

USING ATTACHMENT THEORY TO STUDY MOTHER-DAUGHTER
COMMUNICATION ABOUT SEX

BY

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LIST OF ABBREVIATIONS

AIDS: Acquired Immune Deficiency Syndrome

ANOVA: Analysis of Variance

CDC: Center for Disease Control

HIV: Human Immuno-deficiency Virus

SPSS: Statistical Package for the Social Sciences

STDs: Sexually Transmitted Diseases

LSD: Least Significant Difference

ABSTRACT

Sexual education of adolescents through parent-child communication has been shown to increase safe sexual behaviors. The purpose of this study was to examine the influence of attachment styles and breadth and depth of communication on mother-daughter communication about sex. Daughters ($N = 75$) ages 19 to 68 completed an online questionnaire asking about their previous conversations about sex with their mothers. The results showed that daughters with a secure attachment style talked about significantly more sexual health topics and in greater depth than those with an anxious/ambivalent attachment. It was also found that daughters who frequently communicated about love and marriage with their mothers had fewer sexual partners. The results from this study point to the importance of the interaction between attachment style and frequent, in depth conversations about sexual health topics between mothers and daughters.

INTRODUCTION

Sexual education for adolescents is an increasing concern in America and other parts of the world. Among United States high school students, 46.8% had sexual intercourse, 34.0% had had sexual intercourse during the previous 3 months, and, of these, 40.9% did not use a condom the last time they had sex (Center for Disease Control, CDC, 2013). The Center for Disease Control also reported that 15.0% of high school students had sex with four or more people during their time in high school. These risky sexual behaviors are placing teens at a higher risk for sexually transmitted diseases and unintended pregnancy. An estimated 8,300 young people aged 13–24 years reported having contracted HIV in 2009 (Center for Disease Control, CDC, 2009); whereas, in the same year, over 400,000 teens aged 15-19 became pregnant (Center for Disease Control, CDC, 2009). These high levels of risky sexual behavior among teens are a notable cause for concern and call for better education practices.

While there are a variety of sources for information on sexual behaviors such as schools and health providers, this study will focus on communication about sexual behaviors within the family. Warren (1995) defined sexual education as something that “generally implies the valuation of a teaching model of information transfer, whereas senders seek to add knowledge to receivers’ frames of reference about biological reproduction, sexuality, and sexual intercourse, and birth control” (as cited in Heisler, 2005, p. 296). When researching methods of sexual education, it was commonly found that “Parents are expected to provide accurate information about sex, including responsible sexual decision making for their teenage children” (Rhucharoenpornpanich, Chamrathirong, Fongkaew, Miller, Cupp, Rosati, & Chookhare, 2012, p. 381). Further,

studies have shown that mothers are more likely than fathers to talk about sexual behaviors and health with their children (Askelson, Campo, & Smith, 2012; Heisler 2005; Rodgers, 1999). Because of the frequency of mother-daughter communication found in the literature, this study will examine mother-daughter communication about sex using attachment theory framework. Mother-daughter communication has been studied in many forms, one of which looks at its ability to reduce high risk behaviors of adolescents. Specifically in the area of sexual health, parent-child communication has been shown to reduce risky behaviors (Hadley, Brown, Lescano, Kell, Spalding, DiClemente, & Donenberg, 2009; Tannenbaum, 2002). More research needs to be conducted to better understand the factors that influence effective mother-daughter communication about sexual health.

Attachment theory is used to understand long-term interpersonal relationships based on the early development of the mother-infant bond. Attachment theory suggests that infants develop one of three attachment styles with their primary caregivers, typically the mother (Bowlby, 1988). The three attachment styles one can develop are secure, anxious/ambivalent, and avoidant. The attachment style influences the development of one's social identity throughout life. The interaction between child and caregiver, secure, anxious/ambivalent, or avoidant, dictates the security that the child feels within future relationships. Attachment theory also suggests children who have a secure attachment style with a parent establish better social strategies than children considered to have an avoidant attachment style. Bowlby (1973) also suggested that caregiver-infant attachment styles are stable across the life span. Attachment styles are relevant and applied throughout all relationships in life from infancy, adolescence, and adulthood (de Haas,

Bakermans-Kranenburg, & van IJzendoorn, 1994; Jones, 2005). Examples of this include a baby experiencing anxiety over an absent caregiver (Shevlin, Boyda, Elklit, & Murphy, 2014). Also, attachment styles can play roles in children being unable to make secure friendships in school (Procaccia, Veronese, & Castiglioni, 2014), and feelings of trust and abandonment in romantic adult relationships (Miller, Denes, Diaz, & Buck, 2014). Attachment styles are consistently active within our relational lives. Thus, attachment styles have been shown to predict parent-child communication because they are maintained throughout all stages of the relationship (Guerrero, Farinelli, & McEwan, 2009).

This study, which is grounded in attachment theory, examines how attachment styles influence mother-daughter communication about sex. Furthermore, the study will seek to determine if the communication interaction had an effect on reducing or preventing the risky sexual behavior of the daughter.

CHAPTER ONE: LITERATURE REVIEW

This chapter will review the literature on sources of information about sex, parent-child communication, attachment theory, communication breadth and frequency, and sexual health and make connections among them for the current study.

Sources of Information about Sex

Adolescents in the United States are exposed to multiple sources of information on sexual behaviors including family, friends, and media. Rates of curable sexually transmitted diseases (STDs) are higher in the United States than in other developed nations where sex education begins earlier (David, Morgall, Osler, Rasmussen, & Jensen, 1990). While specific media and friends (Khan, Wohn, & Ellison, 2014) are shown to influence attitudes and behaviors about risky sexual behavior, many studies suggest that the family, specifically parents, play a greater role in communicating about and passing down healthy sexual behaviors to successive generations (Piot & Islam, 1994; Clawson & Reese-Weber, 2003; Jaccard, Dittus, & Gordon, 1998). Despite other sources, the family is an important context for adolescent development (Koesten, Miller, & Hummert, 2001). An adolescent's communication skills, including the ability to listen, negotiate, write, and engage in effective communication are all developed in the context provided by the family (Bruner, 1990).

Parents are a primary source for sex education (Rhucharoenpornpanich et al., 2012; Williams, Pichon, & Campbell, 2015); more resources should focus on increasing parents' skills to communicate about sex. Parents hold many false beliefs about their children and communication about sexual behavior (Gold, 2004). Many parents believe

that their children are learning healthy information from their schools (Atienzo, Walker, Campero, Lamadrid-Figueroa, & Gutierrez, 2009), or believe it is inappropriate to talk about sex with their children (IOM, 1997). Furthermore, only 11% of parents discuss STDs with their children (American Social Health Association, 1996). Parents also express a lack of knowledge about other sexual communication factors such as appropriate timing for discussing sex topics (Clawson & Reese-Weber, 2003). While many parents are not currently communicating about sexual education with their children, some report intentions to communicate about sex. This leads us to believe that communication about sex in a parent-child relationship may not be occurring as much as needed for positive outcomes.

One reason for lack of communication about sex is limited parental communication strategies. Communication around sex can include relationships, shared values, condom use, pregnancy prevention, and more. Previous research has shown that parents are willing to discuss safe sexual behavior; however, their strategies were more implicit than explicit, which is less effective (Marin & Gomez, 1997; Heisler, 2005). For example, Marin & Gomez (1997) found that parents used implicit statements, such as, “be careful,” rather than using explicit communication, such as, “wear a condom.” Askelson et al. (2012) defined the amount of sexual communication as the number of variety of sexual topics discussed. They also found that parenting styles of the mother, influence the number of sexually related topics communicated about and age of the daughter at time of communication.

Even though there is a need for more parental communication strategies around sex, the mother-daughter dyad has proven to be more effective than other family dyads in

communicating sexual health (Siegal, 1987). For example, Askelson et al., (2012) reported that the 56.2% of mothers who communicated about sexual intercourse with their daughters are unlikely to talk about condom use, which is a safe sex practice. Askelson et al. (2012) also found that there was no difference among mothers who perceived their daughters to be at a greater risk or a lesser risk for sexual activity and communicating about sex at an earlier age. Mothers, even when they perceive their daughters to be at a greater risk for engaging in sexual activity, are still not communicating with their daughters about sex. This lack of urgency to communicate about sex can be explained by limited parental communication strategies, and further calls for continued promotion practices and research (Newby, Bayley, & Wallace, 2009). Therefore, we need to focus not only on having parents talk to their children about sex, but also on the nature of the relationship between parents and children to foster this conversation.

Parent-Child Communication

Research studies parent-child communication as a method for protecting against multiple high risk behaviors including excessive alcohol and drug use and unsafe sexual behaviors. (Askelson et al., 2012; Dorsey, Miller, & Scherer, 1999; Williams et al., 2015). However, some of these studies have produced inconsistent findings (Askelson et al., 2012; Fox & Inazu, 1980; Newcomer & Udry, 1985). For example, research by Newcomer and Udry (1985) found that mothers' communication about premarital sex was not significantly related to their daughters' sexual risk behaviors. One possible explanation for this is that mothers are communicating safe sexual behaviors to their daughters and think that their daughters are complying, while the daughters report this

agreement never having been reached (Newcomer & Udry, 1985). In addition, the communication from the parent could have been perceived by the daughter as intrusive or controlling, thus having no delaying effect (Dorius & Barber, 1998). Therefore, it is clear that even when mothers communicate with their daughters about sex, it may not be having the effect they intended it to have.

Even though parents are not always successfully communicating about risky sexual behaviors, studies such as Askelson et al. (2012) have found significant predictors of parenting styles on effective communication about risky sexual behaviors. It is important to study communication in the moment, but to understand and evaluate the effectiveness of the communication it is beneficial to have a better understanding of the relationship through which the communication occurs. By studying parenting styles, Askelson et al. (2012) is creating a context in which to study the communication between parents and children. If parent-child communication about sex is effective, then examining other relational aspects can help to create targeted messages for specific parents and children based on their current relationship. These findings are consistent with other evidence that parent-child communication can delay sexual engagement or produce healthy sexual behaviors when communicated effectively (Hutchinson, 2002; Lehr, DiIorio, Dudley, & Lipana, 2000). These results lead us to examine the variables and relationship context that affect the success of parent-child communication about sexual education.

One approach to sexual education using parent-child communication was developed by O'Donnell, Wilson-Simmons, Dash, Jeanbaptiste, Myint-U, Moss, & Stueve (2007) titled *Saving Sex for Later*. This intervention focused on equipping parents

with tools to communicate about sexual education with their children. This study identified the underestimation of influence parents have on risky choices their children make (Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). They found that children desired for their parents to talk to them about sex and early. Parents found that the knowledge gained was helpful because they feared these discussions with their children and now felt more equipped. Interventions can be useful tools for facilitating effective health discussions between parents and children.

As the growing body of research suggests (Kirkman, Rosenthal, & Feldman, 2002; Rodgers, 1999; O'Donnell et al., 2007), using other theories and variables to study the parent-child relationship as well as the communication within the relationship, can lead to a greater understanding of children's behavioral choices when it comes to engaging in safe sex practices. One variable often studied is closeness, the degree that one feels they can talk without reservation within the parent-child relationship. Researchers have found that closeness is related to child's postponement of sexual intercourse (Karofsky, Zeng, & Kosorok, 2000; Miller, 2002) and engagement in safe sex practices like condom use (Gold, 2004). Many other variables such as parental support (Rodgers, 1999), parental behavioral control (Steinberg et al., 1994), and socialization (Dong, 2005) have been studied in regards to family communication about sex. Because parent-child communication is being studied as a tool for adolescent behavior change, the research has pointed to the importance of communication within this relationship as an agent for safe health behaviors.

We have identified that the way parents communicate to their children about safe sex can result in a desired behavior (Coffelt, 2010; Oden & Brown, 2010). While the

current body of research is finding effective ways that mothers communicate to their daughters about sex, it also calls for a greater need to identify the links between the relationship and the communication taking place within that relationship. To further examine this concept, an attachment perspective provides one possible explanation for why parent-child, or more specifically mother-daughter, communication about sex results in behavioral adherence in some circumstances and not others.

Attachment Theory

Attachment Theory, developed by Bowlby (1973), was initially conceptualized as a useful framework for mother-daughter relationships and the dynamics within these relationships. Attachment Theory was originally proposed to study how caregiver (most commonly the mother)-child interactions impact children's development of security (Bowlby, 1973, 1977). Bowlby (1980) also looked at how this interaction developed the child's capacity for creating intimate relationships as an adult. When children who experience emotional distress are cared for in a consistent manner, the child develops a sense of security and protection. However, children who experience neglect when they are seeking emotional care or receive inconsistent responses are likely to develop a negative sense of self. Further, children who receive consistent care are more likely to develop a positive sense of themselves and others into adulthood, than those who were neglected as children (Guerrero, 1996). Important to the current study, attachment theory shows that children who received consistent care and developed positive self-worth have better communicative relationships with their mothers than those who felt a heightened sense of neglect and negative self-worth. To move from conceptualization to actual identification of attachment styles and the measurement of them, researchers have

developed a three-category model of adult attachment styles. Hazan and Shaver (1987) defined the three categories of attachment styles as: secure, avoidant, and anxious/ambivalent.

Securely attached adults are those who have a positive perception of themselves and others (Hazan & Shaver, 1987). Securely attached adults are not concerned about being abandoned in relationships, but rather form relationships with others effortlessly. As infants they found consistent comfort and support from their caregivers (Ainsworth, Blehar, Waters, & Wall, 1987). Due to this, individuals with secure attachment styles are comfortable with intimacy and are willing depend on others. Securely attached adults engage in more open communication in terms of disclosures and reciprocity of disclosures (Mikulincer, Florian, Cowan, & Cowan, 2002).

Adults with an avoidant attachment style are the opposite of securely attached adults in the fact that they do not enjoy being in relationships with others and often worry about being deserted or taken advantage of in these relationships (Hazan & Shaver, 1987). As infants, they coped internally because they received no comfort or support from their caregiver (Ainsworth et al., 1987). The avoidant attachment style is characterized as having a negative response to others. Guerrero (1996) found that individuals with an avoidant attachment style use the least amount of nonverbal communication in relationships. Adults with avoidant attachment styles also desire distance and detachment in personal relationships.

Adults with anxious/ambivalent attachment styles want close and meaningful relationships, but they view themselves and think others view them as incompetent

(Hazan & Shaver, 1987). These individuals fall between secure and avoidant attachment styles. While they desire close relationships, they are often fearful of being denied.

During infancy, these children made attempts to gain comfort from their caregivers but received that care inconstantly and therefore later in life make inconsistent efforts to gain support from others (Ainsworth et al., 1987). These attachment styles predict levels of closeness that a child feels in relationships through adolescence and adulthood.

As infants, children who were attended to in a timely manner and who experienced little stress are ones who are defined as having secure attachment styles. Other parenting behaviors that have been studied as promoting a secure attachment style for infants include co-sleeping, feeding on demand, quick responsiveness to crying, and more holding (Ainsworth, 1979; Tollenaar, Beijers, Jansen, Riksen-Walraven, & de Weerth, 2012). When parents are taught to increase their sensitivity to their baby's cues and needs, this increases the child's attachment security (Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2005). On the other hand, children who have insecure attachment styles often had parents who did not supply for their child's need in a rapid enough time. Other causes for insecure attachments can include parental depression, addiction to alcohol or other substances, abuse, or separation from primary caregiver (Ainsworth et al., 1978). These interactions not only affect infant attachment style, but develop the attachment style that each person will have in all their relationships throughout life.

Since the development of attachment theory, there have been later revisions of the original concept. When studying attachment styles, Bartholomew (1990) argued that attachment styles fall into four rather than three categories, defined by two dimensions. The two primary dimensions are attachment anxiety and attachment avoidance.

Attachment anxiety looks at the degree the individual feels worthy or not of affection and attention. Attachment avoidance examines the individual's perspective regarding if others think they are worthy of affection and attention. Bartholomew & Horowitz (1991) used these two dimensions, resulting in four attachment styles: secure, dismissive, preoccupied, and fearful. Persons with a secure attachment style are neither avoidant in their relationships nor anxious and have a positive view of themselves and others (Jones, 2005). Individuals with dismissive attachment styles are avoidant and have positive views of themselves and negative views of others. Persons with a preoccupied attachment style are anxious and have positive views of others but negative views of themselves. Individuals with a fearful avoidant attachment style are anxious and avoidant and have negative views of themselves and others.

It has been argued by Becker, Billings, Eveleth, and Gilbert (1997) that Hazan and Shaver's (1987) and Bartholomew and Horowitz's (1991) attachment styles are fundamentally the same. When examined next to each other, they found both types of secure attachment styles to be the same. They also argue that fearful and dismissing are the same as avoidant, because of the common dislike of close relationships (Becker et al., 1997). Last, Becker et al. (1997) suggests that the anxious/ambivalent attachment style is comparable to the preoccupied attachment style. After reviewing the current literature, the author has found that the majority of attachment style literature uses Hazan and Shaver's (1987) three attachment styles. Seeing how attachment theory continues to grow, it is important to understand and examine ways that it is being studied in the current literature.

Hazan and Shaver's (1987) main assumption within attachment theory is that future behaviors are determined by attachment style. Viviona (2000) studied attachment theory in adolescent college adjustment and found that securely attached college students were less anxious and fearful than insecurely attached college students. She also found that "insecurely attached women reported low levels of intimacy development" (Viviona, 2000, p.316). She concluded that parental attachment style plays a key role in explaining young adult development and behaviors. Therefore, when examining behavioral adherence, attachment theory provides the framework to study the effect of communication on the behavior.

Attachment styles have been studied in many contexts such as parent-child relationships (Klann-Delius & Hofmeister, 1997; Punyanunt-Carter, 2007; Roberto, Carlyle, Goodall, & Castle, 2009), relational satisfaction (Punyanunt-Carter, 2002), and even in health conditions (McWilliams & Bailey, 2010). Klann-Delius and Hofmeister (1997) found that attachment styles helped to explain verbal contributions within their study of the mother-daughter relationship. They examined young children, ages 18 months to 36 months, and their reactions to a stress inducing situation, being separated from their mother. Using attachment theory they discovered that secure attachment styles influenced a higher level of the child's use of communicative competence. Given attachment theory's application to adolescence, teen years, young adulthood, and beyond, Klann-Delius and Hofmeister (1997) suggest that these findings would be consistent with a child's response to a stressful situation with their mother throughout adulthood. This leads us to assume that children with secure attachment styles will communicate more

with their mothers during stressful situations than those with anxious/ambivalent and avoidant attachment styles.

Though studies have looked at the relationship between types of communication in a family context (Heisler, 2005; Pinel-Jacquemin & Gaudron, 2013), only a few focus on the parent-child relationship and fewer on behavioral adherence or change.

Attachment theory is most commonly studied in the context of relational partners such as a married or dating couple (Scharfe, 1998). Fewer studies examine the effect that the communication within the relationship of a secure attachment, anxious/ambivalent attachment, or avoidant attachment style had on a behavior. Bowlby (1977) stated that attachment styles could describe communication behavior from infancy into adulthood and that attachment styles can affect communication behavior outcomes. In alignment with Klann-Delius and Hofmeister's (1997) findings, more securely attached daughters should exhibit more communication behaviors with their mothers than anxious/ambivalent or avoidant attached daughters.

In order to measure the effect of communication about sex within the mother-daughter relationship on sexual health behaviors, attachment theory is used in this study. Attachment theory will provide a framework for identifying the level of security felt within the mother-daughter relationship and its impact on the amount of communication happening within that relationship. It is clear that attachment can influence communication. However, in the context of sexual communication, two factors also found to be important are breadth and frequency.

Communication Breadth and Frequency

Research on parent-adolescent communication about sexuality focuses on either the frequency of communication or breadth of topics covered (Martino, Elliott, Corona, Kanouse, & Schuster, 2008; Askelson et al., 2012). Martino et al. (2008) assessed the independent influence of breadth and repetition of sexual discussion on 312 adolescents' perceptions of their relationship and communication with their parents. Adolescents whose sexual communication with their parents involved more repetition felt closer to their parents, felt more able to communicate with their parents in general and about sex specifically, and perceived that discussions with their parents about sex occurred with greater openness than did adolescents whose sexual communication with their parents included less repetition. Martino et al. (2008) measured communication frequency and depth as it interacted with the nature of the relationship between parent and child. Given these findings, it is clear that the relationship between frequency and breadth of communication needs to be assessed with a measure of the relationship itself; in the current study attachment theory will provide this.

Samira (2014) studied sexual health communication between sex worker mothers and children in India. Researchers found that by getting the mother to communicate her desires for her child's healthy sexual behaviors in depth and by getting her to communicate them more frequently to her child that both parent and child attitudes changed. They also found that by increasing depth and frequency of communication about sex, that the child had increased behavioral control and increased efficacy when it came to engaging in safe sexual behaviors. To understand the communicative effect on

daughter's behaviors, it is important to study how frequently and how in depth they communicated about sex with their mothers.

Further, how often adolescents talk with their mothers about risk behavior is a protective factor against engaging in risk behavior (Clawson & Reese-Weber, 2003). By examining the attachment style we will have a basis for understanding the mother-daughter relationship. By assessing the communication frequency and depth we will find out what communication is happening within the different levels of attachment styles. Because of the high importance of mother-daughter communication in regard to positive outcomes, the relation of communication to the level of attachment within the relationship, and the limited research conducted on breadth and frequency in this area, this research aims to establish how depth and frequency of communication about sex affect the risky sexual behaviors of the daughters. Therefore, the researcher hypothesizes:

H1a: Daughters with secure attachment styles will communicate about significantly more sexual education topics than those with avoidant attachment styles.

H1b: Daughters with secure attachment styles will communicate about significantly more sexual education topics than those with anxious/ambivalent attachment styles.

H2a: Daughters with secure attachment styles will communicate more frequently about sexual education topics than those with avoidant attachment styles.

H2b: Daughters with secure attachment styles will communicate more frequently about sexual education topics than those with anxious/ambivalent attachment styles.

Sexual Health

Researchers are continuing to examine the effect of breadth and frequency of topics as ways to increase sexual communication between mothers and daughters and decrease risky sexual behaviors. However, few researchers study the outcome of the communication, or the behaviors that resulted from the mother-daughter communication. Parents often underestimate the risky behaviors that their children are involved in, such as drug use, alcohol use, and sexual intercourse (Young & Zimmerman, 1998). As previously stated, these underestimations lead parents to make faulty decisions about whether or not to talk to their children about sexual behavior and other risk issues (Newby et al., 2009).

Fehringer, Bastos, Massard, Maia, Pilotto, & Kerrigan (2006) studied communication about protection from HIV/AIDS within patient-provider communication. While the patient-provider communicative relationship differs from a mother-daughter one, they found that there was little behavior change when the doctors gave close ended responses and did not go into depth or frequently address the safe sex behaviors. After talking with patients, the researchers suggested that more frequent communication about safe sex practices with the patient would produce a higher level of adherence. Also, as previously referenced, Samira (2014) found that by increasing the depth and frequency of communication about sex between mother and child, that the child had increased

behavioral control and increased efficacy when it came to engaging in safe sexual behaviors.

Given the relationship between the frequency and depth of communication and its relationship with behavior outcomes, I will measure the daughter's current sexual health behaviors such as current safe sex practices to examine if the mother's communication was effective in creating safer practices or delaying onset of sexual intercourse. Therefore, I ask:

RQ1: What effect does the breadth of sexual education topics communicated about have on the daughter's sexual health behaviors?

RQ2: What effect does the depth of sexual education topics communicated about have on the daughter's sexual health behaviors?

CHAPTER TWO: METHODS

Sample

Research participants were 75 females. Daughters ranged in age from 19 to 68 years old ($M = 29$, $SD = 11.65$) and 73.3% ($n = 55$) of the respondents reported that they have engaged in sexual intercourse. Participants were 92% Caucasian and were recruited through a link posted on the researcher's Facebook page and through Email.

Procedure

Once the study was approved by the Institutional Review Board, the following procedures were used in the data collection process. After signing virtual consent forms, the participants were given a virtual link to the online anonymous questionnaire on Qualtrics, online survey software. Questionnaire responses were entered in SPSS for data analysis.

Measures

Attachment styles. To determine the attachment style of the daughter, Collins (1996) revised adult attachment scale was used. The scale consists of 18 Likert-type items that range from 1 (not at all characteristic of me) to 5 (very characteristic of me). The Cronbach alpha reliabilities for each subscale were: close ($\alpha = .84$, $M = 3.38$, $SD = .74$), depend ($\alpha = .81$, $M = 3.03$, $SD = .69$), and anxiety ($\alpha = .89$, $M = 2.74$, $SD = .93$). Of the 75 questionnaires, 61.3% had secure attachment styles ($n = 46$), 28.0% had avoidant attachment styles ($n = 21$) and 10.7% had anxious/ambivalent attachment styles ($n = 8$).

Collins' (1996) scale consists of 18 items scored on a 5 point likert-type scale. The scale measures adult attachment styles secure, anxious/ambivalent, and avoidant. Within the measure, Collins (1996) defined groups as: secure having high scores on close and depend subscales, low score on anxiety subscale, anxious/ambivalent having high score on anxiety subscale, moderate scores on close and depend subscales, and avoidant having low scores on close, depend, and anxiety subscales. These guidelines were followed in creating attachment style groups for participants.

Communication. Daughters were given a list of topics about which a mother might potentially talk to a daughter: menstruation, sexual intercourse, dating/relationships, HIV/AIDS, STDs, contraceptives, condoms, and abstinence (See Appendix). Daughters were told to indicate how often their mother talked about the topic or indicate if they never talked about that topic. The breadth of total topics communicated about was created by summing the number of topics daughter reported having discussed with their mothers ($\alpha = .88$, $M = 12.01$, $SD = 4.67$, $N = 75$). The frequency of topics communicated about was measured on a likert-type scale from 1 (never) to 5 (a lot of times) ($\alpha = .90$, $M = 42.81$, $SD = 11.52$, $N = 75$).

Sociodemographics. Daughters were also asked about some sociodemographic characteristics, such as current age ($M = 29$, $SD = 11.65$), sex ($N = 75$), and ethnicity (92% Caucasian).

Sexual Health. Daughters were asked to indicate the age, if applicable, they engaged in sexual intercourse ($M = 19$, $SD = 3.49$, $n = 55$). They were also asked to indicate different methods of birth control that they have used or currently use ($M = 2.02$,

$SD = 1.10, n = 70$) from the given list (See Appendix). The last sexual health question asked about number of sexual partners the daughter has had ($M = 6, SD = 8.01, n = 55$).

CHAPTER THREE: RESULTS

Preliminary Results

Exploratory descriptive analyses were first conducted in order to understand the data. Out of the 75 respondents, 73.3% ($n = 55$) of the respondents have had sexual intercourse. Of that sample, the age of first sexual intercourse ranged from 13 to 32 ($M = 19.25$, $SD = 3.52$). Number of sexual partners ranged from 1 to 50 ($M = 5.76$, $SD = 8.00$).

Hypothesis Testing

Four questions were designed to examine the relationship between the depth and breadth of mother-daughter communication about sex in relation to attachment style.

Attachment styles were divided into three categories: 1) Secure 2) Avoidant 3) Anxious/Ambivalent.

Hypothesis 1a: Daughters with secure attachment styles will communicate about significantly more sexual education topics than those with avoidant attachment styles.

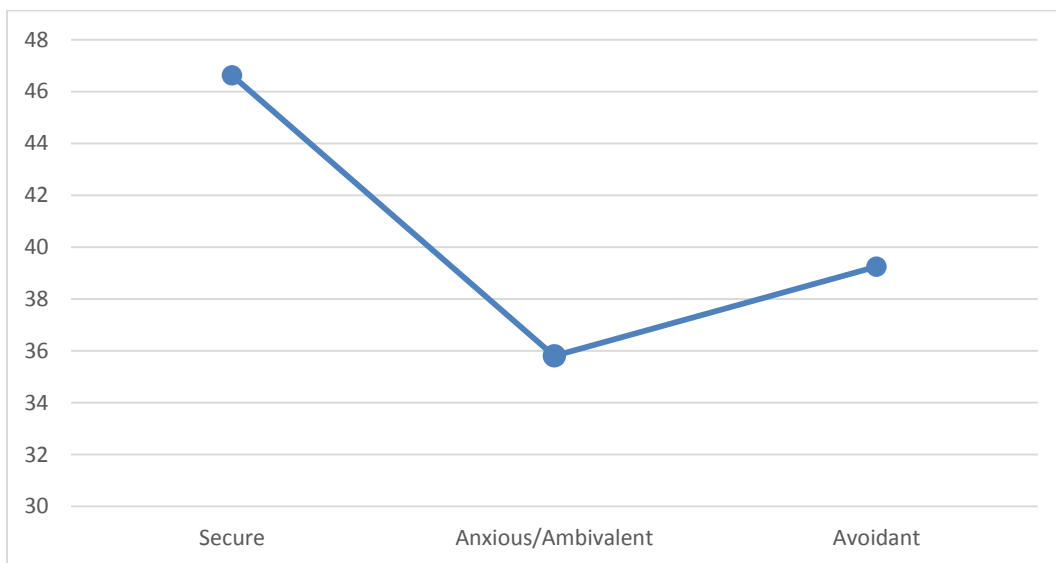
Hypothesis 1b: Daughters with secure attachment styles will communicate about significantly more sexual education topics than those with anxious/ambivalent attachment styles.

Depth. A univariate ANOVA was computed with three levels of attachment (secure, anxious/ambivalent, and avoidant) serving as one grouping variable, to test attachment style and the topics communicated about, or communication depth (See Figure 1) of all respondents ($N = 75$). According to the results hypothesis 1a and 1b are partially supported because the number of sexual education topics communicated about differed significantly across the three attachment styles, $F(2, 75) = 8.07$, $p < .01$. Further, in the Fisher's LSD post hoc analysis there were marginally significant differences in

hypothesis 1a, between secure attachment ($M = 46.63, SD = 10.50$) and avoidant attachment ($M = 39.25, SD = 13.11$), $p = .07$. However, hypothesis 1b was supported in that those with a secure attachment style ($M = 46.63, SD = 10.50$) communicated about significantly more topics than those with an anxious/ambivalent attachment style ($M = 35.81, SD = 9.65$), $p < .01$. The Fisher's LSD post hoc analysis was chosen because of its liberal nature compared to other post hoc tests.

Figure 1

Main Effect of Attachment Style on Communication Depth



Hypothesis 2a: Daughters with secure attachment styles will communicate more frequently about sexual education topics than those with avoidant attachment styles.

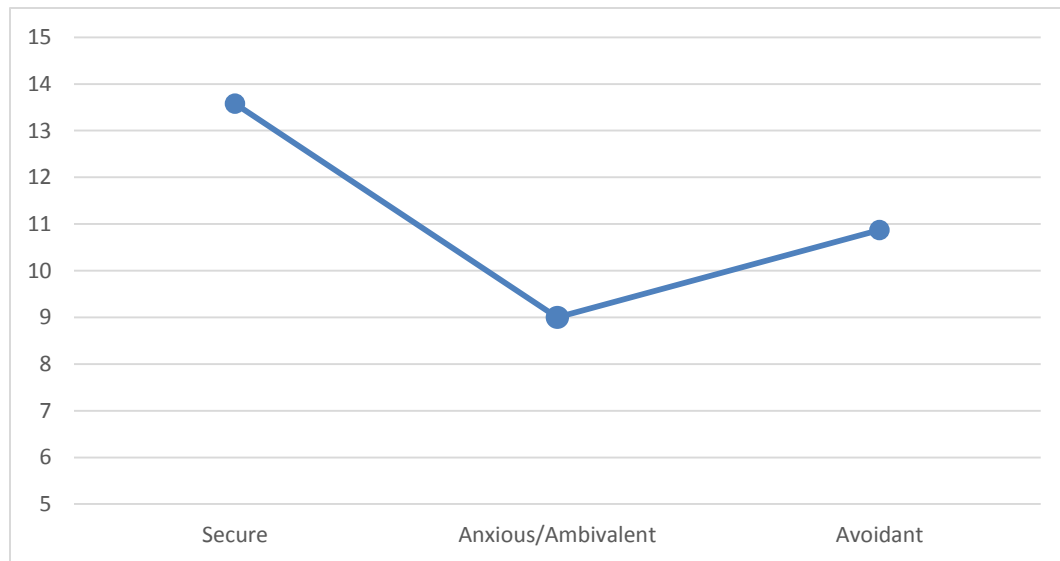
Hypothesis 2b: Daughters with secure attachment styles will communicate more frequently about sexual education topics than those with anxious/ambivalent attachment styles.

Breadth. A univariate ANOVA was computed with three levels of attachment (secure, anxious/ambivalent, and avoidant) serving as one grouping variable, to test

attachment style and the frequency of topics communicated about, or communication frequency (See Figure 2) of all respondents ($N = 75$). According to the results hypothesis 2a and 2b are partially supported because the frequency of sexual education topics communicated about differed significantly across the three attachment styles, $F(2, 75) = 8.72, p < .01$. Further, in the Fisher's LSD post hoc analysis, there were no significant differences in hypothesis 2a, between secure attachment ($M = 13.58, SD = 3.95$) and avoidant attachment ($M = 10.87, SD = 4.94$), $p = .10$. However, the Fisher's LSD post hoc analysis for hypothesis 2b was supported in that those with a secure attachment style ($M = 13.58, SD = 3.95$) communicated significantly more frequently about topics than those with an anxious/ambivalent attachment style ($M = 9.00, SD = 4.61$), $p < .01$. The Fisher's LSD post hoc analysis was chosen because of its liberal nature compared to other post hoc tests.

Figure 2

Main Effect of Attachment Style on Communication Frequency



Research Question 1 What effect does the breadth of sexual education topics communicated about have on the daughter's sexual health behaviors?

Breadth. First, to answer this question, I analyzed only the participants who were sexually active ($n = 55$). Because the sexual health behavior measures all ask questions that only apply to a participant who has had sexual intercourse, the following analyses excluded participants who have not had sexual intercourse. I computed a zero-order correlation to assess the relationship between breadth of topics (frequency) and predictor variables which included birth control use, number of sexual partners, and age at time of first sexual intercourse. There were no significant relationships between the predictor variables and breadth of topics covered. The results are shown in Table I. To account for possible multicollinearity I conducted a series of regression tests.

A hierarchical multiple regression, was used to test the effect of breadth of communication onto each outcome variable. First, a regression was run to test the effect of breadth of communication on birth control use. The hierarchical multiple regression revealed that at step one, number of sexual partners and age at time of first sexual intercourse did not contribute significantly to the regression model, $R^2 = .09$, $F(2, 54) = 2.67$, $\beta = -0.23$, $p = .08$. When both number of sexual partners and age at time of first sexual intercourse were controlled for, the change in R^2 was not significant, $F(1, 53) = 0.24$, $p = .63$. More specifically, breadth of communication did not affect birth control use ($\beta = 0.06$, $p = .63$), even after controlling for number of sexual partners and age at time of first sexual intercourse.

Next, using another hierarchical multiple regression, the effect of breadth of communication on number of sexual partners was measured. The hierarchical multiple

regression revealed that at step one, birth control use and age at time of first sexual intercourse contributed significantly to the regression model, $R^2 = .16$, $F(2, 54) = 5.25$, $\beta = -0.36$, $p < .01$. When both birth control use and age at time of first sexual intercourse were controlled for, the change in R^2 was not significant, $F(1, 53) = 0.85$, $p = .36$. More specifically, breadth of communication did not affect number of sexual partners ($\beta = -.12$, $p = .36$), even after controlling for birth control use and age at time of first sexual intercourse.

Last, using another hierarchical multiple regression, the effect of breadth of communication on age of first sexual intercourse was measured. The hierarchical multiple regression revealed that at step one, birth control use and number of sexual partners contributed significantly to the regression model, $R^2 = .19$, $F(2, 54) = 6.45$, $\beta = -.35$, $p < .01$. When both birth control use and number of sexual partners were controlled for, the change in R^2 was not significant, $F(1, 53) = 0.27$, $p = .61$. More specifically, breadth of communication did not affect age of first sexual intercourse ($\beta = -0.06$, $p = .61$), even after controlling for birth control use and number of sexual partners.

Table I

Zero-Order Correlations between Communication Breadth, Communication Depth, Birth Control Use, Age of Intercourse, and Number of Partners

Variables	V1	V2	V3	V4	V5
1. Breadth					
2. Depth	.91**				
3. Birth Control Use	.06	.08			
4. Age of Intercourse	-.02	.01	-.28*		
5. Number of Partners	-.06	.05	.21	-.38**	

Note $n = 55$. * $p < 0.05$, ** $p < 0.01$

Research Question 2 What effect does the depth of sexual education topics communicated about have on the daughter's sexual health behaviors?

Depth. To answer this research question, I also analyzed only the participants who were sexually active ($n = 55$). Because the following sexual health behavior measures, birth control use, number of sexual partners, and age of first sexual intercourse all only apply to a participant who has had sexual intercourse, the following analyses excluded participants who have not had sexual intercourse. I computed a zero-order correlation to assess the relationship between the depth of topics and predictor variables which included birth control use, number of sexual partners, and age at time of first sexual intercourse. There were no significant relationships between the predictor variables and depth of topics covered. The results are shown in Table I. To account for multicollinearity I conducted a series of regressions.

Using a hierarchical multiple regression, the effect of depth of communication onto each outcome variable was measured. First the effect of breadth of communication on birth control use was measured. The hierarchical multiple regression revealed that at step one, number of sexual partners and age at time of first sexual intercourse did not contribute significantly to the regression model, $R^2 = .09$, $F(2, 54) = 2.67$, $\beta = 0.12$, $p = .08$. When both number of sexual partners and age at time of first sexual intercourse were controlled for, the change in R^2 was not significant, $F(1, 53) = 0.53$, $p = .47$. More specifically, depth of communication did not affect birth control use ($\beta = 0.01$, $p = .47$), even after controlling for number of sexual partners and age at time of first sexual intercourse.

Next, using another hierarchical multiple regression, the effect of depth of communication on number of sexual partners was measured. The hierarchical multiple regression revealed that at step one, birth control use and age at time of first sexual intercourse contributed significantly to the regression model, $R^2 = 1.63$, $F(2, 54) = 5.25$, $\beta = -0.36$, $p = .08$. When both birth control use and age at time of first sexual intercourse were controlled for, the change in R^2 was not significant, $F(1, 53) = 2.57$, $p = .12$. More specifically, depth of communication did not affect number of sexual partners ($\beta = -0.2$, $p = .12$), even after controlling for birth control use and age at time of first sexual intercourse.

Last, using another hierarchical multiple regression, the effect of depth of communication on age of first sexual intercourse was measured. The hierarchical multiple regression revealed that at step one, birth control use and number of sexual partners contributed significantly to the regression model, $R^2 = .19$, $F(2, 54) = 6.45$, $\beta = -$

.21, $p < .01$. When both birth control use and number of sexual partners were controlled for, the change in R^2 was not significant, $F(1, 53) = 0.39, p = .54$. More specifically, depth of communication did not affect age of first sexual intercourse ($\beta = -0.08, p = .54$), even after controlling for birth control use and number of sexual partners.

To explore whether the depth of conversations would have an impact on behavior for those who were sexually active ($n = 55$), I ran a Pearson product correlations for each of twenty sexual health topics communicated about (see Appendix) with the sexual health variables, birth control use, age of intercourse, and number of partners. Although most of the relationships remained non-significant, there was a negative relationship between the topic of love and marriage and number of sexual partners ($r = -.28, p = .04$). Therefore, daughters who talked at least once to their mothers about love and marriage had a lower number of sexual partners.

CHAPTER FOUR: DISCUSSION

The results of this research focus on the importance of attachment and their role in the breadth and depth of mother–daughter communication about sex and will be discussed here.

Findings and Summary

Mother-Daughter Communication. According to the findings discussed in the previous chapter, it was found that the breadth (frequency), RQ1, and depth of communication, RQ2, between the mother and daughter, while not significant, produced common behavioral trends. On average mothers communicated with their daughters about 12 out of the 20 sexual health topics. While this is above half of the topics within this sample, this means mothers are not communicating a large breadth of sexual health topics to their daughters. Askelson et al. (2012) also found that mothers and daughters didn't communicate about a large breadth of sexual health topics. They found that mothers talked about 52% of topics with daughters, while the current study produced 60% of topics communicated about. This finding also shows that while still need greater communication about these topics, even since the previous study in 2012, sexual health communication topics have been discussed 8% more during the current study in 2015.

The results showed that mothers went into very little depth about the topics. When there was communication about a given topic, on average the topic was addressed once or a few times. This is consistent with previous findings that there is a lack of communication frequency happening within the mother-daughter relationship about sex (Askelson et al., 2012; Clawson & Reese-Weber, 2003). Interestingly, after further

analyzing each topic's depth, it was discovered that the more mothers talked specifically about the topic of love and marriage that the less number of sexual partners the daughter had. While RQ1 and RQ2 didn't produce any significant effects of communication on safe sex behaviors, this finding is in line with previous research that demonstrates that mother-daughter communication is effective in producing safe sex practices (Huebner & Howell, 2003; Hutchinson, 2002; Lehr et al., 2000).

Independently, results for depth of communication and frequency of communication produced the same significant results. This is a result of the high correlation found between breadth and depth. Because depth and breadth were measured on the same scale, this finding means that participants did not distinguish between depth and breadth. This could be due to the scale used to measure depth and breadth, because past studies have not found this correlation (Rocca & Martin, 1998).

Attachment Theory. Regarding communication depth and frequency, the same observation occurred in relation with attachment theory. In H1b and H2b, securely attached individuals covered more topics with their mothers as well as went into greater depth with those topics than daughters with anxious/ambivalent attachment styles. These results are consistent with previous research that securely attached individuals communicate more than other attachment styles (Marcus, 1997; Mikulincer et al., 2002). However, interestingly, individuals with an avoidant attachment style talked about more topics and in greater depth than those with an anxious/ambivalent attachment. This could be because a daughter can have an avoidant relationship with her mother and not receive her communication well. The mother might be yelling these conversations at the daughter which is consistent with an avoidant attachment style (Bowlby, 1969; Bowlby, 1973),

and would produce more communication, but it doesn't mean that the communication was well received or followed by the daughter. H1a produced marginally significant findings ($p = .07$). One reason for this finding could be the low number of participants with an anxious/ambivalent attachment style ($n = 8$). It is possible that because of the personal nature of this survey, participants with an anxious/ambivalent attachment style became uncomfortable with the questions and account for the survey dropout population.

By using attachment theory as a theoretical framework, I was able to predict the outcomes in the direction hypothesized, such that daughters with secure attachment styles talked about more topics than other daughters. In line with my finding that increased communication about the specific topic of love and marriage lead to fewer number of sexual partners, knowing that those with secure attachment styles communicate more frequently attachment styles can be utilized to predict behavior outcomes. It is important to remember that while not all results were significant, the numbers represent real conversations. These changes are not insignificant when examining the development of communication between a mother and daughter and its potential for increasing healthy sexual behaviors (Clawson & Reese-Weber, 2003; Oden & Brown, 2010). Most studies that examine mother-daughter communication about sex utilize parenting styles or intervention materials (Askelson et al., 2012; Atienzo et al., 2009; Dennis & Wood, 2012), but they do not take advantage of attachment styles as a model for predicting breadth and depth of communication between them.

Sexual Health. Results showed that overall in RQ1 and RQ2 breadth and depth of topics communicated about had no significant relationship with birth control use, number of sexual partners, or age of first sexual intercourse. This finding is not consistent with

past research (Askelson et al., 2012; Sneed, Somoza, Jones, & Alfaro, 2013). It is possible that given the breadth of age of participants and low number of participants, that the sample was too small and broad to obtain significant results. Also, because the sexual health topics were vague, and could have provided more direct questions about the topics, the data did not produce significant results. However, after further analyzing individual topics communicated about, we found that daughters who communicated with their mothers about marriage and love had significantly less sexual partners than those who didn't.

Surprisingly, the zero order correlation matrix showed that there was a significant negative relationship between the age of first sexual intercourse and number of partners. This finding suggests that the younger daughters engage in sexual intercourse, the more likely they are to have more sexual partners. Also, a significant negative relationship was found between birth control use and age of first sexual intercourse. This finding indicates that the older the daughter was at the time of their first sexual intercourse, the less likely they were to engage in birth control use. One reason for finding could be family planning and the act of trying to conceive a child. Participants, who engaged in sexual intercourse at a later age, might have done so after marriage and with intent to conceive, therefore using less birth control.

Interestingly, Askelson et al. (2012) found that mother's perceptions of their daughter's risky behaviors did not impact the number of topics discussed. Even if the mothers perceived their daughters to be sexual active, it did not influence the amount of topics that they talked to their daughters about (Askelson et al., 2012). Given the current research finding that communicating more about the topic of marriage and love can

reduce number of sexual partners, yet as previous research found mothers are still not communicating with their daughters even when there is perceived risk (Askelson et al., 2012), there is still a greater need to educate mothers on the importance of these conversations.

Limitations

While this study had many strengths, the present study encountered multiple limitations. First, the data collection procedure had limitations because of the 94 collected responses; only 75 were able to be analyzed. Technological difficulties as well as participants being uncomfortable with the nature of the questions could be reasons for the drop out population. Another limitation is that of human error. Participants were asked to recall conversations that could have happened many years ago, and this can result in added error.

Participants were recruited through Facebook and Email, and thus lead to a large age range of participants. Not only did the large age range expose this study to possible error, but social norms for what sexual health topics were appropriate to discuss have changed over the past 50 years and make the current study hard to generalize to a specific population. Past research has focused on a smaller and more defined age group; this practice would be utilized for furthering the current research. Koesten et al. (2002), interviewed 18-20 year olds and found links between communication and risk behavior. Martino et al. (2008) measured 6th-10th graders, ages 11-15 and found that depth of communication about sex significantly impacted perceived closeness and openness with parents. Somers & Paulson (2000) found significant results when surveying

communication about sex in 9th-12th grade students ages 14-18. Therefore it would be beneficial to focus on a smaller and more controlled sample in future research.

Another limitation of this study was lack of significant findings. Because of the high correlation between depth and breadth, it is possible that the measurement of these variables were not differentiable. However, finding that secure attachment styles are a predictor of depth and breadth of communication between mothers and daughters in regards to sex topics is a valuable contribution to the existing literature.

Future Research

While the collection instruments helped to gain valuable information, more items should be included to study a larger population and make more generalizable conclusions. Other items for future research could include asking about single parent households (Somers & Paulson, 2000), asking for age of the daughter when the sexual communication topics were discussed, asking marital status, and asking age at time of marriage.

It would also be beneficial to incorporate an interview or open ended response to the survey to be able to further examine sexual health communication between mothers and daughters. The current study being solely quantitative left no room for the participants to explain or elaborate on the communication interactions with their mothers. Somers & Paulson (2000) suggest using a qualitative analysis to fully explore which types of behaviors are more influenced by parent-child communication.

The current study only examined the role of the daughter during these interactions. It would be beneficial for future studies to survey both the mother and daughter to gain a

wider and larger perspective into the communication interactions, behavioral outcomes, and attachment styles (Askelson et al., 2012; Sneed et al., 2013). Additional research should focus on identifying attachment styles, then finding other ways to measure and study the communication that is happening between mothers and daughters.

It has already been established that attachment style predicts the depth and breadth of communication (Marcus, 1997). The results of this study have practical implications, such that interventions that encourage parents to talk with their children about sexual health topics might need to consider tailoring to the attachment style of the child. While our findings within the sexual health context are limited, the issue of teens and young adults engaging in risky sexual behaviors is still relevant. Given our lack of findings, if parent-child communication is not producing safer sexual behaviors, then future research must explore other communicative dyads and messages that lead to behavior change.

Conclusion

The goal of the present study was to establish how depth and frequency of communication about sex affect the risky sexual behaviors of the daughters during mother-daughter communication. The study also examined the role of attachment styles and their relationship with the depth and frequency of communication. Attachment styles are an important framework that can be used to understand communication between mothers and daughters about sexual health topics. Interventions designed to encourage communication need to be tailored to attachment style. This study adds to the importance of the growing body of literature on mother-daughter communication about sex.

In addition, this study demonstrates that mothers communicating about sex within a secure attachment relationship can talk to their daughters more frequently and more in depth about sexual health. It was also discovered that daughters whose mothers communicate more about the topic of love and marriage will have less sexual partners. While there were no significant findings relating the breadth or depth of topics covered to healthier behaviors, the relationships between attachment theory, mother-daughter communication, and sexual health behavior has been investigated and further research needs to explore this relationship more closely.

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APPENDIX

For Section 1 please answer each question as indicated

1) What is your age?

2) What is your sex?

- Male
- Female

3) What is your ethnicity?

- African American
- White/ Caucasian
- Hispanic/ Latino
- Asian/ Pacific Islander
- Other

The next set of questions ask about personal and intimate topics that your mother may or may not have talked with you about. There are no right or wrong answers; some families discuss these topics a great deal and others speak of them fairly infrequently. Just try to think about how often your mother has talked to you about each topic keeping in mind that your responses are completely confidential and will not be linked to you. For section 2, rate how much your mother has communicated with you on the following topics (mark your answer on the line to the left of the item number):

	1	2	3	4	5
	<u>Never</u>		<u>a few times</u>		<u>a lot of times</u>
_____ 1. Sexual reproductive system (“where babies come from”)					
_____ 2. The father’s part in conception (“getting pregnant”)					
_____ 3. Menstruation (“periods”)					
_____ 4. Nocturnal emissions (“wet dreams”)					
_____ 5. Masturbation					
_____ 6. Dating relationships					
_____ 7. Petting (“feeling up”)					

- _____ 8. Sexual intercourse
- _____ 9. Birth control in general
- _____ 10. Whether you personally are using birth control
- _____ 11. Consequences of teen pregnancy (other than AIDS)
- _____ 12. Sexual transmitted diseases
- _____ 13. Love and/or marriage
- _____ 14. Whether pre-marital sex is right or wrong
- _____ 15. Abortion and related legal issues
- _____ 16. Prostitution
- _____ 17. Homosexuality
- _____ 18. AIDS
- _____ 19. Sexual abuse
- _____ 20. Rape

Questions in Section 3 concern how you *generally* feel in *important close relationships in your life*. Think about your past and present relationships with people who have been especially important to you, such as family members, romantic partners, and close friends. Respond to each statement in terms of how you *generally* feel in these relationships.

Please use the scale below by placing a number between 1 and 5 in the space provided to the right of each statement.

1-----2-----3-----4-----5

Not at all

Very

characteristic

characteristic

of me

of me

- 1) I find it relatively easy to get close to people. _____
- 2) I find it difficult to allow myself to depend on others. _____

- 3) I often worry that other people don't really love me. _____
- 4) I find that others are reluctant to get as close as I would like. _____
- 5) I am comfortable depending on others. _____
- 6) I don't worry about people getting too close to me. _____
- 7) I find that people are never there when you need them. _____
- 8) I am somewhat uncomfortable being close to others. _____
- 9) I often worry that other people won't want to stay with me. _____
- 10) When I show my feelings for others, I'm afraid they will not feel the same about me. _____
- 11) I often wonder whether other people really care about me. _____
- 12) I am comfortable developing close relationships with others. _____
- 13) I am uncomfortable when anyone gets too emotionally close to me. _____
- 14) I know that people will be there when I need them. _____
- 15) I want to get close to people, but I worry about being hurt. _____
- 16) I find it difficult to trust others completely. _____
- 17) People often want me to be emotionally closer than I feel comfortable being

- 18) I am not sure that I can always depend on people to be there when I need them.

The last set of questions ask about personal behaviors. There are no right or wrong answers; participants vary in how often they have participated in each of these activities. Just try to answer all questions to your greatest knowledge keeping in mind that your responses are completely confidential and will not be linked to you. For section 4, Please answer the following sexual health questions to your best ability.

1) If you have had sexual intercourse, how old were you the first time you had it?

2) Which of the following birth control options did you use when you first had sexual intercourse?

_____ n/a

_____ Birth Control Implant

_____ Birth Control Patch

_____ Birth Control Shot

_____ Birth Control Vaginal Ring

_____ IUD

_____ Condom

_____ Diaphragm

_____ Morning After Pill (Emergency Contraceptive)

_____ Other, if so what _____

3) How many partners have you had sexual intercourse with? _____

4) How often have you practiced the following safe sex behaviors?

1

2

3

4

5

never

sometimes

always

_____ n/a

_____ Birth Control Implant

_____ Birth Control Patch

- _____ Birth Control Shot
- _____ Birth Control Vaginal Ring
- _____ IUD
- _____ Condom
- _____ Diaphragm
- _____ Morning After Pill (Emergency Contraceptive)
- _____ Other, if so what _____

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