and intention: A theory-guided systematic review." *Journal of Adolescent Health* 40, 4-21.
- Bulcroft, R. A., Carmody, D. C., & Bulcroft, K. A. (1998). Family structure and patterns of independence-giving to adolescents: Variations by age, race, and gender of child. *Journal of Family Issues*, 19(4), 404-435.
- Chow, G. (1960). Tests of equality between sets of coefficients in two linear regressions." *Econometrica*, 28, 591-605.
- Conger, K. J., Conger, R. D., & Scaramella, L. V. (1997). Parents, siblings, psychological control, and adolescent adjustment. *Journal of Adolescent Research*, 12, 113-138.
- Davis, E. C., & Friel, L. V. (2001). Adolescent sexuality: Disentangling the effects of family structure and family context. *Journal of Marriage and the Family*, 63, 669-681.
- Dittus, P. J., Miller, K. S., Kotchick, B. A., & Forehand, R. (2004). Why parents matter!: The conceptual basis for a community-based HIV prevention program for the parents of African American youth. *Journal of Child and Family Studies*, 13(1), 5-20.
- Dowdy, B. B., & Kliwer, W. (1998). Dating, parent-adolescent conflict, and behavioral autonomy. *Journal of Youth and Adolescence*, 27(4), 473-492.

- Doyle, A. B., Brendgen, M., Markiewicz, D., & Kamkar, K. (2003). Family relationships as moderators of the association between romantic relationships and adjustment in early adolescence. *Journal of Early Adolescence, 23*, 316-340.
- Gecas, V., & Seff, M. A. (1990). Families and adolescents: A review of the 1980s. *Journal of Marriage and the Family, 52*(4), 941-958.
- Guilamo-Ramos, V., & Bouris, A. (2007). Future directions for research on parent-adolescent interventions. Paper presented at the *What's It Going To Take? Extending the Research Base to Improve Teen Pregnancy Prevention*, Bethesda, MD, March 8.
- Hair, E. C., Moore, K. A., Garrett, S. B., Ling, T., & Cleveland, K. (2008). The continued importance of quality parent-adolescent relationships during late adolescence. *Journal of Research on Adolescence, 18*, 187-199.
- Hirschi, T. (1969). *Causes of Delinquency*. Berkeley, CA: University of California Press.
- Hovell, M., Sipan, C., Blumberg, E., Atkins, C., Hofstetter, C. R., & Kreitner, S. (1994). Family influences on Latino and Anglo adolescents' sexual behavior. *Journal of Marriage and the Family, 56*, 973-986.
- Huebner, A. J., & Howell, L. W. (2003). Examining the relationship between adolescent sexual risk-taking and perceptions of monitoring, communication, and parenting styles. *Journal of Adolescent Health, 33*, 71-78.
- Jaccard, J., & Dittus, P. J. (2000). Adolescent perceptions of maternal approval of birth control and sexual risk behavior. *American Journal of Public Health, 90*, 1426-1430.
- Jaccard, J., Turrisi, R., & Wan, C. K. (1990). *Interaction effects in multiple regression*. Newbury Park, CA: Sage.

- Kan, M. L., McHale, S. M., & Crouter, A. C. (2008). Parental involvement in adolescent romantic relationships: Patterns and correlates. *Journal of Youth and Adolescence*, 37, 168–179.
- Lefkowitz, E. S., Boone, T. L., Au, T. K., & Sigman, M. (2003). No sex or safe sex? Mothers' and adolescents' discussions about sexuality and AIDS/HIV. *Health Education Research*, 18, 341-351.
- Lefkowitz, E. S., Gillen, M. M., Shearer, C. L., & Boone, T. L. (2004). Religiosity, sexual behaviors, and sexual attitudes during emerging adulthood. *The Journal of Sex Research*, 41(2), 150-159.
- Lefkowitz, E. S., Romo, L. F., Corona, R., Kit-fong Au, T., & Sigman, M. (2000). How Latino American and European American adolescents discuss conflicts, sexuality, and AIDS with their mothers. *Developmental Psychology*, 36(3), 315-325.
- Longmore, M. A., Manning, W. D., & Giordano, P. C. (2001). Preadolescent parenting strategies and teens' dating and sexual initiation: A longitudinal analysis. *Journal of Marriage and the Family*, 63, 322-335.
- Madsen, S. D. (2008). Parents' management of adolescents' romantic relationships through dating rules: Gender variations and correlates of relationship qualities. *Journal of Youth and Adolescence*, 37, 1044-1058.
- Manning, W. D., Giordano, P. C., & Longmore, M. A. (2006). Hooking-up: The relationship contexts of “nonrelationship” sex. *Journal of Adolescent Research*, 21(5), 459-483.
- Manning, W. D., Longmore, M. A., & Giordano, P. C. (2005). Adolescents' involvement in non-romantic sexual activity. *Social Science Research*, 34(2), 384-407.

- Marin, B. V., Kirby, D. B., Hudes, E. S., Coyle, K. K., & Gomez, C. A. (2006). Boyfriends, girlfriends, and teenagers' risk of sexual involvement. *Perspectives on Sexual and Reproductive Health, 38*(2): 76-83.
- Meier, A. M. (2003). Adolescents' transition to first intercourse, religiosity, and attitudes about sex. *Social Forces, 81*, 1031-52.
- Meschke, L. L., Bartholomae, S., & Zentall, S. (2000). Adolescent sexuality and parent-adolescent processes: Promoting healthy teen choices. *Family Relations, 49*, 143-154.
- Meschke, L. L., Zweig, J. M., Barber, B. L., & Eccles, J. S. (2000). Demographic, biological, psychological, and social predictors of the timing of first intercourse. *Journal of Research on Adolescence, 10*(3), 315-338.
- Miller, K. S., Forehand, R., & Kotchick, B. A. (1999). Adolescent sexual behavior in two ethnic minority samples: The role of family variables. *Journal of Marriage and the Family, 61*, 85-98.
- Miller, B. C., McCoy, J. K., & Olson, T. D. (1986). Dating age and stage as correlates of adolescent sexual attitudes and behavior. *Journal of Early Adolescent Research, 1*, 361-371.
- Pearson, J., Muller, C., & Frisco, M. L. (2006). Parental involvement, family structure, and adolescent sexual decision making. *Sociological Perspectives, 49*(1), 67-90.
- Quatman, T., Sampson, K., Robinson, C., & Watson, C. M. (2001). Academic, motivational and emotional correlated of adolescent dating. *Genetic, Social, and General Psychology Monographs, 127*(2), 211-234.
- Regnerus, M. D. (2005). Talking about sex: religion and patterns of parent-child communication about sex and contraception. *The Sociological Quarterly, 46* (79-105).

- Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., & Jones, J., et al. (1997). Protecting adolescents from harm. Findings from the National Longitudinal Study of Adolescent Health. *Journal of the American Medical Association*, 278, 823-832.
- Rollins, B. C., & Thomas, D. L. (1979). Parental support, power, and control techniques in the socialization of children. Pp. 317-364 in W. R. Burr, R. Hill, F. I. Nye, & I. L. Reiss (Eds.), *Contemporary Theories about the Family (Vol. 1)*. New York: Free Press.
- Rosenberg, M., & McCullough, B. C. (1981). Mattering: Inferred significance and mental health among adolescents. In R. Simmons (Ed.) *Research in community and mental health (Vol. 2)*, p. 163-182). Greenwich, CT: JAI Press.
- Rubin, D. B. (1987). *Multiple Imputation for Nonresponse in Surveys*. New York: Wiley.
- Rucibwa, N. K., Modeste, N., Montgomery, S., & Fox, C. A. (2003). Exploring family factors and sexual behaviors in a group of African American and Hispanic adolescent males. *American Journal of Health Behaviors*, 27, 63-74.
- Santelli, J. S., Lowry, R., Brener, N. D., & Robin, L. (2000). The association of sexual behaviors with socioeconomic status, family structure, and race/ethnicity among US adolescents. *American Journal of Public Health*, 90, 1582-1588.
- Sieverding, J. A., Adler, N., Witt, S., & Ellen, J. (2005). The influence of monitoring on adolescent sexual initiation. *Archives of Pediatric and Adolescent Medicine*, 159, 724-729.
- Simpkins, S. D., & Parke, R. D. (2002). Maternal monitoring and rules as correlates of children's social adjustment. *Merrill-Palmer Quarterly*, 48, 360-377.

- Smetana, J. G. (1988). Adolescents' and parents' conceptions of parental authority. *Child Development, 65*, 1147-1162.
- Swain, C. R., Ackerman, L. K., & Ackerman, M. A. (2006). The influence of individual characteristics and contraceptive beliefs on parent-teen sexual communication. *Journal of Adolescent Health, 38*, 753.e9-753.e18.
- Taris, T., & Semin, G. (1997). Parent-child interaction during adolescence, and the adolescent's sexual experience: Control, closeness, and conflict. *Journal of Youth and Adolescence, 26*, 373-398.
- Taris, T. W., Semin, G. R., & Bok, I. A. (1998). The effect of quality of family interaction and intergenerational transmission of values on sexual permissiveness. *The Journal of Genetic Psychology, 159*, 237-250.
- Updegraff, K. A., McHale, S. M., Crouter, A. C., & Kupanoff, K. (2001). Parents' involvement in adolescents' peer relationships: A comparison of mothers' and fathers' roles. *Journal of Marriage and the Family, 63*, 655-668.



**Table 1. Means and Percentages for the Total Sample and Adolescents Who Experienced First Sex between Interview Waves**

	<u>Total Sample</u>		<u>Had Sex Between Interviews</u>	
	Mean/Frequency	(S.D.)	yes (26.5%)	no (73.5%)
<i>Social Control Processes</i>				
Caring	20.0	(3.1)	19.3***	20.3
Monitoring	21.1	(2.5)	21.0	21.1
Limits on Independent Dating Decisions	7.0	(3.4)	6.7*	7.2
<i>Social Learning Processes</i>				
Age Parent had Sex	17.6	(3.1)	17.1**	17.8
Parents' Conservative Dating Attitudes	21.3	(3.4)	21.3	21.3
Parent's Preferred Age for Teen Sex				
18 or Younger	22.3%		29.1%**	19.8%
19 or Older	77.7%		70.9%	80.2%
<i>Dynamics of Parent-Child Communication</i>				
Communications about Sex	9.1	(2.9)	9.1	9.1
Frequency of Dating Disagreements	1.7	(1.1)	2.1***	1.6
<i>Social/Personal Characteristics</i>				
Religiosity	3.4	(1.2)	3.3	3.4
Dating Status at Wave 1				
Currently Dating for More than 1 Year	5.0%		9.3%***	3.4%
Currently Dating for Less than 1 Year	28.5%		49.8%	20.8%
Not Currently Dating	66.5%		40.9%	75.8%
Low Grades	3.5	(2.0)	4.1***	3.3
Alcohol Frequency	1.6	(1.2)	2.0***	1.5
Depressive Symptoms	15.7	(7.6)	16.1	15.6
Friends had Sex	2.1	(1.4)	3.0***	1.8
<i>Demographic Characteristics</i>				
Family Structure				
Two Biological	58.2%		48.3%**	61.7%
Single Parent	21.2%		25.4%	19.7%
Step/Cohab-step	17.4%		20.2%	16.4%
Other Family	3.2%		6.1%	2.2%
Gender				
Female	53.7%		55.9%	52.9%
Male	46.3%		44.1%	47.1%
Age	14.7	(1.6)	15.4***	14.4

Race				
White	69.1%		57.8%***	73.2%
African American	19.4%		28.2%	16.3%
Hispanic	9.0%		11.7%	8.0%
Other Race	2.5%		2.3%	2.5%
Mother's Education				
Less than High School	9.1%		10.4%*	8.6%
High School Graduate	64.7%		70.0%	62.8%
College Graduate	26.2%		19.6%	28.6%
Percent Neighborhood Poverty	13.2	(13.6)	16.1***	12.1

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Source: Toledo Adolescent Relationships Study

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Table 2. Coefficient Estimates and Odds Ratios for the Logistic Regression of Having Had Sexual Intercourse between Waves for Virgins at Time 1 (N = 803)**

	Model 1		Model 2	
	b	e <sup>b</sup>	b	e <sup>b</sup>
<i>Social Control Processes</i>				
Monitoring	-0.01	0.99	0.08	1.08
Caring	-0.10***	0.90	-0.09*	0.91
Limits on independent dating decisions	-0.07**		-0.05	
<i>Social Learning Processes</i>				
Age Parent had Sex	-0.07*	0.93	-0.03	0.97
Parent's Conservative Dating Attitudes	-0.01	0.99	-0.01	0.99
Child Should be Over 18 to Have Sex	-0.56**	0.57	-0.65**	0.52
<i>Dynamics of Parent-Child Communication</i>				
Communications about Sex	0.03	1.03	-0.01	0.99
Frequency of Dating Disagreements	0.38***	1.46	0.29**	1.34
<i>Social/Personal Characteristics</i>				
Religiosity			-0.03	0.97
Dating Status				
Currently Dating - More than 1 Year			1.19**	3.29
Currently Dating - Less than 1 Year (Not Currently Dating)			1.45***	4.26
Low Grades			0.20***	1.22
Alcohol Frequency			0.15	1.16
Depressive Symptoms			-0.02	0.98
Friends had Sex			0.32***	1.38
<i>Demographic Characteristics</i>				
Family Structure				
(Two Biological)				
Single Parent			0.38	1.46
Step/Cohab-step			0.44	1.55
Other Family			0.93	2.53
Gender				
Female (Male)			-0.12	0.89
Age			0.34***	1.40
Race				
(White)				
African American			0.93**	2.53
Hispanic			0.88*	2.41
Other Race			1.19	3.29
Mother's Education				
Less than High School			-0.53	0.59
College Graduate (High School Graduate)			-0.22	0.80
Percent Neighborhood Poverty			-0.01	0.99
Mean likelihood ratio <sup>2</sup>	60.81***		255.35***	
N	803.00		803.00	

Note. Omitted Category in Parentheses. Source: Toledo Adolescent Relationships Study

\* p < .05, \*\* p < .01, \*\*\* p < .001