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Predicting Risky Sexual Behavior: The Role of Family Context Factors and Socioeconomic Status

Kori Daniel

Illinois State University, kmdanie@ilstu.edu

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PREDICTING RISKY SEXUAL BEHAVIOR: THE ROLE OF
FAMILY CONTEXT FACTORS AND
SOCIOECONOMIC STATUS

Kori M. Daniel

71 Pages

The purpose of the current study was to examine the association between family context factors (parental monitoring, family structure, and amount and timing of parent-adolescent communication), socioeconomic status (parental education) and sexual risk taking behaviors in adolescence (age of sexual initiation, number of lifetime partners, condom use, pregnancy prevention, and drug/alcohol use). The participants included 255 students between the ages of 18 and 25 from Illinois State University. The majority of the participants were White/European, heterosexual, women. Students were offered the opportunity to receive extra credit for their participation in the study. Participants were asked to fill out a demographic survey, parental monitoring measure, parent-adolescent communication measure, sexual risk taking measure and timing of parent-adolescent sexual discussion measure. The results provided insight into sexual risk taking behaviors. Specifically, adolescents of divorced and single-parent families have a lower age of sexual initiation in comparison to intact families. Also, parental monitoring was correlated

with age of sexual initiation and number of sexual partners, suggesting, that more parental monitoring was related to an older age of sexual initiation and a lower number of lifetime partners. Additionally, on-time mother-adolescent sexual communication was associated with a later age of sexual initiation; however, on-time father-adolescent sexual communication was associated with less condom use and less pregnancy prevention.

KEYWORDS: Amount of parent-adolescent communication, Family context, Family structure, Parental education Parental monitoring, Risky sexual behaviors, Sexual Risk Taking, Socioeconomic status, Timing of parent-adolescent communication

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SOCIOECONOMIC STATUS

KORI M. DANIEL

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for the Degree of

MASTER OF SCIENCE

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SOCIOECONOMIC STATUS

KORI M. DANIEL

COMMITTEE MEMBERS:

Marla Reese-Weber, Chair

Corinne Zimmerman

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K.M.D

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CHAPTER I
THE PROBLEM AND ITS BACKGROUND

Statement of the Problem

Just as autonomy and identity development are important tasks during adolescence, sexuality is also a major developmental aspect of adolescence (Steinberg, 2011). By age 13 approximately 6% of adolescents have engaged in sexual intercourse (Centers for Disease Control and Prevention [CDC], 2012). By the end of their sophomore year of high school (ages 15 or 16) 40% of American adolescents have initiated sexual intercourse, and by age 18 this statistic has risen to 65% (Centers for Disease Control and Prevention, 2012). Between the ages of 18 and 27 approximately 90% of individuals have engaged in sexual intercourse (Halpern, Waller, Spriggs, & Hollfors, 2006). Trends of sexual activity in adolescence accelerated during the early 1970s and the late 1980s, then declined between 1995 and 2001. Since 2001, the overall percentage of adolescents engaging in sexual activity has remained relatively consistent at around 50% (CDC, 2012). Given the large number of adolescents who engage in early sexual intercourse and the outcomes related to early sexual activity, researchers have been interested in the factors that may predict early sexual activity such as families, peers, schools, and the neighborhood in which the adolescent lives.

CHAPTER II

LITERATURE REVIEW

Although adolescence engagement in sexual activity has become prevalent, adolescence is also a time of potentially *risky* sexual behaviors (Capaldi, Stoolmiller, Clark, & Owen, 2002). A study done by Capaldi and colleagues (2002) examining the developmental trajectory of adolescents found that risk increased considerably across adolescence in both number of sexual partners and frequency of engaging in sexual intercourse. In addition to the increase in sexual partners and increased frequency of sexual intercourse, the consistency of condom use decreased across adolescence (Capaldi et al., 2002). The younger an adolescent is when they initiate sexual activity the more likely they are to have multiple sex partners, and the less likely they are to use contraceptives (Sieving, Eisenberg, Pettingell, & Skay, 2006). Those who initiate sexual activity early also have a higher risk of Sexually Transmitted Diseases (STDS) and pregnancy than their adolescent counterparts who wait to initiate sexual behaviors (Sieving et al., 2006).

Theoretical Framework

In order to understand the factors that contribute to initiation of sexual behavior, and the associated risk factors, Bronfenbrenner's (1977) Ecological Theory of Development provides a framework for examining the contexts around

the developing individual. Bronfenbrenner's Ecological Theory of Development is the study of progressive adjustment between a person and the changing environments within which they live. This adjustment to differing environments is one that lasts throughout a person's lifespan. These processes affect the associations within and between immediate settings, as well as larger social contexts within a person's life. From a developmental psychology perspective, the ecology of environment is perceived as an arrangement of systems, each of which is encompassed within the next (Bronfenbrenner, 1977). That is, the arrangement of each system within the ecological system can be incorporated within the larger system.

Bronfenbrenner's theory (1994) includes five systems encompassing the individual. The first and immediate system to the individual is the *microsystem*. The microsystem includes social roles and interpersonal relationships experienced by the developing individual. In other words, the microsystem is the interaction between the developing individual and their immediate environment. Examples of microsystems are family, school, peer groups, and workplace. The second system in the ecological structure is the *mesosystem*. The mesosystem involves the relationship and processes that take place between two or more settings surrounding the developing individual. Bronfenbrenner (1994) described the mesosystem as a system of microsystems. An example would be the relations between home and school. The third system is the *exosystem*, which encompasses the relations and processes that take place between two or more settings. In the

exosystem at least one of the settings does not directly influence the developing individual, but events that occur indirectly influence the immediate setting within which the individual lives. One example of an exosystem would be the relationship between an adolescent's home and parent's workplace. The fourth system is the *macrosystem*. The macrosystem is an overarching pattern of the microsystems, mesosystems, and exosystems characteristic of a given culture or subculture. The macrosystem differs slightly from the other structures in that it does not refer to specific contexts affecting the life of the individual but instead to general patterns existing within the culture or subculture (Bronfenbrenner, 1977). For example, the ideology and attitudes of a culture would be considered a macrosystem. The final system of the ecological theory is the *chronosystem*. This system involves change or reliability over time in characteristics of the person but also in the environment within which that person lives (Bronfenbrenner, 1994). Examples of the chronosystem include employment, place of residency, and historical changes (see Figure 1).

Bronfenbrenner's Ecological Theory of Development will be used as a theoretical framework for understanding factors that may contribute to early sexual behavior among adolescents. For the current study, the focus was on two structures: the microsystem and the macrosystem. Specifically, how the adolescent's family context such as the family structure, parenting styles, and parent-adolescent communication might be related to early sexual behavior as an important microsystem-level explanation. In addition, socioeconomic status was examined as a

potential macrosystem-level factor predicting early sexual behavior.

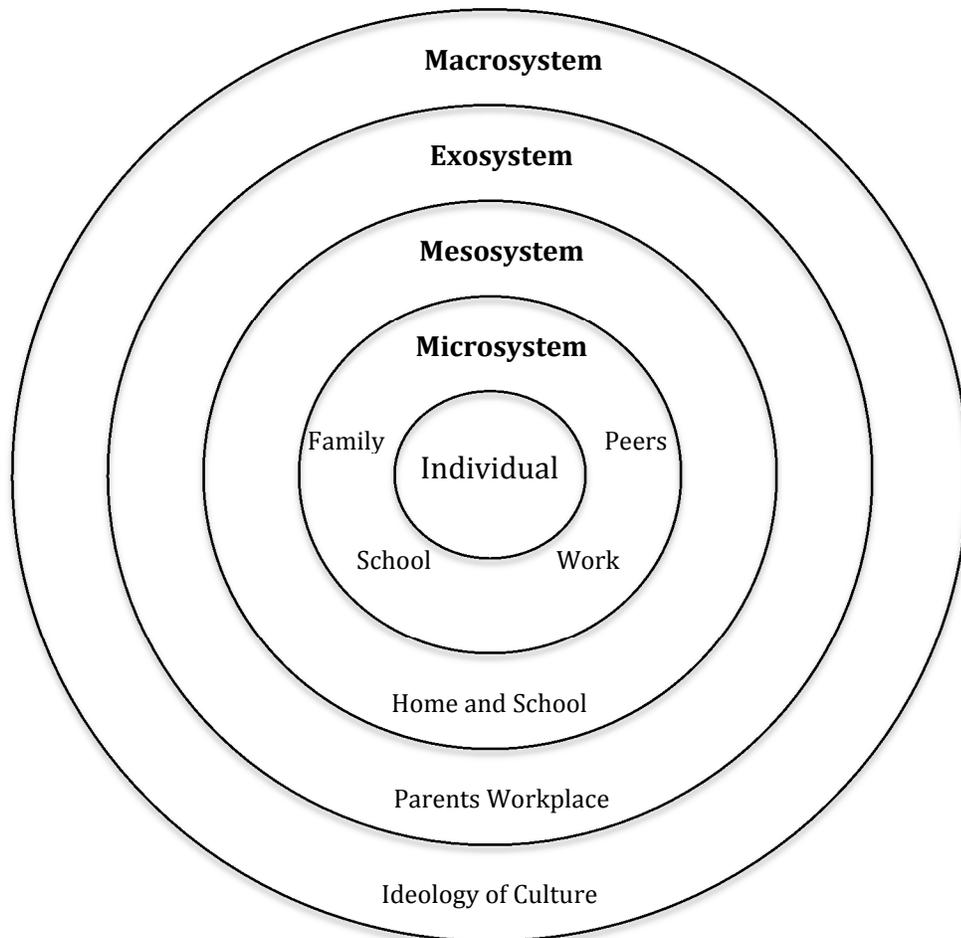


Figure 1. Bronfenbrenner's Ecological Theory of Development. Bronfenbrenner's (1994) conceptualization of the various systems influencing an individual, along with examples. Adapted from Bronfenbrenner (1994).

Microsystem: Family Context

One of the primary predictors of early sexual behaviors in adolescence is family context. A person's sexual expression can be related to the familial culture in which the adolescent was raised (Pick & Palos, 1995). An important aspect of family culture is the transmission of cultural norms. The communication of cultural norms that the family finds to be acceptable such as behaviors of the adolescent, as well as what the family considers to be proper, are prime examples of the transmission of norms (Davis & Friel, 2001). Thus, family can affect the age at which adolescents first initiate sexual behaviors and the likelihood of premarital pregnancy (Longmore, Manning, & Girodano, 2001) by communicating the norms of their family and culture (Davis & Friel, 2001).

The effect of family culture on adolescent's early sexual initiation may be due in part to differential family structures (Longmore et al., 2001). Adolescents who come from an intact, two-parent household typically initiate sexual behaviors at a later age, compared to adolescents from divorced or single-parent families (Davis & Friel, 2001). The importance of family structure on sexual initiation appears to be particularly relevant for boys. Specifically, Newcomer and Udry (1983) found that change in parental marital status increased the likelihood boys would initiate sexual behaviors at a younger age than those adolescent boys who had no change in parental marital status. As for girls, a change in family structure did not influence age of sexual initiation, but did increase their sexual frequency (Newcomer & Udry, 1983).

The second aspect of the family that contributes to the early initiation of sexual behaviors is parenting strategies. The parental control, monitoring and supervision of adolescent behaviors can be very influential in adolescents' initiation of sexual behaviors (Longmore et al., 2001). Parental control in this context is defined as the degree to and manner in which parents attempt to place limits on their adolescents' behaviors (Barber, 1992). Behaviors that parents would typically attempt to place limits on would be problem behaviors, or risky behaviors, including early sexual initiation. In order to place limits on adolescent's behaviors, parents must know where and with whom they spend their time. Parents who monitor their children from an early age are more likely to have adolescents who initiate sexual activity at a later age than those adolescents who do not have parents who monitor their behaviors (Longmore et al., 2001). For example, French and Dishion (2003) found that when there is high parental monitoring and supervision there is a delay of sexual activity, and low parental monitoring and supervision can increase adolescents' problem behaviors including early sexual activity. Low monitoring and supervision by parents provides adolescents with the necessary unsupervised time needed to engage in sexual behaviors (French & Dishion, 2003). Roche (2005) suggested that parents who monitor their adolescents by setting firm rules, monitoring social activity, and discussing sexual issues with them, will have adolescents who are more likely to postpone becoming sexually active.

Finally, parent-adolescent communication about sexual topics can be an important predictor of early sexual initiation in adolescence (Aspy et al., 2007). In

this context, sexual communication represents the parent-adolescent discussion of contraceptive use, abstinence, and/or STDs (Longmore, Eng, Giordano, & Manning, 2009). Parents are known to be an important influence on adolescent decision-making, and so parental involvement in communicating about sexuality related topics has been shown to promote methods of preventing pregnancy (the use of multiple methods of contraceptives) and effective methods of preventing STDs (condom use) (Frisco, 2005). Guilamo-Ramos et al. (2007) found that parental communication may be an influential factor for adolescent's expectancies of the costs and benefits related to engaging in different risky behaviors (including early sexual intercourse). Adolescents whose parents talk to them about what is right and wrong in regards to sexual behaviors, discuss the issue of delaying sexual activity, and who have clear rules for their adolescents are more likely to abstain from becoming sexually active in comparison to adolescents whose parents do not have conversations with them about sexual content (Aspy et al., 2007). Parents who report they have discussed topics such as birth control and STD prevention with their adolescents, who may already be sexually active, had adolescents who were more likely to use birth control than sexually active adolescents whose parents had not talked to them about such topics (Aspy et al., 2007).

Communication of sexual content is more effective when these conversations take place prior to sexual initiation (Longmore et al., 2009). Overall, discussion of sexual content any time before the adolescent has initiated sexual behaviors is beneficial, relative to conversations that happen after an adolescent has initiated

sexual behaviors. In a study by Clawson and Reese-Weber (2003) focusing on timing of sexual communication, they coded parent-adolescent sexual discussion that occurred before the initiation of sexual intercourse as on time, and parent-adolescent sexual discussion that occurred after initiation of sexual intercourse as off time. Clawson and Reese-Weber (2003) found that parent-adolescent sexual discussions that were on time predicted that adolescents would be older at the time of first intercourse; on the other hand sexual discussions that were off time predicted an earlier age of sexual intercourse.

Although Clawson and Reese-Weber (2003) found that timing of sexual communication is important in predicting adolescent sexual behaviors, they also noted that the first time parents discuss sexual topics with their adolescents may not be as explicit or detailed as discussions they may have with their adolescent later on in life. In regards to the quality of the sexual discussion between parents and adolescents, family communication about sexual initiation could decrease the number of sexual partners an adolescent may have and increase the likelihood of birth control use (Martino, Elliott, Corona, Kanouse, & Schuster, 2000). Researchers focusing on parent-adolescent communication regarding sexual topics often discuss the concept of the “big talk,” and how this concept leads to parents’ beliefs that discussions about sex need to be done only once (Martino et al., 2008). Instead, Martino et al. (2008) found that parents who have multiple conversations with their adolescents are more likely to have adolescents who perceive the sexual communication experience as positive, as opposed to those adolescents whose

parents have limited sexual conversations with them. Along with multiple conversations, parents who cover multiple topics within their discussion with their adolescents have adolescents who are more likely to have the knowledge to make sensible sexual decisions (Martino et al., 2008). Guilam-Ramos et al. (2007) reported that the more parents discussed sexually related topics, the better the adolescent formed expectancies that were correlated with refraining from risky sexual behaviors.

According to Jaccard, Dodge, and Dittus (2002), there are gender differences in the occurrence of parental communication with adolescents about sexually related topics. In a study by Feldman and Rosenthal (2000) examining gender differences in sexual communication, mothers were found to communicate with their adolescents about sex-related topics more than fathers. Adolescents reported that it was more important for mothers to communicate than fathers about sexuality or sex-related topics, and mothers were evaluated more positively than fathers as sexual communicators and educators (Feldman & Rosenthal, 2000). In particular, adolescent girls whose mothers talked to them about sexual risks were less likely to initiate sexual behaviors at an early age (Longmore et al., 2009).

Communication with sons is different than daughters. Parents often worry that their communication with sons will not have any effect on sexual behavior. Mothers of boys are also less likely to have conversations with them about the wide range of advantages and disadvantages of having sex compared to mothers of girls (Guilamo-Ramos et al., 2007). Instead of mutual interaction, the conversations

between mothers and sons are more direct than the conversations between mothers and daughters; one person is the asker of questions while the other person is the responder (Lefkowitz, Boone, Sigman, & Au, 2002).

Finally, the attitudes and values parents have about sexual initiation and sexual behaviors influence adolescents' sexual attitudes, values, and behaviors. For example, the age at which parents believe it is appropriate for their adolescents to have sexual intercourse can be influential (Davis & Friel, 2001). When adolescents perceive that their parents find it acceptable for them to initiate sexual behaviors the adolescent will then feel more comfortable initiating sexual behaviors. The extent to which parents find their adolescent's sexual behaviors comparable to their own personal sexual history may also influence an adolescent's age of sexual initiation and sexual behaviors (Jaccard & Dittus, 2000). For example, parents who initiated sexual behaviors at a younger age will be less critical when their adolescents begin engaging in sexual behaviors around the same age (Longmore et al., 2009).

In summary, there are several aspects of the family context that may be predictive of age of sexual initiation and sexual risk-taking. The present study examined family structure, parenting strategies, and amount and timing of parent-adolescent sexual communication.

Macrosystem: Socioeconomic Status

Although specific parenting behaviors and conversations that take place between an adolescent and his/her parents may play a more immediate role in

influencing adolescents' behaviors, the less direct impact of the socioeconomic status (SES) of the household is also important. For example, Baumer and South (2001) found that adolescents in neighborhoods that are economically disadvantaged initiated sexual intercourse at an earlier age, had more sexual partners, and were less likely to use contraceptives.

SES can be defined by income but other variables are also used to assess SES. Mueller and Parcel (1981) described SES as an individual's or family's ranking on a hierarchy corresponding to control over some combination of commodities such as wealth, power, and social status. Ardila, Rosselli, Matute, and Guajardo (2005) specifically defined SES as a compound of variables including family income, parental education, occupational status and home resources (Sirin, 2005). These variables as indicators of SES are highly correlated (Hauser & Warren, 1997). Specifically, Hauser and Warren (1997) described *parental income* as a variable of SES reflecting the potential the parent has for social and economic resources available to the family. The second SES variable, *parental education* is understood to be the most stable aspect of SES due to the typical establishment at an early age that remains consistent over time (Hauser & Warren, 1997). Additionally, parental education is an indicator of parental income (Hauser & Warren, 1997). The third variable, *occupation*, is categorized on the basis that education and income are required to have a specific occupation (Hauser & Warren, 1997). The fourth variable, *home resources*, is not as commonly used as the other three main variables. Entwisle and Astone (1994) emphasized the significance of several home resources

as an indicator of family SES background. These resources may include books, computers, study room, and availability of educational services after school and during the summer (Entwisle & Astone, 1994).

For this research I focused on parents' education level as an indicator of family SES. I chose parental education because Ardila and colleagues (2005) suggested that parents' education level may be associated with circumstances in the home environment that can establish early skills in problem solving and performing executive functioning skills. Specifically, parents who attend college might have different value systems for their children than those parents who did not attend college (Ardilla et al., 2005). This difference in the value system is correlated with a more intellectually stimulating environment for their family, which will result in their children's higher performance in some executive functioning tasks (Ardila et al., 2005). These executive functioning tasks include adolescents evaluating ideas and reflection, ability to change their minds and make mid-course corrections, and ask for help and seek information (National Center for Learning Disabilities, 2014). All of these aspects of executive functioning tasks are important when considering initiating sexual behaviors as an adolescent. Parents who have received more education and higher income are more likely to teach their children the importance of goal setting as well as the recognition of their own weaknesses (Zhang, 2005). These parents also are more likely to have prestigious occupations and serve as role models for their children's own occupational aspirations (Hill et al., 2004). The positive educational experiences these children witness allow them to understand

the benefits of high achievement, high aspirations, and the relationship between achievement and occupational success can enhance the motivation and aspiration for their future goals (Hill et al., 2004). This understanding assumes that these parents may also influence their children on matters other than future goals, such as delaying sexual behaviors.

In contrast, parents with lower education levels and of lower SES backgrounds find it more difficult to influence their children's education in a positive manner (Hill et al., 2004). Hill and colleagues (2004) described that lower SES parents may be less likely to involve themselves in their children's education or to enhance or change their children's behavior or performance.

However, Hill and colleagues (2004) stated that families of lower SES may participate in their children's education, communicating their expectations for their adolescent to have a successful future. These findings suggest that although parental education is correlated with high or low SES, the ideals parents have towards their children's education may convey the expectations they have for their children's future. These parents who express their expectations toward their adolescents' education, could be more prone to also express their expectations towards their adolescents' sexual behaviors.

The Current Study

Past research has produced ample information about different factors that contribute to adolescent sexual initiation. In particular, I was interested in predictors of risky sexual behavior. By the time adolescents have reached ninth

grade about one third have had sexual intercourse (CDC, 2012). During adolescence there is an increase in sexual partners and sexual intercourse, but a decrease in the amount of condom use (Capaldi et al., 2002). What are the factors that predict sexual initiation in general, and risky sexual behaviors in particular?

Research has focused on the family context as a primary predictor of early sexual behaviors in adolescence (Pick & Palos, 1995). Specifically, the association between family context and the age at which an adolescent initiates sexual behavior and the likelihood of premarital sex has been the focus of past research (Longmore et al., 2001). When adolescents come from two-parent households they are less likely to initiate sexual behaviors at an earlier age than those not from two-parent households (Davis & Friel, 2001). Adolescents are also less likely to initiate sexual behaviors at an earlier age due to parental control, monitoring and supervision (Longmore et al., 2001). Parents who monitor their adolescent's behaviors at a young age are more likely to have influence over their adolescents, such as adolescents choosing to delay sexual behaviors (Longmore et al., 2001). Specifically, parents who discuss sexual topics with their adolescents are more influential in the adolescent's decision to postpone engaging sexual initiation than parents who do not discuss sexual topics with their adolescents (Aspy et al., 2007). Although discussion of sexual content is important, the timing of the sexual conversation is also important. Discussion of sexual content any time before the adolescent has initiated sexual behavior predicts the initiation of sexual intercourse at a later age than those whose parents do not discuss sexual content before sexual initiation (Clawson & Reese-Weber, 2003).

Another variable focused on in relation to early sexual initiation in adolescence is the SES of the family. Adolescents who come from economically disadvantaged neighborhoods are more likely to initiate sexual intercourse at a younger age, have more partners, and are less likely to use contraceptives (Baumer & South, 2001). Parental education is seen to be the most stable aspect of SES due to its ability to remain consistent over time (Hauser & Warren, 1997). Parental education level can be associated with the different values systems that parents place for their children (Ardilla et al., 2005). Parents with higher education levels also serve as role models for their children's goals and aspirations, allowing these parents to influence their adolescent's future goals such as delaying sexual behaviors (Zhang, 2005).

Although other studies have found several predictors of early sexual initiation, the associations between these variables have not been examined. The aims of this study were to examine the association between parental education (as an indicator of SES) and parenting behaviors such as parental monitoring, amount of parent-adolescent communication, and timing of parent-adolescent communication. Finally, timing of parent adolescent communication was considered as an important predictor for sexual risk taking in adolescence even after controlling for the other predictors (family structure, parental monitoring, amount of parent-adolescent communication, and parental education).

Hypothesis

1. Parental education and parenting behaviors:

- a. Parental education would be positively correlated with parental monitoring.
- b. Parental education would be positively correlated with amount of parent-adolescent communication.
- c. Parents who initiate on-time communication would have a higher level of education than those who have off-time parent-adolescent communication

2. Parental education outcomes:

Parental education would be positively correlated with age of sexual initiation, condom use, and use of pregnancy prevention, but negatively correlated with number of sexual partners and drug/alcohol use.

3. Family structure:

Adolescents of divorced and single-parent families would have higher sexual risk taking (lower age of initiation, more partners, less condom use, less pregnancy prevention, and more drug/alcohol use) in comparison to intact families.

4. Parental monitoring:

Parental monitoring would be positively correlated with age of

initiation, condom use, and use of pregnancy prevention, but negatively correlated with number of sexual partners and drug/alcohol use.

5. Amount of parent-adolescent communication:

Amount of parent-adolescent communication would be positively correlated with age of initiation, condom use, and use of pregnancy prevention, but negatively correlated with number of sexual partners and drug/alcohol use

6. Timing of parent adolescent communication:

- a. Adolescents with off-time discussion would have higher sexual risk taking (lower age of initiation, more partners, less condom use, less pregnancy prevention, and more drug/alcohol use) in comparison to adolescents with on-time discussion.
- b. Timing would be an important predictor even after controlling for other predictors: Off-time discussion would predict higher sexual risk taking (lower age of initiation, more partners, less condom use, less pregnancy prevention, and more drug/alcohol use) even after controlling for family structure, parental monitoring, amount of parent adolescent communication, and parental education.

CHAPTER III
RESEARCH METHODOLOGY

Participants

Two hundred and twenty five participants were recruited from the psychology participant pool (SONA system) from a large Midwestern University. The sample included 157 female (69.8%) and 65 male (28.9%) participants with a mean age of 19.64 years ($SD = 1.39$). The requirement for this study was that participants be between the age of 18 and 25, due to previous research showing that 90% of individuals between 18 and 27 years of age report having initiated sexual intercourse (Halpern et al., 2006). The majority of respondents was White/European (73.8%), with the rest of the sample reporting their ethnicity as African American (13.3%), Hispanic (5.3%), Mixed Ethnicity (5.3%), Asian-American (.9%), Middle Eastern/North African (.9%), or other (.4%). Most participants reported being heterosexual (95.5%); those remaining reported being homosexual (1.3%), bisexual (2.7%), pansexual (.4%), or other (.9%). Although the primary focus of this study was sexual initiation, having initiated sexual intercourse was not a requirement to participate. In order to compensate participants for their

time, they received extra credit through the SONA system for a psychology course of their choices

Instruments

Demographic

The demographic survey was used to collect general information about the participant including gender, year in college, sexual orientation, and ethnicity (see Appendix A). This measure was used to assess SES by asking participants to report their mother's education level and their father's education level. Mother's education level was measured by asking participants to respond to the following statement: "Please indicate your mother's education level." Responses include: (1) some high school, (2) high school degree, (3) some college, (4) associate's degree, (5) bachelor's degree, and (6) graduate degree. The same statement and responses were provided to assess father's education. Scores were given for SES by averaging the participant's scores for both parents (ranging from 1 to 6). Family structure was also assessed on the demographic survey, by asking participants to respond to the following statement about their family structure: "Which of the following best represent your family structure at the age of 16?" Response options to the statement include: (a) parents were married/living together, (b) parents were separated/divorced, (c) parents were never married/living together, and (d) other, please specify.

Parental Monitoring

The parental monitoring measure by Brown, Mounts, Lamborn and Steinberg (1993) asks adolescents to report how much their parents knew about five different

content areas of their life (specifically at age 16). These content areas include: (a) who their friends were, (b) how they spent their money, (c) where they were after school, (d) where they went at night, and (e) what they did with their free time. Participants were asked to indicate how much their parents knew about each of these content areas by providing a rating on a 3-point scale where 1 = didn't know, 2 = knew a little, and 3 = knew a lot. Scores could range from 5 to 15. The internal consistency of the parent monitoring measure is strong with an alpha of .80 (Brown et al., 1993). For this study the internal consistency of the parent monitoring measure is also strong with an alpha of .79.

Parent-Adolescent Communication

In order to assess parent-adolescent communication, the *Weighted Topics* measure (Fisher, 2001) was used. The weighted topics survey is a self-report measure based on nine content areas of discussion which include: pregnancy, fertilization, intercourse, menstruation, sexually transmitted diseases, birth control, abortion, prostitution, and homosexuality. For the current research, three additional topics were added, including masturbation, pornography, and consent. The survey looks at the extent to which both mothers and fathers discussed the nine topics separately. Participants were asked to report on the age at which the content area was discussed ("What age were you when your father first discussed pregnancy with you?") and the amount of discussion about said content area ("How much discussion have you had with your father about pregnancy?"). For the age of discussion participants reported a specific age at which the discussion of each content area took place with mothers and with fathers. For the amount of

discussion, participants indicated the amount of discussion based on a 5-point Likert scale for each content area where 0 = none and 5 = a lot. Scores were computed by summing all items for fathers (father-adolescent communication) and all items for mothers (mother-adolescent communication). Scores have a range of 9 to 45, with higher scores meaning more parent-adolescent communication. Previous research found Cronbach's alphas of .91 for fathers and a .88 for mothers using the original nine items (Clawson & Reese-Weber, 2003). For this study, the Cronbach's alphas were .89 for fathers and .88 for mothers using both the original nine items and the additional three items.

Sexual Risk Taking

The sexual risk taking survey, which is a part of the CDC *youth risk behavior survey* (CDC, 2014) asks participants to report on their number of lifetime sexual partners, condom use, pregnancy prevention, and drug/alcohol use during sexual intercourse. Questions include: "What type of contraceptive, if any, did you use at first sexual intercourse (vaginal)?" Participants were then asked to circle all that apply with the options of 1. Condoms, 2. Spermicide, 3. Birth Control Pills, 4. Withdrawal Method, 5. IUD, 6. Depo-Provera (Depo Shot), 7. Norplant. Participants were also asked to report their answer based on two additional conditions (last time having sexual intercourse and typical or usual use of contraceptives). Responses were coded as 0 if they had never used condoms in any context (first time, usually, last time). A score of 1 was given if participants had used condoms in any one of the contexts (first time, usually, last time). A score of 2 was given if participants had used condoms in any two contexts (first time, usually, last time). Finally, a score of 3

was given if participants indicated that condoms were used in all three contexts (first time, usually, last time). These codes were also used for pregnancy prevention and drug/alcohol use.

Timing of Parent-Adolescent Sexual Communication

In order to assess timing of parent-adolescent sexual discussion a modified version of the *Weighted Topics* measure was used to ask how old the participant was when their mother and father separately discussed sexual intercourse with them. The sexual risk taking measure was used (CDC youth risk behavior survey; see above) to ask participants to report the age at which they first initiated sexual intercourse. Timing of parent adolescent sexual discussion was assessed by comparing the age reported for initiating sexual intercourse and age of first discussion about sexual intercourse. If the participant indicated that their parents discussed sexual intercourse with them prior to their sexual initiation then the participants were given a 1 for having *on-time* parent-adolescent communication. If the participant indicated that their parents discussed sexual intercourse with them after their sexual initiation or have never discussed sexual intercourse with them, the participants were given a 0 for having *off-time* parent-adolescent communication. For participants who reported the same age of sexual intercourse and discussion of sexual intercourse, I used the question from the sexual risk taking survey asking “Did your parents talk to you about sexual intercourse before you initiated sexual intercourse for the first time?” Timing of parent-adolescent communication was determined for both mothers and fathers.

Procedure

Participants were recruited through the psychology SONA system. After they signed up and selected a time, participants reported to the specified classroom where they were given an informed consent document. Once the informed consent (Appendix B) document was signed and collected the participants were given a survey packet. The survey packet included the demographic survey, the parent monitoring measure, the parent-adolescent measure, and the sexual risk taking measure. The measures were counterbalanced. Once the survey packet was completed participants placed their completed survey in a manila envelope, and placed it a box labeled survey. Once the surveys were placed in the box, participants were given a debriefing statement (Appendix C). The name printed on the informed consent was then used to grant the participant extra credit in the SONA system.

CHAPTER IV

RESULTS

Descriptive statistics for demographic variables and study variables are shown in Table 1. With respect to age of sexual initiation and number of sexual partners, this sample is consistent with those reported by the CDC. A total of 81% of the female participants and 88% of the male participants indicated that they had initiated sexual behavior.

The first set of hypotheses examined the associations between parental education and parenting behaviors. Hypothesis 1a specifically stated that parental education would be positively correlated with amount of parental monitoring. Parental monitoring was not correlated with mothers' education level or fathers' education level (see Table 2). Hypothesis 1a was not supported.

Hypothesis 1b stated that parental education would be positively correlated with amount of parent-adolescent communication. Mother-adolescent communication was not correlated with mothers' education level. However, father-adolescent communication was significantly correlated with fathers' education level (see Table 2). Hypothesis 1b was not supported for mothers' education level but was supported for fathers' education level.

Table 1

Descriptive Statistics for Family Context, Socioeconomic Status, and Sexual Risk-Taking Behaviors

	<i>N</i>	Mean	Std. Deviation
Mother's Highest Education	225	3.88	1.46
Father's Highest Education	221	3.76	1.55
Parental Monitoring	225	12.57	2.26
Father Sexual Communication	225	18.55	7.75
Mother Sexual Communication	225	28.40	9.98
Age of Sexual Initiation	177	16.46	1.61
Number of Sexual Partners	212	5.23	5.60
Condom Use	225	1.66	1.23
Pregnancy Prevention	225	1.63	1.29
Drug and Alcohol Use	187	.67	.96

Note. Education level was coded from 1 = some high school through 6 = graduate degree (see text for details).

Hypothesis 1c stated that parents who initiated on-time sexual communication with their adolescents would have higher levels of education than those who had off-time parent-adolescent sexual communication. In order to examine the difference in parental education between on-time and off-time parent-adolescent communication, an independent samples *t*-test was conducted, examining education level separately for mothers and fathers. For mothers' education level, there was a non-significant difference between those who had on-time communication with their adolescent ($n = 95$) and those who had off-time communication ($n = 115$). There was a significant difference when examining level of fathers' education for those who had on-time ($n = 94$) and off-time ($n = 113$) communication with their adolescent (see Table 3). Specifically, fathers who had on-time discussions had significantly higher levels of education. Hypothesis 1c was partially supported.

Table 2

	<i>Correlation Coefficients (N=166) for Family Context, Socioeconomic Status, and Sexual Risk-Taking Behaviors</i>									
	1	2	3	4	5	6	7	8	9	10
1 Mother's Highest Education	--									
2 Father's Highest Education	.38***	--								
3 Parental Monitoring	.01	.10	--							
4 Father Sexual Comm.	.04	.18*	-.03	--						
5 Mother Sexual Comm.	.01	.18*	.19**	.34***	--					
6 Age of Sexual Initiation	.02	.15*	.18*	-.02	-.15*	--				
7 Number of Sexual Partners	.07	-.04	-.19**	.03	.05	-.34***	--			
8 Condom Use	.10	.09	.00	.00	-.05	.19*	-.21**	--		
9 Pregnancy Prevention	-.00	.10	.06	-.02	.13*	.01	.05	-.15	--	
10 Drug and Alcohol Use	-.08	.00	-.04	-.11	-.10	.17*	.12	-.03	-.03	--

Note. * $p < .10$, ** $p < .01$, *** $p < .001$. Father Sexual Communication and Mother Sexual Communication refer to parent-adolescent communication with mothers and fathers, respectively.

Table 3

Parental Education Level Means for On-Time and Off-Time Parent-Adolescent Sexual Communication

Parent Education	Timing of Sexual Communication		<i>t</i>
	On-Time	Off-Time	
Mother's Education Level	4.00 (1.43)	3.74 (1.50)	$t(208) = -1.28, p = .20$
Fathers' Education Level	4.04 (1.55)	3.63 (1.49)	$t(205) = -1.96, p = .05$

Note. Standard deviations are shown in parentheses. Education level was coded from 1 = some high school through 6 = graduate degree (see text for details).

Hypothesis 2 examined the association between parental education level and adolescent sexual risk-taking behaviors. I hypothesized that parental education would be positively correlated with age of sexual initiation, condom use, and use of pregnancy prevention, but negatively correlated with number of sexual partners and drug/alcohol use. As can be seen in Table 2, the correlation between mothers' education level and age of sexual initiation was not significant, whereas the correlation between fathers' education level ($r = .15$) and age of sexual initiation approached significance ($p = .06$). There was not a significant association between either parent's education level and number of sexual partners, condom use, pregnancy prevention, or drug and alcohol use during sexual activity. Hypothesis 2 was not supported.

Hypothesis 3 examined the association between family structure and adolescent sexual risk taking behaviors. Specifically, I predicted that adolescents from divorced and single-parent families would have higher sexual risk taking

(lower age of initiation, more partners, less condom use, less pregnancy prevention, and more drug/alcohol use) in comparison to intact families. In order to examine the association between family structure and adolescent sexual risk taking behaviors a MANOVA was conducted (see Table 4). There was a significant difference for age of sexual initiation, with those from intact families initiating sexual intercourse later than those from non-intact families. However, no differences were found for number of sexual partners, condom use, pregnancy prevention, or drug/alcohol use. Hypothesis 3 was supported for age of sexual initiation, but not supported for number of lifetime partners, condom use, pregnancy prevention, and drug/alcohol use.

Table 4

Means and Standard Deviations for Adolescent Sexual Risk-Taking Behavior as a Function of Family Structure

	Family Structure		<i>F</i>
	Intact (<i>n</i> = 148)	Non-Intact (<i>n</i> = 77)	
Age of First Intercourse (<i>n</i> = 177)	16.66 (1.62)	16.11 (1.55)	<i>F</i> (1,176) = 4.93, <i>p</i> = .028
Number of Lifetime Partners (<i>n</i> = 212)	4.96 (5.65)	5.77 (5.50)	<i>F</i> (1, 211) = 1.01, <i>p</i> = .317
Condom Use (<i>n</i> = 225)	1.66 (1.25)	1.65 (1.20)	<i>F</i> (1, 243) = .01, <i>p</i> = .941
Pregnancy Prevention (<i>n</i> =225)	1.70 (1.28)	1.50 (1.31)	<i>F</i> (1, 224) = 1.25, <i>p</i> = .265
Drug and Alcohol Use (<i>n</i> = 187)	.70 (0.96)	.62 (0.96)	<i>F</i> (1, 186) = .305, <i>p</i> = .581

Note. The *n*'s vary due to participants' willingness to respond to each question individually.

Hypothesis 4 examined the association between parental monitoring and adolescent sexual risk taking behaviors. Specifically, I hypothesized that parental monitoring would be positively correlated with age of initiation, condom use, and pregnancy prevention use, but negatively correlated with number of sexual partners and drug/alcohol use. As can be seen in Table 2, parental monitoring was positively correlated with age of sexual initiation and negatively correlated with number of lifetime partners, suggesting that more parental monitoring was related to an older age of sexual initiation and a lower number of lifetime partners. Parental monitoring was not correlated with condom use, pregnancy prevention, or drug/alcohol use (see Table 1). Hypothesis 4 was only supported for age of sexual initiation and number of sexual partners. With respect to condom use, pregnancy prevention or drug/alcohol use, the hypothesis was not supported.

Hypothesis 5 examined the association between amount of parent-adolescent communication and risky sexual behaviors. I hypothesized that amount of parent-adolescent communication would be positively correlated with age of sexual initiation, condom use, and use of pregnancy prevention but negatively correlated with number of sexual partners and drug/alcohol use. As seen in Table 2, amount of father-adolescent communication was not correlated with age of sexual initiation, number of lifetime partners, condom use, pregnancy prevention, or drug/alcohol use. However, for amount of mother-adolescent communication, there was a significant negative correlation with age of sexual initiation, indicating that participants who had more communication about sexual topics with their mothers

were more likely to initiate sex at an earlier age, which is the opposite pattern of what was predicted. For the other risk taking behaviors, there was no correlation with mother-adolescent communication. Hypothesis 5 was not supported for any of the sexual risk taking factors.

Hypothesis 6a examined the association between timing of parent-adolescent communication and adolescent sexual risk taking behaviors. Specifically, adolescents with off-time parent-adolescent sexual discussion would have higher sexual risk taking behaviors (lower age of sexual initiation, more overall sexual partners, less condom use, less pregnancy prevention, and more drug/alcohol use) in comparison to adolescents with on-time parent-adolescent sexual discussion. In order to examine differences in sexual risk taking behaviors as a function of the timing of parent-adolescent sexual communication, two MANOVAs were conducted, examining timing of sexual communication for fathers and mothers separately. For timing of father-adolescent sexual communication, there were non-significant differences for age of sexual initiation, number of lifetime partners, or overall drug/alcohol use (see Table 5). Contrary to the hypothesis, on-time discussions were related to significantly less condom use and less pregnancy prevention compared to off-time discussion. Hypothesis 6a for timing of father-adolescent sexual communication was not supported, and, in the case of condom use and pregnancy prevention, was the opposite pattern from what was predicted.

Table 5

Adolescent Sexual Risk-Taking Behavior Means for Timing of Father-Adolescent Sexual Communication

	Fathers' Sexual Communication		<i>F</i>
	On-Time (<i>n</i> = 94)	Off-Time (<i>n</i> = 113)	
Age of First Intercourse (<i>n</i> = 177)	16.77 (1.53)	16.30 (1.64)	$F(1,176) = 3.60, p = .060$
Number of Partners (<i>n</i> = 204)	4.64 (6.21)	5.91 (4.98)	$F(1, 203) = 2.63, p = .106$
Condom Use (<i>n</i> = 210)	1.46 (1.31)	2.03 (1.02)	$F(1,209) = 12.22, p = .001$
Pregnancy Prevention (<i>n</i> = 210)	1.37 (1.35)	2.04 (1.10)	$F(1,209) = 15.96, p < .001$
Drug and Alcohol Use (<i>n</i> = 183)	0.65 (0.93)	0.70 (0.98)	$F(1, 183) = .11, p = .740$

Note. Standard Deviations are shown in parentheses. The *n*'s vary based on the participants' willingness to respond to each question individually

Table 6

Adolescent Sexual Risk-Taking Behavior Means for Timing of Mother-Adolescent Sexual Communication

	Mother's Sexual Communication		<i>F</i>
	On-Time (<i>n</i> = 95)	Off-Time (<i>n</i> = 115)	
Age of First Intercourse (<i>n</i> = 177)	16.62 (1.47)	15.98 (1.92)	$F(1,176) = 5.45, p = .021$
Number of Partners (<i>n</i> = 204)	4.96 (5.50)	6.80 (5.86)	$F(1, 203) = 3.50, p = .063$
Condom Use (<i>n</i> = 210)	1.70 (1.24)	2.02 (0.98)	$F(1,209) = 2.49, p = .116$
Pregnancy Prevention (<i>n</i> = 210)	1.75 (1.29)	1.68 (1.16)	$F(1,209) = .11, p = .740$
Drug and Alcohol Use (<i>n</i> = 183)	0.67 (0.97)	0.71 (0.93)	$F(1, 183) = .05, p = .823$

Note. Standard Deviations are shown in parenthesis. The *n*'s vary based on participants willingness to respond to each question individually.

For timing of mother-adolescent sexual communication, there was a significant difference for age of sexual initiation such that on-time discussions were related to a later age of sexual initiation compared to off-time discussions (see Table 6). There was a non-significant difference between timing of mother-adolescent sexual communication and number of lifetime sexual partners, overall condom use, overall pregnancy prevention, and overall drug and alcohol use. Hypothesis 6a for timing of mother-adolescent sexual communication was supported for age of sexual initiation, but was not supported for number of lifetime partners, condom use, pregnancy prevention, and drug and alcohol use.

Hypothesis 6b examined timing of parent-adolescent sexual communication after controlling for other predictors. Specifically, I hypothesized that off-time discussions would predict higher sexual risk taking (lower age of initiation, more partners, less condom use, less pregnancy prevention, and more drug/alcohol use) even after controlling for family structure, parental monitoring, amount of parent-adolescent communication, and parental education. Five hierarchical regressions were conducted with the five indicators of sexual risk taking (age of sexual initiation, number of lifetime partners, overall condom use, overall pregnancy prevention, and overall drug and alcohol use) as the dependent variables. Family structure, mother's education, father's education, parental monitoring, amount of mother-adolescent sexual communication, and amount of father-adolescent sexual communication were entered at stage one of the regression in order to control for the family contexts and socioeconomic status. Timing of parent-adolescent communication

was entered at stage two (separately for mothers and fathers). When using age of sexual initiation as the dependent variable, the hierarchical regression revealed that at stage one, family context variables (family structure, parental monitoring, and amount and timing of parent-adolescent communication) and socioeconomic variable (parental education) contributed significantly to the regression model. The addition of timing of parent-adolescent sexual communication also contributed significantly to the regression model; however, only timing for mother-adolescent sexual communication was significant, not father timing. Table 7 shows the regression statistics for age of sexual initiation.

When examining number of sexual partners as the dependent variable, the hierarchical regression revealed that family context variables and socioeconomic variables contributed significantly to the regression model. The addition of timing of parent-adolescent sexual communication also significantly contributed to the regression model; however, timing of parent-adolescent communication for either parent was not significant. Table 8 shows the regression statistics for number of sexual partners.

When examining condom use as the dependent variable, the hierarchical regression revealed that family context variables and socioeconomic variables did not contribute significantly to the regression model. The addition of timing of parent-adolescent sexual communication at stage two however, contributed significantly to the regression model such that timing of father-adolescent sexual communication showed a significant difference in the opposite direction. Table 9 shows the regression statistics for overall condom use.

When examining pregnancy prevention as a dependent variable, the hierarchical regression revealed that family context variables and socioeconomic variables did not contribute significantly to the regression model. The addition of timing of parent-adolescent sexual communication at stage two however, did contribute significantly to the regression model such that timing of father-adolescent communication showed a significant difference in the opposite direction. Table 10 shows the regression statistics for overall pregnancy prevention.

Lastly, when examining drug and alcohol use during sexual intercourse as the dependent variable, the hierarchical regression revealed that family context variables and socioeconomic variables did not contribute significantly to the regression model. The addition of timing of parent-adolescent sexual communication at stage two also did not contribute significantly to the regression model. Table 11 shows the regression statistics for drug and alcohol use during sexual intercourse.

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting Age of Sexual Initiation

Variables	β	t	R	R^2	ΔR^2	F
Step 1			.32	.10	.10	$F(6, 167) = 3.14,$ $p = .006$
Family Structure	.11	1.48				
Mother's Education	-.06	-.68				
Father's Education	.16	1.9				
Parental Monitoring	.20	2.6**				
Dad-adol Sexual Comm	.05	.62				
Mom-adol Sexual Comm	-.21	-2.60**				
Step 2			.40	.16	.06	$F(8, 165) = 3.93,$ $p < .001$
Family Structure	.11	1.52				
Mother's Education	-.04	-.53				
Father's Education	.16	2.0**				
Parental Monitoring	.17	2.21				
Dad-adol Sexual Comm	.01	.14				
Mom-adol Sexual Comm	-.30	-3.32**				
Dad On-Time	.08	.92				
Mom On-Time	.24	2.85**				

Note. * = $p \leq .05$, ** = $p \leq .01$, $p \leq .001$

Table 8

Summary of Hierarchical Regression Analysis for Variables Predicting Number of Lifetime Partners

Variables	β	t	R	R^2	ΔR^2	F
Step 1			.28	.08	.08	$F(6, 195) = 2.75,$ $p = .014$
Family Structure	-.04	-.49				
Mothers' Education	.08	1.10				
Fathers' Education	-.12	-1.50				
Parental Monitoring	-.24	-3.35***				
Dad-adol Sexual Comm	-.01	-.17				
Mom-adol Sexual Comm	.12	1.55				
Step 2			.31	.10	.02	$F(8, 193) = 2.59,$ $p = .011$
Family Structure	-.03	-.46				
Mothers' Education	.08	1.04				
Fathers' Education	-.11	-1.40				
Parental Monitoring	-.22	-3.05**				
Dad-adol Sexual Comm	.01	.10				
Mom-adol Sexual Comm	.16	1.78				
Dad On-Time	-.06	-.69				
Mom On-Time	-.12	-1.50				

Note. * = $p \leq .05$, ** = $p \leq .01$, $p \leq .001$

Table 9

Summary of Hierarchical Regression Analysis for Variables Predicting Condom Use

Variables	β	t	R	R^2	ΔR^2	F
Step 1			.14	.02	.02	$F(6, 200) = .62,$ $p = .713$
Family Structure	.01	.09				
Mothers' Education	.03	.43				
Fathers' Education	-.07	-.83				
Parental Monitoring	-.11	-1.54				
Dad-adol Sexual Comm	.01	.08				
Mom-adol Sexual Comm	-.01	-.06				
Step 2			.20	.11	.07	$F(8, 198) = 2.36,$ $p = .019$
Family Structure	.02	.35				
Mothers' Education	.05	.62				
Fathers' Education	-.06	-.71				
Parental Monitoring	-.09	-1.18				
Dad-adol Sexual Comm	.16	1.82				
Mom-adol Sexual Comm	-.07	-.78				
Dad On-Time	-.30	-3.59***				
Mom On-Time	-.00	-.01				

Note. * = $p \leq .05$, ** = $p \leq .01$, $p \leq .001$

Table 10

Summary of Hierarchical Regression Analysis for Variables Predicting Pregnancy Prevention

Variables	β	t	R	R^2	ΔR^2	F
Step 1			.20	.04	.04	$F(6, 200) = 1.43,$ $p = .204$
Family Structure	.12	1.70				
Mothers' Education	-.04	-.48				
Fathers' Education	-.05	-.58				
Parental Monitoring	-.10	-1.34				
Dad-adol Sexual Comm	-.11	-1.42				
Mom-adol Sexual Comm	.18	2.21**				
Step 2			.33	.11	.07	$F(8, 198) = 3.09,$ $p = .003$
Family Structure	.14	2.04				
Mothers' Education	-.01	-.18				
Fathers' Education	-.04	-.50				
Parental Monitoring	-.09	-1.21				
Dad-adol Sexual Comm	.07	.80				
Mom-adol Sexual Comm	.06	.63				
Dad On-Time	-.33	-3.94***				
Mom On-Time	.13	1.60				

Note. * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$

Table 11

Summary of Hierarchical Regression Analysis for Variables Predicting Drug and Alcohol Use

Variables	β	t	R	R^2	ΔR^2	F
Step 1			.16	.03	.03	$F(6, 173) = .80,$ $p = .571$
Family Structure	.04	.51				
Mothers' Education	-.09	-1.11				
Fathers' Education	.06	.67				
Parental Monitoring	-.04	-.52				
Dad-adol Sexual Comm	-.12	-1.50				
Mom-adol Sexual Comm	-.03	-.39				
Step 2			.17	.03	.00	$F(8, 171) = .62,$ $p = .761$
Family Structure	.04	.49				
Mothers' Education	-.09	-1.1				
Fathers' Education	.06	.67				
Parental Monitoring	-.04	-.51				
Dad-adol Sexual Comm	-.15	-1.50				
Mom-adol Sexual Comm	-.02	-.20				
Dad On-Time	.04	.45				
Mom On-Time	-.02	-.17				

Note. * = $p \leq .05$, ** = $p \leq .01$, $p \leq .001$

CHAPTER V

DISCUSSION

The purpose of this study was to examine the association between family context factors (parental monitoring, family structure, and amount and timing of parent-adolescent communication), socioeconomic status (parental education) and sexual risk taking behaviors in adolescence (age of sexual initiation, number of lifetime partners, condom use, pregnancy prevention, and drug/alcohol use). Past research has found that although engaging in sexual activity as an adolescent has become common, adolescence is also recognized as a time for potentially *risky* sexual behaviors (Capaldi et al., 2002). When considering the history of adolescents' sexual behaviors, research has found that risk has increased overtime in both number of sexual partners and frequency of sexual intercourse, as well as a decrease in the consistency of condom use (Capaldi et al., 2002). Therefore, it is important to consider the factors that may influence adolescents' engagement in sexual risk taking behaviors. This research study examined the association of parental monitoring, family structure, amount and timing of parent-adolescent communication and socioeconomic status with adolescents' sexual risk taking behaviors. Overall, the results indicated that some family context variables were

related to specific risky behaviors.

The first hypothesis examined whether parental education level would be positively correlated with parental monitoring by examining mothers and father separately. The results indicated that neither mother nor father education level was significantly related to parental monitoring. This finding is not consistent with previous research that suggests parents from lower SES background may find it more difficult to monitor their adolescents' behaviors than those from higher SES backgrounds (Hill et al., 2004). Monitoring behaviors include setting firm rules and monitoring social activities (Roche, 2005). It is possible that measuring parental education level is not sufficient to get an overall view of SES. Past research has defined SES by a compound of variables including, family income, parental education, occupational status, and home resources (Sirin, 2005). Thus, future research should inquire about all aspects of SES instead of specifying one aspect in order to provide a more comprehensive view of SES. Alternatively, education was measured on a 1 through 6 scale, which may not have been a fine-grained enough way to measure educational level as a proxy for SES.

Hypothesis 1b stated that parental education would be positively correlated with amount of parent-adolescent communication. The results offer partial support for this hypothesis such that father's level of education was positively correlated with the amount of parent-adolescent communication. However, mother's level of education was not positively correlated with the amount of parent-adolescent communication. Past research shows that mothers have been found to communicate

topics related to sexuality more with their adolescents than fathers, and mothers are viewed as more influential sexual communicators than fathers (Feldman & Rosenthal, 2000). Thus, the traditional mother-father roles in a family would include mothers being responsible for sexual communication with adolescents, which may not include fathers having sexual communication with adolescents. This would suggest that women discuss sexually related topics with their adolescents regardless of their level of education. In contrast, fathers who are not educated about the importance of sexual communication with their adolescent may be less likely to have sexually related conversations with their adolescents. Men who have higher levels of education, however, may understand the importance of sexual communication with their adolescents and in turn may be more likely to have sexually related conversations with their adolescents.

Hypothesis 1c stated that parents who initiated on-time communication would have a higher level of education than those who had off-time parent-adolescent communication. The results indicated that hypothesis 1c was partially supported. Mothers' education level was not significantly different between those who had on-time communication and those who had off-time communication with their adolescents. As stated before, previous research found that adolescents report that it is more important for their mothers to communicate sexually related topics (Feldman & Rosenthal, 2000), therefore the level of education of mothers may not be an important factor in the timing of parent-adolescent sexual communication. These results could also be attributed to the traditional gender roles in a family.

Mothers traditionally have the family role as communicator, meaning that they are the one who is primarily responsible for communicating about sexually related topics. Thus, mothers across all educational levels may be expected to communicate with adolescents about sexuality. However, there was a marginally significant difference in the level of father's education for those who had on-time and off-time sexual communication with their adolescent. That is, on-time sexual parent-adolescent communication was initiated by more educated fathers. Fathers who have higher levels of education potentially have the understanding that communication of sexually related topics is important and may be more likely to have on-time, sexually related conversations with their adolescents.

Hypothesis two stated that parental education would be positively correlated with age of sexual initiation, condom use, and use of pregnancy prevention, but negatively correlated with number of sexual partners and drug/alcohol use. The results indicated neither mother nor father education level significantly correlated with adolescent sexual risk-taking behaviors. Previous research on the association between parental education and sexual risk taking behaviors in adolescence is limited. However, past research on the association between SES and sexual risk taking has found that adolescents living in neighborhoods that are economically disadvantaged have an increase in sexual risk taking behaviors (Baumer & South, 2001). Therefore, the results of the current study are not consistent with previous research. This inconsistency may be because the current study only used parental education as an indicator of SES, and that education was measured on a six-point

scale. Ardila et al. (2005) defined SES as a compound of variables, which include family income, parental education, occupational status, and home resources (Sirin, 2005). Research examining other indicators of SES may have found a significant correlation with sexual risk taking variables.

Hypothesis three stated that adolescents from divorced and single-parent families would have higher sexual risk taking, specifically, lower age of sexual initiation, more sexual partners, less condom use, less pregnancy prevention, and more drug/alcohol use, in comparison to intact families. The results indicated that there was a significant difference for age of sexual initiation such that adolescents from intact families initiated sexual intercourse later than those from non-intact families. This finding supports past research by Davis and Friel (2001), who found that adolescents from intact, two-parent households typically initiate sexual behaviors at a later age, compared to those adolescents from divorced or single-parent families. Davis and Friel (2001) posited that the general loss of control within a single parent family has aided in the explanation of behavioral differences in sexuality. Two-parent families provide more guidance and stability at home than non-intact families, which indirectly allows them to communicate more about their sexual values (Davis & Friel, 2001). As for the number of sexual partners, condom use, pregnancy prevention and drug/alcohol use, no significant differences were found, which did not support previous research. It is possible that those parents from divorced or single-parent families take it upon themselves to communicate to their adolescents about risky sexual behaviors. Parents from divorced or single-

parent families could have the understanding that there may not be another person for their child to turn to when it comes to sexually related questions. Thus, these parents may talk with their adolescents about sexual topics and provide their adolescents with the information necessary for them to be knowledgeable about risky sexual behaviors.

Hypothesis four stated that parental monitoring would be positively correlated with age of sexual initiation, condom use, and use of pregnancy prevention, but negatively correlated with the number of sexual partners and drug/alcohol use. The results indicated that parental monitoring was positively correlated with age of sexual initiation and negatively correlated with the number of lifetime partners. This finding indicates that more parental monitoring was related to an older age of sexual initiation and a lower number of lifetime sexual partners, which supports past research. High parental monitoring and supervision has been associated with an older age of sexual initiation (French & Dishion, 2003). In contrast, low parental monitoring allows adolescents the necessary time without supervision to engage in sexual behaviors (French & Dishion, 2003). Parental monitoring however, was not correlated with condom use, pregnancy prevention, or drug/alcohol use. The lack of significant correlations between parental monitoring and condom use, pregnancy prevention, or drug/alcohol use could be due to the parental monitoring measure used. It is possible that the parental monitoring measure used in the current study (Brown et al., 1993) assessed parental knowledge of adolescent's behaviors more so than parental monitoring per se. Parental monitoring may

include setting firm rules and monitoring the social activities of adolescents (Roche, 2005), whereas parental knowledge is the parent's knowledge of what their adolescents are doing both inside and outside of the home. Stattin and Kerr (2000) found that most measures of parental monitoring actually assess parental knowledge. Therefore, parental knowledge could include the parent's knowledge of their adolescent's engaging in sexual activity as well as sexual risk taking behaviors. However, having knowledge of their adolescent's engaging in such behaviors does not necessarily mean that the parents are acting in ways that may change the adolescent's risky sexual behaviors. Consequently, parents who do not have an aspect of control over their adolescents may allow them the time away from home or without supervision needed to engage in sexual behaviors. Parental control can be defined as the degree to and manner in which parents attempt to place limits on their adolescents' behaviors (Barber, 1992). Future research may consider examining parental control along with parental knowledge in order to obtain a better understanding of how much parents know about their adolescents as well as how much control they have over their adolescents' behaviors.

Hypothesis five stated that the amount of parent-adolescent communication would be positively correlated with age of sexual initiation, condom use, and use of pregnancy prevention, but negatively correlated with number of sexual partners and drug/alcohol use. The results indicate that hypothesis five was not supported for any of the sexual risk taking factors. In fact, the only significant correlation was in the opposite direction hypothesized. There was a significant negative correlation

with the age of sexual initiation, suggesting that participants who had more mother-adolescent sexual communication were more likely to initiate sex at an earlier age. It is unclear as to why this finding was inconsistent with my hypothesis. Future research should examine additional variables that may help explain this finding.

Hypothesis 6a stated that adolescents with off-time discussion would have higher sexual risk taking specifically, lower age of sexual initiation, more sexual partners, less condom use, less pregnancy prevention, and more drug/alcohol use, in comparison to adolescents with on-time discussion. The results indicated that timing of father-adolescent sexual communication was not significantly different for age of sexual initiation, number of lifetime partners, or overall drug/alcohol use. Also, contrary to the hypothesis, on-time discussions were related to significantly less condom use and less pregnancy prevention compared to off-time discussion. Thus, fathers who had on-time father-adolescent sexual discussion had children who were less likely to use condoms and less likely to use pregnancy prevention when compared to those adolescents whose fathers had off-time sexual communication with them. When it comes to fathers, it seems that the timing of the conversations is not the influencing factor; instead, the more important factor may be *what* the fathers are discussing with their adolescents. Adolescents are more likely to talk to mothers than fathers about sexually related topics, and adolescents are more likely to rate mothers as better sexual educators than fathers (Feldman & Rosenthal, 2000). Specifically for sons, fathers are more likely to have a “man-to-man” conversation, which can come off as encouraging to the sons (Feldman &

Rosenthal, 2000). Thus, fathers may be less likely to talk to their sons prior to sexual initiation (on-time) for fear that they are only encouraging them to have sex (Wilson & Koo, 2010). Future research should focus on what type of conversation fathers have with their adolescents and how adolescents perceived those conversations. For mothers, there was a significant difference for age of sexual initiation, such that on-time discussions were related to later age of sexual initiation in comparison to off-time discussion. This finding is consistent with a study conducted by Clawson and Reese-Weber (2003). These researchers found that parent-adolescent sexual discussion that occurred prior to sexual intercourse predicted that adolescents would be older at the time they initiated sexual intercourse in comparison to those adolescents who had parent-adolescent sexual discussion after initiating sexual intercourse or never having the conversation with their parents at all. Contrary to the hypothesis, there was a non-significant difference between timing of mother-adolescent sexual communication and number of lifetime sexual partners, overall condom use, overall pregnancy prevention, and overall drug and alcohol use. The inconsistent mother-adolescent communication results could be a product of the timing of parent-adolescent communication measure. The timing of parent-adolescent communication measure examined many different topics, however, for this study only conversations about sexual intercourse were examined and not topics such as condom use, birth control, or sexually transmitted diseases. Future research should be sure to examine all topics being considered in relation to timing of parent-adolescent sexual communication.

Hypothesis 6b stated that off-time discussions would predict higher sexual risk taking, specifically, lower age of sexual initiation, more sexual partners, less condom use, less pregnancy prevention, and more drug/alcohol use, even after controlling for family structure, parental monitoring, amount of parent-adolescent communication, and parental education level. The results indicated that when examining timing of mother-adolescent communication (even after controlling for other predictors) there was a significant difference for age of sexual initiation, suggesting that on-time mother-adolescent sexual communication resulted in an older age of sexual initiation. When examining father-adolescent sexual communication (even after controlling for other predictors) there was a non-significant difference for age of sexual initiation. These results support past research that adolescents report it is more important for mothers to communicate about sexuality or sexually related topics than fathers, and that mothers are evaluated more positively than fathers as sexual communicators (Feldman & Rosenthal, 2000).

When examining timing of mother-adolescent sexual communication and father-adolescent sexual communication (even after controlling for other predictors), there were non-significant differences for number of lifetime partners. These results suggest that on-time sexual discussion by both mothers and fathers did not result in fewer lifetime partners. Past research shows that sexual communication any time before the adolescent has initiated sexual behaviors is beneficial in comparison to those adolescents who have parent-adolescent sexual communication after they have initiated sexual intercourse or never communicated at all (Longmore et al.,

2009). As noted previously, the timing of parent-adolescent communication measure for this study only examined conversations about sexual intercourse, but not topics related to sexual risk taking such as condom use, birth control or STDs. Therefore, future research should examine the timing of other topics of parent-adolescent sexual communication.

When examining timing of mother-adolescent sexual communication and father-adolescent sexual communication (even after controlling for other predictors), there were non-significant differences for both condom use and pregnancy prevention when examining timing of mother-adolescent sexual communication specifically. These results suggest that on-time mother-adolescent communication did not result in less condom use or less pregnancy prevention. However, when examining timing of father-adolescent sexual communication (even after controlling for other predictors), there were significant differences for both condom use and pregnancy prevention. On-time father-adolescent communication did result in less condom use and less pregnancy prevention, which is the opposite of what was hypothesized. Timing of mother and father-adolescent communication supports past research. Past research by Clawson and Reese-Weber (2003) found similar results indicating that on-time father-adolescent sexual communication resulted in a higher probability of pregnancy. Clawson and Reese-Weber (2003) suggested an explanation for these results was that fathers are simply responding to their adolescents' sexual behaviors, including sexual intercourse and getting someone pregnant. They posited that when fathers ascertain that their adolescents

have engaged in sexual intercourse, fathers are likely to become concerned about the developmental consequences that may come from their adolescents engaging in sexual activities. The concerns for such developmental consequences lead fathers to be more likely to discuss sexual topics such as pregnancy with their adolescents (Clawson & Reese-Weber, 2003).

Lastly, when examining mother-adolescent sexual communication and father-adolescent sexual communication (even after controlling for other predictors) the results indicated that there were non-significant differences for drug and alcohol use during sexual intercourse. These results suggest that on-time sexual discussion by both mothers and fathers did not result in less drug and alcohol use during sexual intercourse. These results could be due to the content of parent-adolescent sexual communication. Research has shown that parents discuss topics such as waiting to initiate sexual intercourse, not having multiple partners, and using protection when engaging in sexual intercourse (Aspy et al., 2007; Frisco, 2005; Longmore et al., 2009). However, there is minimal research about drug and alcohol use during sexual intercourse being included in parent-adolescent sexual communication. Therefore, parents talking to their adolescents about sexually related topics whether it is before or after they have initiated sexual intercourse may not affect drug and alcohol use during sexual intercourse because it is not a topic that is regularly covered.

Limitations and Future Research

A number of limitations of this study have already been noted. In particular, the measure used to assess parental monitoring may have been assessing parental knowledge rather than parental monitoring. Future research could address this issue by assessing multiple aspects of parenting such as parental knowledge, parental monitoring, and parent control. Measuring all three constructs would allow for a more detailed view of the parent-adolescent relationship that could aid understanding how the parent-adolescent relationship is related to sexual communication and sexual behavior. Moreover, teasing apart these three aspects of parenting would allow researchers to better answer questions about whether these parenting behaviors are related to SES and education.

Another limitation of the study was the measure used to assess SES. Mueller and Parcel (1981) described SES as a family's ranking on a hierarchy corresponding to control over some combination of commodities such as wealth, power, and social status. Specifically, SES can be defined as a compound variable, which include family income, parental education, occupational status, and home resources (Ardila et al., 2005; Sirin, 2005). For this study, I examined parental education in order to assess SES due to Ardila and colleagues (2005) suggesting that parents' education level may be associated with circumstances in the home environment that can establish early skills in problem solving and performing executive functioning skills. However, by examining only parental education, other aspects of SES were ignored. Future research should examine all aspects of SES such as family income, parental

occupational status, and home resources in order to get a more representative view of how SES influences adolescent sexual risk taking. Additionally, parental education was measured on a six-point scale, therefore the measure may not have been fine-grained enough or had enough variability to be informative.

The measure used to assess parent-adolescent communication is another limitation. This measure was adapted from the *Weighted Topics* measure (Fisher, 2001). Participants were asked to report about their parent-adolescent sexual communication (about varying topics) during their adolescent years. This measure asked participants to report at what age they talked to their parents about various sexually related topics. Thus, data for this study were collected retrospectively and rely on potentially faulty memories of when (or if) particular events occurred. Future researchers should use a longitudinal design or a diary study; this would be beneficial in better understanding how parent-adolescent sexual communication, as it unfolds, may influence sexual behavior.

Additionally, there may have been a floor effect for condom use, pregnancy prevention, and drug/alcohol use during sexual intercourse. The results showed that uses of these three variables were very low in that participants were not reporting accurately or that they were not using condoms, pregnancy prevention, or drug/alcohol during sexual intercourse. Therefore, future research should consider asking these questions in different ways as to ensure participants are aware of what is being asked or further examine why participants were not using condoms, pregnancy prevention, and drug/alcohol use.

Lastly, the sample was comprised of solely college students between the ages of 18 and 27 from a particular cohort in a chronosystem. That is, some patterns of data that do not replicate past research may be due to changing cultural norms and expectations about sexuality and different parenting practice. Therefore, these results are possibly not generalizable to young adults who are not in the university setting. A university sample also reduces the range of SES of the participants, and SES was a key variable in the current study. Also, the majority of the sample was comprised of female participants and there was not a diverse ethnic background. Future research should address these issues by including a more diverse sample from the community. A more equivalent ratio of male to female participants would also allow an examination of gender dynamics, by allowing an analysis of mother-daughter vs. mother-son communication as well as father-daughter and father-son communication.

Strengths and Contributions

A major strength of this study was the inclusion of both the amount of parent-adolescent sexual communication and timing of parent-adolescent sexual communication. Previous research has generally focused on amount of parent-adolescent sexual communication. This study, however, included timing of parent-adolescent sexual communication as a main component in order to get a better understanding of the impact of such communication. In addition, sexual communication included both mother-adolescent and father-adolescent communication. Previous research tends to focus on mother-adolescent

communication only. Examining both mother and father communication separately allowed for a better understanding of how each parent may contribute uniquely to adolescents' sexual behaviors.

Conclusion

This study examined the association between family context factors and sexual risk taking behaviors. Understanding the association between family context factors and sexual risk taking behaviors can be important in regards to predicting adolescent risky sexual behaviors as well as healthy adolescent sexual behaviors. During adolescence, there is an increase in the number of sexual partners and frequency of sexual intercourse, but a decrease in the overall amount of condom use (Capaldi et al., 2002). Understanding what factors may predict adolescent sexual risk taking would be beneficial for public health. Being able to provide public health services with information on which factors predict adolescent sexual risk taking behaviors would help them to provide services related to sexually transmitted infections and unplanned pregnancies. Services could include classes on how parents can talk to their adolescents about sexual topics, and possibly information on parental monitoring. This study examined parental education, parental monitoring, family context, and amount and timing of parent-adolescent sexual communication, in order to determine which of these factors are associated with adolescent risky sexual behaviors. Although not all of the hypotheses were supported, the results provided insight into sexual risk taking behaviors. Specifically, adolescents of divorced and single-parent families have a lower age of

sexual initiation in comparison to intact families. Also, parental monitoring was correlated with age of sexual initiation and number of sexual partners, suggesting, that more parental monitoring was related to an older age of sexual initiation and a lower number of lifetime partners. Additionally, on-time mother-adolescent sexual communication was associated with a later age of sexual initiation, however, on-time father-adolescent sexual communication was associated with less condom use and less pregnancy prevention. These research findings suggest specific future research in the area of adolescent sexual risk taking behaviors, including an examination of communication patterns between parents and adolescents examining male and female participants separately.

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APPENDIX A

DEMOGRAPHIC QUESTIONNAIRE

Gender:

1. Male
2. Female
3. Other (e.g. transgender, gender queer), please specify _____

Sexual Orientation:

1. Heterosexual
2. Homosexual/Gay/Lesbian
3. Bisexual
4. Pansexual
5. Other, please specify _____

How would you best describe the area you grew up in?

1. Urban
2. Suburban
3. Rural

Age: _____

Year in School:

1. Freshman
2. Sophomore
3. Junior
4. Graduate-Master's
5. Graduate-Doctorate
6. Other, please specify _____

Ethnic Background:

1. White/Caucasian
2. Black/African American
3. Hispanic/Latino/a
4. Asian-American
5. Middle Eastern/North African
6. Mixed Ethnicity
7. Prefer not to answer
8. Other, please specify _____

Mother's Highest Education Level:

1. Some High School
2. High School Degree
3. Some College
4. Associates Degree
5. Bachelors Degree
6. Graduate Degree

Father's Highest Education Level:

1. Some High School
2. High School Degree
3. Some College
4. Associates Degree
5. Bachelors Degree
6. Graduate Degree

Which of the following best represents your family structure **at the age of 16**?

1. Parents were married or living together
2. Parents were separated or divorced
3. Parents were never married or living together
4. Other, please specify _____

Which of the following best represents your current romantic relationship?

1. Not in a romantic relationship
2. Casual relationship
3. Friends with benefits
4. Serious relationship
5. Other, please specify _____

How many romantic relationships have you been involved in? _____

Have you ever had a hookup?

1. Yes
2. No
3. Prefer not to answer

APPENDIX B

INFORMED CONSENT

PLEASE READ THIS DOCUMENT CAREFULLY. SIGN YOUR NAME BELOW ONLY IF YOU AGREE TO PARTICIPATE. YOUR SIGNATURE IS REQUIRED FOR PARTICIPATION IN THIS RESEARCH. YOU MUST BE 18 YEARS OF AGE TO PARTICIPATE. IF YOU DESIRE A COPY OF THIS CONSENT FORM, YOU MAY REQUEST ONE AND WE WILL PROVIDE IT.

Description of the Study: This study will ask you to answer several questions regarding your family background and your past sexual experiences.

Nature of Participation: You will spend approximately 30-45 minutes completing the measures.

Purpose of the Study: The purpose of the study is to examine sexual behaviors of college students.

Possible Risks: There are only minimal risks to participating in this research. There may be a slight risk of uncomfortable feelings when answering the survey questions.

Possible Benefits: This study will allow participants to contribute to the understanding of sexual behaviors among young adults. If any participant desires to be informed about the outcome of this study, he/she can contact the researcher at the below information.

Compensation for your time: You will receive extra credit in a psychology course. You will receive extra credit simply by virtue of coming to your appointment; you are free to withdraw your participation at any time without penalty.

Confidentiality: Your questionnaire packet has been assigned a code number that will protect your identity. All data will be kept in secured files, in accord with the standards of the University, Federal regulations, and the American Psychological Association. Finally, it is no individual person's responses that interest us; we are studying people in general.

Opportunities to Question: Any technical questions about this research may be directed to Dr. Marla Reese-Weber at 438-5418. Any questions regarding your rights as a

research participant or research-related injuries may be directed to ISU's Office of Research Ethics and Compliance (309) 438-2520.

Opportunities to Withdraw at Will: Your participation is voluntary. If you decide now or at any point to withdraw this consent or stop participation, you are free to do so at no penalty to yourself. You are free to skip specific questions and continue participating at no penalty.

Opportunities to be Informed of Results: In all likelihood, the results will be fully available around the summer of 2015. If you wish to be told the results of this research, please contact Dr. Marla Reese-Weber at 309- 438-5418. She will either meet with you to discuss the results or direct you to a copy of the results. In addition, there is a chance that the results from this study will be published in a scientific psychology journal, which would be available in many libraries. In such an article, participants would be identified in general terms such as "college students."

I consent to participate in this study. I further acknowledge that I have received an offer to obtain a copy of this consent form.

Signature

Date

Print Name

Date

APPENDIX C

DEBRIEFING STATEMENT

The purpose of this survey is to examine possible predictors of sexual initiation and sexual behaviors among adolescents and young adults. We expect parental education, family structure, parental monitoring, amount of parent-adolescent sexual communication, and timing of parent-adolescent sexual communication to be predictors of the age of first sexual intercourse as well as other sexual behaviors such as condom use and number of sexual partners.

If after completing this study you are upset or would like to discuss your interactions with others, you may contact Illinois State University's Student Counseling Services at (309) 438-3655 or the PATH crisis center for a referral at (309) 827-4005 or 1-800-570-7284.

Please remember that your responses are confidential and all data will be kept in secure files. If you have any question regarding this study, please contact Dr. Marla Reese-Weber at (309) 438-5418 or mjreese@ilstu.edu. You may also contact Kori Daniel, graduate student in psychology, at kmdanie@ilstu.edu.

Thank you again for your participation!