THE IMPACT OF THE MOTHER-DAUGHTER RELATIONSHIP ON THE RISKY SEXUAL BEHAVIORS OF FEMALE ADOLESCENTS

by

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Abstract

Female adolescent sexual behavior has several potential negative life consequences including: pregnancy, sexually transmitted infection, and HIV/AIDS. Educating parents on how they play a role in the decision-making process regarding the sexual behavior of their adolescent daughters has important implications for Family Life Educators. This thesis explores maternal influence on the risky sexual behavior of female adolescents related to age at first sexual intercourse, contraceptive use, and number of partners. ANOVA was used to explore the relationships between a variety of aspects in the mother-daughter relationship. Findings show there are associations between time spent together, perceptions of closeness, and communication in mother-daughter relationships, and contraceptive use at first and most recent intercourse and total number of partners.

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Dedication

To my wonderful husband, Brant and my family for their constant love and support. You all have no idea how much you mean to me. Words cannot express how grateful I am to have each and every one of you in my life. Thank you for all everything!

Chapter 1 - Introduction

Scenario One

When Sally was an infant, during bath time her mother would recite her various body parts by their anatomically correct names. As an elementary school student, Sally's mother discussed with her the various stages of puberty and menstruation. In early middle school Sally's mother explained the intricacies of dating, sexual intercourse, masturbation, oral sex, contraceptive use, sexually transmitted infections, and reproduction. When in high school Sally's mother accompanied her to the gynecologist to receive information on women's health and safe sexual practices. Throughout the years Sally's mother openly discussed various aspects of sex and relationships. Sally would seek her mother out and ask for clarification about topics discussed with peers.

During Sally's first sexual encounter at 17, she used a condom and had been on the birth control pill for 3 months. Sally followed up her sexual encounter with an appointment at the gynecologist for a screening for STIs, pregnancy, and HIV/AIDS.

Scenario Two

Roxanne is 14. Her mother works two jobs to support Roxanne and her three little brothers. Roxanne is often left at home alone with her three brothers and does not receive a lot of adult supervision. Roxanne has attended a Catholic school since kindergarten where she receives abstinence-only education. Other than a class session with the school nurse on puberty and menstrual cycles, Roxanne has never had a conversation with an adult about sex. In the past 18 months Roxanne has had sex four times with three different boys. Roxanne has never used condoms or birth control; the first boy she had sex with told her if she really loved him she

wouldn't ask. Roxanne's mother has told her when she is older she will explain "the birds and bees" to her, but until that time she better not even think about boys.

Roxanne has not had a period for 2 months; she thinks it is odd but is not sure who to talk to or what to ask. Roxanne's best friend told her not to worry about having a baby because she always takes a shower after having sex and that protects girls from getting pregnant.

Purpose of the Study

In a perfect world, all adolescents would have an upbringing similar to Sally's. Sex education in schools would not be obligatory because parents would play a larger role in educating adolescents so that they receive accurate and open information regarding healthy sexual behavior. However, we know that in today's society this is not the case.

Female adolescents are more directly impacted by one of the most major consequences of risky sexual behavior: pregnancy (DiIorio, Kelley, & Hockenberry-Eaton, 1999). This direct impact and the current rate of adolescent pregnancy are the primary reasons female adolescents will be the focus of this investigation. Although we are making advances, the United States has the highest birth rate among industrialized countries with almost half of all first-time births outside of marriage occurring among teens (Boonstra, 2002). The U.S. also saw a two-year increase in teen birth rates from 2006-2007 (Child Trends, 2012). Roughly 46% of female students have had sexual intercourse; approximately 73% of those females did not use birth control pills or Depo-Provera before their last sexual encounter. About 12% of female adolescents were never taught in school about HIV/AIDS infection (U.S. Department of Health & Human Services, 2009b). I feel one step towards reducing the adolescent pregnancy rate is to provide health-related sex education to adolescent females, with this education occurring prior to age 15.

My beliefs related to the healthy sexual development of adolescents fall in line will Chilman's views. According to Chilman (1990),

> adolescent sexual health is based on esteem and respect for the self and other people of both sexes. It embraces the view that both males and females are essentially equal, though not necessarily the same. Sexually healthy adolescents take pleasure and pride in their own developing bodies. (p. 124)

I believe that by beginning sex education related to understanding our developing bodies earlier, we can provide a solid foundation for discussing romantic relationships and intercourse. Chilman also wrote that sexually healthy adolescents "accept their own sexual desires as natural but to be acted upon with limited freedom within the constraints of reality considerations, including their own values and goals and those of 'significant others'" (p. 124). By educating adolescents on the potential risks of engaging in risky sexual behavior we provide them the knowledge they need to make important decisions regarding the type of behavior they choose to engage in relative to their own individual morals and values, before mistakes are made.

In order to enhance the ability of parents to play a larger role in educating their adolescents about healthy sexual behavior, and to provide parent educators with the tools necessary to facilitate this parent-adolescent relationship, in this study I will investigate the relationship between how the mother-adolescent relationship influences the sexual risk-taking behavior of female adolescents.

Chapter 2 - Literature Review

The developmental period of adolescence is a time of risk and opportunity. The potential risks an adolescent may encounter could have long-lasting implications (Irwin, Igra, Eyre, & Millstein, 1997). The general risk-taking behaviors of adolescents, with specific focus on sexual risks, will be investigated in the literature review. In addition, the consequences of sexual risk-taking behaviors of adolescents and the role a mother plays in her adolescent daughter's decision to engage in sexual risk-taking behaviors will be examined.

Risk-taking Behaviors

Risk-taking behaviors are different from behavior that is appropriate [healthy] for development due to their "potentially serious, long-term, and negative consequences" (Irwin et al., 1997, p. 2). In terms of the development of an adolescent, certain behaviors and actions are considered an appropriate, normal part of the development of the adolescent. However, risk-taking behaviors are not considered suitable and in some cases are identified as delinquent. Risk-taking behavior among adolescents can include sexual behaviors, eating behavior, substance use, delinquency, and injury-related behaviors (Baumrind, 1987). As previously mentioned, female adolescents will be targeted in this study due to the direct impact risky sex may have on them. The sexual risk-taking behaviors of female adolescents carry potential long-term consequences such as unintended pregnancy, sexually transmitted infections, and AIDS/HIV infection. These consequences could impact the adolescent, her family and her future.

Risky Sexual Behaviors

Sexual activity includes many different behaviors, for example, intercourse, kissing, oral sex, masturbation, and holding hands. While all of these can occur in a relationship, they do not all represent *risky* sexual behavior. As a society we tend to approve or disapprove of sexual

activity depending on a variety of factors such as age, relationship status, cognitive capabilities, monogamy, and how safe and responsible the individual is. Negative outcomes of sexual activity can include unintended pregnancy, STIs, and HIV/AIDS infection (Taylor-Seehafer & Rew, 2000). When examining the phenomenon of sexual activity and its potential consequences for adolescents, the term risky sexual behavior has been applied. The term risky sexual behavior is used in the literature when referring to most sexual activity of adolescents because there is a general assumption that adolescents should refrain from any type of sexual encounter. However, I think research on risky sexual behavior of female adolescents should focus less on whether or not adolescents should engage in sexual activity at all, and focus more on educating adolescents about overall sexual health; because, as we can see from increasing pregnancy rates and the fact that roughly 85.3% of female adolescents have never been tested for HIV, adolescent females are engaging in risky sexual behaviors (U.S. Department of Health & Human Services, 2009a). Therefore, I believe sex educators should consider it important to educate adolescents on engaging in sexual behaviors in a safe and healthy manner instead of a risky one.

Thirteen percent of sexually active adolescents have engaged in "more than one type of risky sexual behavior" (Chen, Thompson, & Morrison-Beedy, 2010, p. 522). Definitions of risky sexual behavior include "sexual activity that puts individuals at risk for HIV/STI due to direct contact with the semen, blood, or vaginal secretions of infected sexual partners, in particular unprotected sexual activity, inconsistent use of condoms, high-risk partners and multiple sexual partners" (Chen et al., p. 513) and early sexual debut, unprotected sexual activity, inconsistent use of condoms, high-risk partners, survival sex, and multiple partners (Aral, 1994; Haffner, 1995). Luster and Small (1994) defined sexual risk takers as "teens who have had multiple partners and do not use contraception" (p. 623).

Consequences of Risky Sexual Behaviors

There is an array of consequences related to risky sexual behavior. Two of the short-term consequences of adolescent unprotected sex are pregnancy and sexually transmitted infections. A long-term consequence is that the pattern of sexual behavior developed in adolescence is likely to continue into adulthood (Hair, Park, Ling, & Moore, 2009). The argument could be made that pregnancy has long-term consequences as well. Once a female becomes pregnant, her life is never the same; this is true if she chooses to parent the child, give it up for adoption, or receive an abortion.

In 2009, 8,294 adolescents between the ages of 13 to 24 were diagnosed with HIV in the United States (U.S. Department of Health & Human Services, 2011). In addition, 15-24-year-olds make up about one-quarter of the sexually active population but account for approximately half of the 19 million new sexually transmitted infections reported each year (Weinstock, Berman, & Cates, 2004). In the United States, about 750,000 women between the ages of 15 to 19 become pregnant each year. The percent of unplanned pregnancies among female adolescents is 82%, and roughly one-fifth of unintended pregnancies to women of all ages are to adolescents. In 2005, the U.S. teenage pregnancy rate reached its lowest point in more than 30 years (69.5), down 41% since its peak in 1990 (116.9). However, in 2006, the rate increased for the first time in more than a decade, rising 3% (Guttmacher Institute, 2010, p. 2). In regards to childbearing, females 19 years old or younger in the United States account for 10% of all births (Martin et al., 2011). The adolescent pregnancy rate, the number of unintended pregnancies, as well as the rate at which adolescents are contracting sexually transmitted infections, provides a rationale for why promoting the education of adolescent sexual health is important. Promoting overall sexual

health during the adolescent years will hopefully increase the contraceptive use of adolescents and therefore decrease the number of pregnancies and STIs.

Onset of Sexual Intercourse

Age is an important factor to consider when examining female adolescents' risky sexual behavior because the earlier the sexual debut, the higher the likelihood of negative sexual consequences (Price & Hyde, 2009). Approximately 6% of adolescents have engaged in sexual intercourse for the first time by the age of 13 years (U.S. Department of Health & Human Services, 2009c). When adolescents participate in sexual activity before the age of 15, it is likely that they will do so in a risky manner. Young adolescents who have sex use condoms and contraceptives less often than older teens, which increases their risk for contracting STIs as well as the risk of pregnancy (Langille & Curtis, 2002; Smith, 1997). Also, the increased likelihood of adolescents having more than one sexual partner during adolescence increases with early sexual behavior (Langille & Curtis). Smith revealed that when adolescents engage in sexual activity at young ages it is related to more problems than when sexual activity begins later in adolescence. In addition, when adolescents engage in sexual intercourse at an early age, they are more likely to have unprotected sex, multiple partners, and are at a higher risk for STD exposure. As shown in correlational studies, females who engage in sexual activity by the age of 15 are "spending more time viewing television, having low self-esteem, having poor relationships with parents, living in a non-intact household, having higher levels of externalizing behavior (ADHD symptomology), low academic achievement, and parents with low education levels" with no single factor predicting the sexual debut of adolescents (Price, & Hyde, 2009, p.1068). On the other hand, delaying intercourse has been associated with positive factors. Postponing sexual intercourse until later adolescence means the adolescent is more mature when he or she decides

to participate in a sexual life. In addition, older adolescents are more aware of some of the risks of sexual behavior, including the threat of AIDS and unintended pregnancy (Dittus, Jaccard, & Gordon, 1997). Sexually active teens who do not use contraceptives have a 90% chance of becoming pregnant within a year (Guttmacher Institute, 2011). Because of the implications surrounding the age at which females begin having sex, it is important to look at the age at which we begin providing education on healthy sexual relationships.

Number of Partners

The number of partners an adolescent has in his/her lifetime is a contributing factor when defining risky sexual behavior. When an adolescent has multiple partners there is a concern as to whether or not s/he is being safe and responsible. The adolescent with multiple partners is considered to be at risk for pregnancy and contracting STIs. Of female adolescents in grades 9-12, approximately 11.2% have had sexual intercourse with four or more people during their lives. In addition, about 35.6% had engaged in sexual intercourse with at least one person in the three months prior to the 2009 National Youth Risk Behavior Survey (YRBSS) (U.S. Department of Health & Human Services, 2009b). When comparing Black, Hispanic and White adolescents in the YRBSS, Black adolescents were more likely to have had sexual intercourse with four or more persons than Hispanic or White adolescents. Approximately 28.6% of Black adolescents had sexual intercourse with four or more people, while the finding for Hispanics was 14.2% and for Whites was 10.5% (U.S. Department of Health & Human Services, 2009a). From 1991 to 2009, the number of adolescents who had sexual intercourse with four or more persons during their life decreased; from 2007 to 2009 there was no change (U.S. Department of Health & Human Services, 2009d).

The majority of sexually experienced adolescents at every age were found to have had two or more sexual partners in their lifetimes. Some adolescents had as many as six or more. This is not a surprising finding due to the nature of relationships at this age. Relationships during adolescence fluctuate and are somewhat unstable (Santelli, Brener, Lowry, Bhatt, & Zabin, 1998). The unstable nature of relationships in adolescence increases the potential for sexually risky behavior to occur. One reason adolescents have so many partners could be attributed to the adolescent developing their identity. Trying to "find oneself" involves various relationships including romantic ones. These romantic relationships can include experimentation with sex.

Identity Development Theory

According to Erikson's Theory of Identity Development, the developmental period of adolescence is characterized as a time of struggling between identity versus identity confusion. Some adolescents can positively establish a personal identity and therefore avoid the challenges of role diffusion and identity confusion (Muuss, 1996). During identity achievement, the adolescent evaluates his or her strengths and weaknesses and then determines how he or she will handle them. In the search for establishing one's identity, the past, present, and future are combined together to form a cohesive whole (Muuss).

From this developmental theory we know that adolescents test different roles within relationships. In the identity versus identity confusion stage, falling in love is common. Erikson viewed falling in love as "an attempt to project and test one's own diffused and still undifferentiated ego through the eyes of a beloved" (Muuss, p. 53). The different love relationships an adolescent has will in turn contribute to the identity development of the adolescent (Muuss). How adolescents are viewed by their romantic partners has an impact on

how they view themselves. This partner feedback is a central consideration in interpretation of and reflection on themselves and is essential to defining their ego (Muuss).

Contraceptive Use

The number of adolescents engaging in sexual behaviors raises questions as to whether the adolescents are practicing safe sex and using protection. When an adolescent does not use a contraceptive there is a 90% chance of becoming pregnant within one year (Harlap, Kost, & Forrest, 1991). A condom is the most common form of contraceptive used at first intercourse. However, it is estimated that 32% of females do not use a condom the first time they have sexual intercourse (Martinez, Copen, & Abma, 2011) and among adolescents who were sexually active, 46.1% of female adolescents did not use a condom during their last sexual intercourse (U.S. Department of Health & Human Services, 2009b). Chen et al. (2010) found that "about 11.5% of sexually active adolescents reported that they never used a condom during sexual intercourse" (p. 522). Roughly one in five female adolescents who did not use a contraceptive method at last intercourse are at increased risk for unintended pregnancy compared to female adolescents who use contraceptives during intercourse (Mosher, & Jones, 2010).

In a qualitative study, Brown and Guthrie (2010) found that contraceptive usage among adolescents is inconsistent and most often adolescents do not think of contraceptive use until after they have already engaged in sexual activity. "Sex was often unplanned, and this lack of planning lessened the likelihood of contraception being used, especially where alcohol was involved" (p. 202). Those adolescents who use a condom at their first sexual experience are found to use condoms more consistently and are more likely to separate sexual activity from substance use (Wilder & Watt, 2002). In addition, females are less likely than males to use condoms as a form of contraceptive (Gillmore, Chen, Haas, Kopak, & Robillard, 2011). This

lack of contraceptive use means females are at greater risk for the consequences of risky sexual behavior than adolescent females who use condoms as contraceptives.

We can conclude that females in this developmental period may experience risky sexual behavior through many avenues. Engaging in sex at an early age, a lack of contraceptive use, and experimenting with multiple partners are common themes. These findings indicate the importance of healthy sex education for female adolescents.

Sexual Behaviors in Context

The context within which an adolescent exists is important; consideration can and should be given to contextual factors when examining the sexual behaviors of adolescents. Bronfenbrenner's Ecological Model of Human Development

> investigates the complex system of interlaced and interdependent relationships between the biological organism and the social/physical setting, which forms the organism. The idea of interaction between the organism and the external world becomes the cornerstone of ecological theory and contains its explanatory power. (Muuss, 1996, p. 312)

A few examples of the important contexts surrounding adolescents and their sexual behaviors are the following: education, neighborhood, media, peers, parents, family structure, and siblings. In previous research, parents and peers are often identified as the most common source of information on sexual health. In addition, the mass media in recent years have become a source of information utilized by teens providing a multitude of information on sex (Brown & Keller, 2000; Hoff, Greene, & Davis, 2003) with associations being found between viewing images of sexual activity on television and teen pregnancy (Chandra et al., 2008). The relationship between media and pregnancy, friends' attitudes about sex influencing first intercourse among adolescents (Sieving, Eisenberg, Pettingell, & Skay, 2006), and parents being a strong influential

factor in sexual decision making are three key areas. “The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are embedded” (Bronfenbrenner, 1979, p. 21). For the purposes of this thesis I will concentrate on media, peers, and parents as contextual factors associated with adolescents’ risky sexual behaviors.

Media

“American media have arguably become the leading sex educator in the United States” (Strasburger, 2005, p. 269). Advances in technology have made media readily available to most American teens each and every second of the day. Many adolescents have access to various media from cell phones, computers, televisions, movies, Internet, magazines as well as many other media formats. Each of these media formats allows adolescents to access information and material, including content related to sex, within a matter of minutes or even seconds. With the increase in media availability there is a growing concern for what messages, images, and other content are being portrayed to the viewers, especially adolescents.

Media can be a powerful and useful source of information on sexual health topics. Approximately one-third of adolescents recalled having seen messages related to contraceptives on television or in movies (Jones, Biddlecom, Herbert, & Mellor, 2011). This is an especially important aspect to remember since parents and schools are not always willing and ready to discuss the subject (Strasburger, 2005). Adolescents who are exposed at an early age to sexual content on television are more likely than those who are not exposed at that early age to report participating in sexual behavior one year later, with females tending to downplay the influence of

media (Werner-Wilson, Fitzharris, & Morrissey, 2004). For example, females "did not believe that sexual content in movies influenced sexual behavior, mocking the idea that they would 'go home and have sex' after seeing a movie that included sexual content" (Werner-Wilson et al., p. 310). However, studies have shown that media can be influential as teens believe television is more encouraging than peers, related to sexual engagement (Brown & Newcomer, 1991). In addition, adolescent females use varies forms of media including magazine as a tool to learn about sex (Kehily, 1999) and females and older adolescents tend to use the media as a source of information on sex (Bleakley, Hennessy, Fishbein, & Jordan, 2009).

Concerns raised by parents include how media content affects adolescents, especially their sexuality. Parents express a great deal of concern on the influence of the different media outlets such as television, magazines, computer games, movies, advertisements, and music (Werner-Wilson et al., 2004). They feel adolescents are passive recipients and do not realize that television distorts reality (Werner-Wilson et al.). Parents agree that it is their responsibility to monitor media messages and discuss the sexual themes in the media with their children (Werner-Wilson et al.).

Media fits into the level of macrosystem in the Ecological Model. The "macrosystem includes a core of general cultural, political, social, legal, religious, economic, and educational values, and most important, public policy. As such a macrosystem may be thought of as a societal blueprint" (Muuss, 1996, p. 330). Sex in the media is often depicted as a causal event that is associated with minimal or no consequences (Strasburger, 2005); this however is not the case for most adolescents engaging in sexual behaviors. Sexual acts are also depicted as normal behavior and convey the idea to adolescents that "everyone" engages in such acts (Strasburger). In the media, condoms are rarely discussed and when condom use is depicted it is done for comic

relief instead of for education purposes or as protection against STIs and/or pregnancy (Hust, Brown, & L'Engle, 2008). Unfortunately, positive and accurate sexual health messages on television are rare occurrences (Hust et al.).

Peers

According to Erikson's Developmental Theory, adolescence is considered to be a time in which peers greatly influence each other's every move. For some adolescents, peers are the main source of information when it comes to sexual health topics. Females' discussions on reproductive health topics were more likely to occur with peers, including boyfriends and girlfriends, than from other information sources (Pistella & Bonati, 1998). This can have both positive and negative influences. For example, boyfriends and girlfriends were the main source of encouragement for younger and older adolescents to use family-planning services (Pistella, & Bonati).

A strong attachment to peers has been linked with improved psychological health and social competence, but also with higher levels of risky behavior participation (Carter, McGee, Taylor, & Williams, 2007; Wilkinson, 2004). Increased involvement in close peer groups has been found to lead to early onset of dating and romantic relationships (Connolly, Furman, & Konarski, 2000), which can then lead to early sexual involvement (Miller et al., 1997). Although this phenomenon is not present in every adolescent peer group, it is a factor that can impact adolescent risky sexual behavior in same sex peer groups because, as an adolescent forms close relationships with peers, s/he may be exposed to the sexual behaviors and dating patterns of those peers. This social context fits into the Ecological Model level of microsystems. "A microsystem is a pattern of activities, roles, and interpersonal relations experienced by the

developing person in a given setting with particular physical and material characteristics" (Brofenbrenner, 1979, p. 22). Microsystems of adolescents consist of

> a familiar and often intimate social network of interpersonal relationships involving direct face-to-face interactions…they take place with people who have a lasting relationships with the adolescent and who are influential in the adolescent's life. In turn, the adolescent influences those individuals in his or her Microsystems (Muuss, 1996, pp. 322-323).

Peer influence has been identified as a predictor of early sexual engagement (Whitbeck, Yoder, Hoyt, & Conger, 1999). The perception that an adolescent's peers were having sex was a strong predictor of risk for early sexual intercourse for both Black and White adolescents (Brown et al., 2006). Other researchers have reported that the "perceived values of friends regarding sex have a stronger direct relationship with sexual initiation than do friends' reported attitudes about sex" (Sieving et al., 2006, p. 17). In addition, having peers who are engaging in sexual behaviors is often a predictor of an adolescent's initiation of sexual behaviors during middle adolescence (Sieving et al.).

Peers can have a positive impact on an adolescent's sexual behaviors. Mueller et al. (2010) identified a significant association with peer role models and female adolescents never having sexual intercourse. An adolescent's peers can be the influencing factor in her initiation into sexual behaviors; however, the opposite is also true – an adolescent's peers can be important in her decision to refrain from engaging in sexual behaviors. If peers are an influencing factor, the next question would be what type of an influence, if any, does an adolescent's parent play in her sexual behavior decisions?

Parents

There is conflicting information regarding from whom adolescents seek the most information on sexual activity. “Although, teens may often give the appearance of tuning out parents and following their peers, parents should be encouraged to make their attitudes, expectations, and feelings about youth sexual behavior known” (Bersamin et al., 2008, p. 109). Parents as a contextual factor fit into the Ecological Model level of microsystems along with peers. However, parents precede peers and are the “primary microsystem” in the Ecological Model (Muuss, 1996, p. 323). During adolescence, parents are used as a secure base as adolescents explore and create relationships outside of their family (Allen & Land, 1999). Females who remained virgins while in college acknowledged parents, siblings, and school classes as the most useful sources of sexual information (Kallen, Stephenson, & Doughty, 1983). Related to these findings is the belief of a parent that his/her child should not engage in sexual behaviors until at least the age of 18 years old. This belief was found to be a stronger predictor of later onset of sexual engagement than adolescents who believe their friends are engaging in sexual behaviors (Longmore, Eng, Giordano, & Manning, 2009).

Often it is thought that adolescents seek out their peers for advice and guidance on sex; however, some studies find that parents are the primary source of information. Handelsman, Cabral, and Weisfeld (1987) found that adolescents sought out their parents for information about sex and birth control; however, several other factors arose that caused difficulty for adolescents to absorb the information effectively. These factors were that parents seemed to lack the knowledge or ability to communicate effectively, and that adolescents were unable to apply the information they received (Handelsman et al., 1987). Although this research is dated, the findings still hold true in more recent studies (Somers & Gleason, 2001).

In a study investigating whether parents matter more than the influence of peers in the topic area of abstinence, parents were found to have a greater influence in regards to abstinence (Maguen & Armistead, 2006):

> For older adolescent girls there was an association between parental attitudes and sexual debut, providing additional support for the argument that parents who wish to influence their daughter's sexual behavior should communicate their attitudes about sex and maintain a strong relationship with their daughters, even during a difficult developmental stage when preserving this relationship may become more challenging, (p. 263)

These findings provide evidence that parents are substantial influences in their adolescents' sexual behavior. I posit that parents can be the strongest influence in providing their daughters with education on healthy sexual behavior. I will focus the remainder of this paper on the parent-adolescent relationship and its potential influence on risky sexual behavior among female adolescents.

Parent-Adolescent Relationship

Fathers are not always a part of the parent-adolescent discussions on sex because they may not feel as comfortable or knowledgeable about providing their daughters with information on sexuality (Wyckoff et al., 2008). For some families this may be true, but it is important to realize that fathers also impact their adolescents' decision to take part in sexual behaviors. Dittus et al., (1997) found that from the perspective of teens, disapproval of the father in regards to the adolescent engaging in sexual intercourse was a predictor of whether or not the teen chooses to delay his or her first sexual encounter for African American adolescents. This held true whether the father was present in the home or not. However, teens with a father in the home perceived

fathers as being “more opposed” to engaging in premarital sex than teens whose fathers were not living in the home (p. 463).

While fathers have a role in educating daughters about sex, mothers were found to discuss sex-based topics with their daughters more often (DiIorio et al., 1999; Gillmore et al., 2011). In regards to sexual information, adolescents were found to rely more on their mothers than fathers (Bleakley et al., 2009). Females report having a higher level of comfort in discussing topics with their mothers (DiIorio et al., 1999) and the influence of mother is stronger for females than males (Ballard & Morris, 1998).

Even with the findings on father’s involvement in sex education, mothers are often the primary parent responsible for discussions related to sex education (Sneed, 2008; Wyckoff et al., 2008). As a result, this thesis will narrow its investigation of the role of the parent-adolescent relationship in healthy sexual education of adolescents to the mother’s influence.

Quality of the Mother-Daughter Relationship

The sense of closeness experienced between a parent and child has been regarded as an important factor to consider when examining adolescent sexual behavior. Parent-child connectedness is defined as parental support, closeness, and warmth (Miller, 2002). The quality of the parent-child relationship plays a role in the development of delinquent behavior. As discussed, risky behavior for adolescents is sometimes deemed delinquent. The quality of the female adolescent’s relationship with her mother was connected to whether or not the adolescent had engaged in sexual intercourse, the frequency of intercourse, the use of birth control, and pregnancy risk (Davis & Friel, 2001; Jaccard, Dittus, & Gordon, 1996; Jaccard, Dittus, & Gordon, 2000; Miller, 2002; Pearson, Muller, & Frisco, 2006). Strong parent-child relationships provide social support and these adolescents place more emphasis on the beliefs of their parents

than those with weaker parent-child bonds (Pearson et al., 2006). Adolescents who spend time with, and have a close relationships with, their parents were found to do well in numerous arenas of life (Resnick et al., 1997). The quality of the relationship between parent and adolescent will be looked at more in-depth related to closeness and time spent together.

Closeness

Dittus and Jaccard, (2000) described closeness as feelings of affection, connectedness, and warmth. For eighth and ninth grade students, high levels of mother-child connectedness were significantly related to the delay of first sex (Sieving, McNeely, & Blum, 2000). "Parent-child attachments (e.g. closeness) have a stronger effect on delinquency than do more direct controls such as supervision, restriction, and other physical controls" (Demuth & Brown, 2004, p. 78). Because risky sexual behavior can be considered a type of delinquent behavior, this finding suggests that the level of closeness between parent and adolescent is an important aspect to consider related to the sexual risk taking behavior of adolescents.

Overall, a female adolescent having a strong attachment to her parents has been associated with factors for psychological health and protection against risky behavior participation (Carter et al., 2007; Wilkinson, 2004). Although mothers often hold misconceptions about the extent of sexual activity of their adolescents, Jaccard et al. (1996) found that adolescents who are satisfied with the relationship with their mothers are more likely than adolescents who are dissatisfied with the relationship to listen and accept the information provided by mothers regarding sexual topics. "Higher relationship satisfaction between adolescents and mothers was associated with a higher probability of birth control use and a lower probability of both sexual initiation and pregnancy" (Jaccard & Dittus, 2000, p. 1426). The closeness and connectedness between a mother and daughter was also significantly related to the

postponement of first sex (Miller et al., 1997; Davis & Friel, 2001; Sieving et al., 2000) and parental attachment for females was linked to "less frequent sexual behaviors" (Regnerus & Luchies, 2006, p. 178).

Time Spent

A common belief is that if parents are involved in the lives of their adolescents then the adolescents will not take part in sexual activity and/or other risky behaviors. Pearson, Muller, and Frisco (2006) proposed, "young people living with two biological parents may receive more parental involvement than do adolescents in other families" (Pearson et al., p. 81). I propose parents who spend this additional time with their female adolescents can decrease the risk of their daughters engaging in risky behavior. According to Pearson et al. (2006), White adolescents are less likely to initiate first sex when their parents are available at dinnertime (a critical point of the day). When parents and adolescents share dinnertime, parents are providing structure and spending time with their sons and daughters. Similarly, non-Latino/a White adolescents who experience shared activities with their parents were less likely than adolescents not involved in activities with their parents to take part in first sex at a young age because parents and adolescents who participate in shared activities have multiple opportunities to communicate with each other (Pearson et al.). Coley, Votruba-Drzal, and Schindler (2009) found that adolescents who are routinely involved in activities with their family (and the family had knowledge of their adolescents' friends and what activities they were involved in) reported lower levels of sexual risk behaviors than other adolescents with parents who were not has involved in their adolescent's life. "A greater number of shared activities with parents and perceived parental disapproval of adolescent contraceptive use" serve as protective factors against pregnancy (Resnick et al., 1997, p. 830). A possible explanation for this is that adolescents who perceive

their parents to be disapproving of contraceptive use will associate that disapproval with disapproval of engaging in sexual behaviors as well.

Communication

Clear parental communication about sex is a protective factor against early initiation of sexual behavior (Brown et al., 2006; Davis & Friel, 2001; Dittus et al., 1997; Jaccard & Dittus 1996, Jaccard et al., 2000; Pearson et al., 2006). Maternal and adolescent predictors of the lack of communication include:

> concern that it would be embarrassing, that the mother would not want to answer the teen's questions about sex and birth control, that the teen already knows enough, that the mother does not want to hear what the teen has to say, and that the mother would be embarrassed. (Jaccard et al., 2000, p. 205)

The confidence level of mothers has been associated with the conversations they have with their adolescents on sexual health topics; when mothers are confident in their knowledge and ability to talk with their daughters about sexual health topics, the mothers are more likely to have conversations on these topics with their adolescents. In addition, mothers who report positive outcomes and experiences from the conversations on sex and other sexual health topics are more likely to have these conversations with their adolescent (DiIorio et al., 2000). I believe the positive outcomes of these conversations boost the mothers' confidence and increase the frequency of these conversations. Parents should be clear about their thoughts, feelings, and expectations about sex. However, the aforementioned predictors provide evidence that mothers often are guided not by their own cognition, but by misconceptions and assumptions made by the mother and adolescent about what should be discussed.

Topics of Communication

I contend that the topics discussed when communicating about sexual health issues are vital, because they lay the foundation for the adolescent's education on sexual health. In a study of parent-adolescent communication, adolescents were asked if they had discussions with their parents on 14 topics surrounding sexual behavior. A small portion of the participants reported having had conversations with their parents about topics that were direct and explicit on sexual behavior; however, a larger percentage of the participants responded that the topics discussed did not relate directly to sexual intercourse but instead related to dating and general information on STDs (Sneed, 2008). Topics discussed by mothers with their female adolescents are usually the dangers of sex, safety, dating and sexual behaviors, as well as pregnancy, abstinence, and menstruation (DiIorio et al., 1999: Feldman & Rosenthal, 2000; Pistella & Bonati, 1998). "The most frequent message given by parents related to 'sex is a dangerous experience,' especially for females" (Darling & Hicks, 1982, p. 240). "Both sexes receive double messages about sex; but the double message males receive about sexual experience emphasizes the positive side, while the double message females receive emphasizes the negative side" (p. 240).

When parents give their adolescents direct messages on sexual health issues, it has been associated with lower sexual risk for the adolescent (Sneed, 2008). Explanations for the lack of direct and explicit conversations about sexual intercourse are again related to the fact that adolescents do want to share or discuss information regarding their sexual behaviors with parents, parents may be unwilling to have conversations with their adolescents about sexual behaviors the adolescent may be taking part in (Sneed, 2008), and parents are hesitant to discuss "sex risk prevention" with younger children (Wyckoff et al., 2008, p.695).

Perception of Communication

The perceptions a mother has regarding the sexual activity of her adolescent tend to influence her conversations with her daughter about sexual health. There are numerous suggestions regarding why mothers have misperceptions of their adolescents' sexual activity. One finding shows that mothers were more likely to underestimate their adolescents' sexual activity if they had not had conversations with their adolescent about sex; parents were less likely to be aware of the sexual activity of younger adolescents as compared to older adolescents; mothers who were disapproving of adolescent sexual activity were found to hold the view that their adolescent was not engaging in sexual activity (Jaccard, Dittus, & Gordon, 1998). In a sample of teens, 58% had engaged in sexual intercourse, but only 34% of the mothers thought their teen was sexually active. However, in instances where mothers underestimated the sexual activity of their adolescent daughters, the quality of the mother-daughter relationship was actually better than mother-daughter relationships where the mother had an accurate perception of her daughters sexual engagement (Jaccard et al., 1998). To me, this implies that mothers feel they have knowledge about their daughter's sexual encounters simply because they have a close relationship.

Adolescents' perceptions of communication with their parents are related to adolescent pregnancy (Barnett, Papini, & Gbur, 1991). When females report having better communication with their parents, they are less likely to have intentions of engaging in sexual behaviors (Sneed, Strachman, Nguyen, & Morisky, 2009). The same is true in regards to adolescents' perception of their parents' approval or disapproval of engaging in sexual behaviors. Adolescents who have never had sex are more likely to engage in sexual behaviors if they feel they have the approval of

their mothers. Perceptions of both the adolescent and the mother can be predictive of not only the amount of communication regarding sexual behavior but the actions of the adolescent as well.

Amount of Communication

Research findings regarding the amount of communication about sex vary in the literature. Pearson et al. (2006) found that adolescents who are contemplating sexual initiation are likely to have conversations regarding sex with parents. Also, when parents sense their adolescent is likely to become sexually active, they may initiate a discussion about sex with their adolescent (Pearson et al., 2006). Adolescents, "specifically White, Latino/a, and female adolescents who discussed sex more often with their parents (as reported by the parents) were more likely to initiate sex" (Davis & Friel, 2001; Pearson et al., 2006, p. 82). However, these results are inconsistent with other studies that have found the opposite regarding the communication between parents and teens about sex and sexual initiation (e.g., Furstenberg, Moore, & Peterson, 1985; Moore, Peterson, & Furstenberg, 1986). Moore et al. found that for the 15 and 16 year olds in their sample, "parental discussion is associated with less frequent initiation of sexual activity only for daughters of parents with traditional family values" (p. 781). This finding demonstrates the effectiveness of family communication may depend on the parental beliefs and the gender of the adolescent (Moore et al.).

In addition, studies show that the more sexual communication late adolescents had with their parents the younger the adolescent was at first intercourse (Clawson & Reese-Weber, 2003; Somers & Paulson, 2000), the more lifetime sexual partners they had, the higher the likelihood of being tested for HIV/AIDS, and mother specific communication was shown to be related with pregnancy (Clawson, & Reese-Weber). As we can see from the inconsistencies in the literature there is great variation in the types and amounts of communication. As the Ecological Model

suggests, parents serve as a primary direct influence on adolescents (Muuss, 1996). This influence shows a need for overarching consistency in the type of and amount of communication to have a positive impact on adolescent sexual health.

Discussion of Contraceptives

Parents are often unsure if they should discuss contraceptives with their adolescents. Parents fear that having a conversation about birth control will increase the likelihood of sexual activity and could result in pregnancy for their adolescent (Jaccard et al., 1996; Jaccard & Dittus, 2000). However, when adolescents reported more sexual communication with their mothers, it was found they used more birth control methods (Clawson, & Reese-Weber, 2003). Among family members, the mother was usually found to have discussion on contraceptive methods and at minimum refer to condoms (Jones, Biddlecom, Hebert, & Mellor, 2011).

Research has shown that "family communication can increase the likelihood youth will limit their number of sexual partners and use birth control," (Aspy et al., 2007, p. 463). For female adolescents, a positive association has been found between the family communication resources and an adolescents' use of birth control (Aspy et al., 2007; Hadley et al., 2009; Mueller et al., 2010). According to Wilder and Watt (2002), a vital step in educating adolescents about condom use is direct communication with their parents and this in turn increases the safe sex practices among adolescents (Hadley et al.). I offer that parents need to be provided with information on sex and birth control methods to lessen their fears with conversations surrounding their adolescent and sexual health issues. Parents may then feel more comfortable and knowledgeable on a topic in order to provide an answer to questions raised by their adolescents (Jaccard et al., 2000).

Summary of Literature Review

From the literature it is evident that adolescents engage in risky sexual behavior. Potential consequences of risky sexual behavior include pregnancy, STIs, and HIV/AIDS infection. The age at which a female adolescent first engages in sexual intercourse, her number of partners, and use of contraceptives, are all factors that have implications on the degree to which female adolescents experience the consequences of risky sexual behavior. Erikson's identity development theory illustrates how an adolescent's effort to establish her identity can lead to relationships that cultivate sexual engagement. Views of the adolescent in context, through the lens of Brofenbrenner's Ecological Theory, establish the mother-daughter relationship as playing a role in adolescent decision making. The next section of this thesis will explore the mother-daughter relationship and its influence on sexual decision making in female adolescents.

Chapter 3 - Methods

This chapter will discuss the methods and procedures used to answer the proposed research questions and hypotheses. This study used data from the National Longitudinal Study of Adolescent Health (Add Health) Wave one. Add Health is a nationally representative longitudinal study of adolescents ranging from grades 7 through 12 in the United States. The Add Health data was first collected during the 1994-95 school year.

Research Question and Hypotheses

From reviewing the literature we know that the mother-daughter relationship influences the risky sexual behaviors of female adolescents. The areas of the mother-daughter relationship, which have been found to be influential, are time spent, communication, and closeness. Therefore, the following research question and hypotheses we established:

RQ: How does the mother-adolescent relationship influence the sexual risk taking behavior of female adolescents?

H1: Female adolescents who report high levels of spending time with their mothers will show low levels of sexual risk taking.

H2. Female adolescents who report high levels of communication with their mother will show low levels of sexual risk taking.

H3. Female adolescents who report high levels of mother-daughter closeness will show low levels of sexual risk taking.

Procedure

Wave One

In Wave one; the in-school questionnaire was self-administered to about 90,000 students in grades 7 to 12. The questionnaire was given to students between the months of September 1994 to April 1995 and administered during a 45- to 60-minute class period. Prior to administering the questionnaire, parents were notified of the date the questionnaire would be given and therefore, could decide if their child would participate or not. The topics covered in the questionnaire were: “social and demographic characteristics of respondent, education and occupation of parents, household structure, risk behaviors, expectations for the future, self-esteem, health status, friendships, and school-year extracurricular activities” (Harris et al., 2009). Each of the schools participating in the study provided a student roster to the research team. Identification numbers were assigned to each student and copies of the roster were given to students in order for them to identify their friends when completing the questionnaire.

After the questionnaire was completed at the end of the class period, the rosters were picked up and destroyed. Students were eligible to be selected for the in-home questionnaires whether they completed the in-school questionnaire or not. In each school, the students were stratified by grade level and sex. Roughly 200 adolescents were chosen from each of the 80 schools participating to complete the in-home questionnaire. The total number of adolescents was 12,105.

The in-home interviews in Wave one were conducted between April and December 1995. Each of the respondents was asked the same questions as other interviewees. The length of the interview was about one to two hours and depended on the age of the respondent and his or her experiences. The interviews took place in the home of the respondent with no paper

questionnaires being given to ensure confidentiality. The data were all recorded on a secure computer. On topics of a less sensitive nature, the question was read aloud by the interviewer and the answer from the respondent was entered. The respondent listened on headphones to questions previously recorded on more sensitive topics and then answered the questions directly on the computer. This method was beneficial in minimizing the influence of the interviewed and/or parent. In the in-home interview, the following topics were covered: "health status, health-faculty utilization, nutrition, peer networks, decision-making processes, family comparison and dynamics, educational aspirations and expectations, employment experience, the ordering of events in the formation of romantic partnerships, sexual partnerships, substance use and criminal activities" (Harris et al., 2009).

For the school administrator questionnaire, the administrators from the participating schools completed the questionnaire. The topics on the questionnaire were: "school policies and procedures, teacher characteristics, health-service provision or referral, and student body characteristics" (Harris et al., 2009).

The parent questionnaire was administered to one of the adolescent respondent's parents. The mother was the preferred respondent. The following topics were covered: "inheritable health conditions, marriages and marriage-like relationships, neighborhood characteristics, involvement in volunteer, civic, and school activities, health-affecting behaviors, education and employment, household income and economic assistance, parent-adolescent communication and interaction and parent's familiarity with the adolescent's friends and friends' parents" (Harris et al., 2009).

Because sexually active females are the focus of this study, the sample was narrowed to female adolescents who reported total number of sexual partners as greater than 0 (n=715).

Participants

During Wave one, 90,118 public school students and 144 public school administrators were administered a questionnaire at school. An in-home questionnaire was administered to 20,745 adolescents in grades 7 to 12 and 17,670 parents. For the purposes of this thesis, I used the public use data set of approximately 6,500 participants including information collected from adolescents, their parents, siblings, friends and romantic partners. To collect the data four interviews were conducted in the adolescent's home. Wave one provides information from the following sources: in-school questionnaire, in-home interview, Add Health picture vocabulary test, parent questionnaire, contextual data, and in-school network data.

Demographics of the Sample

The ethnic background of the sample for this study consisted of a subsample of 715 sexually active female adolescents with approximately 64.2% (459) White/European American, 26.7% (191) Black/African American, 1.8% (13) Asian American, 2.2% (16) American Indian and 5.0% (36) other (see Table 3.1). The grades levels of the sample are as follows: 4% seventh grade, 10% eighth grade, 12% ninth grade, 20% tenth grade, 26% eleventh grade, and 29% twelfth grade (see Table 3.2).

Table 3.1 Frequency of Race for Female Adolescents (n = 715).

Race	*Frequency*	*Valid Percent*	*Cumulative Percent*
White/European American	459	64.2	64.2
Black/African American	191	26.7	90.9
Asian American	13	1.8	92.7
American Indian	16	2.2	95.0
Other	36	5.0	100.0
Total	715	100.0	

Table 3.2 Frequency of Grade Level for Female Adolescents (n = 683).

Grade level	*Frequency*	*Valid Percent*	*Cumulative Percent*
7th grade	28	4.1	4.1
8th grade	70	10.2	14.3
9th grade	84	12.3	26.6
10th grade	133	19.5	46.1
11th grade	175	25.6	71.7
12th grade	193	28.3	100.0
Total	683	100.0	

Measures

Risky Sexual Behaviors Variables

Risky sexual behavior in this study will be defined as the number of partners, condom use, and onset of sexual intercourse (sex before age 15) as risk factors, because they can lead to the long-term consequences of pregnancy, STIs, and HIV/AIDS infection. Questions addressing the age of first intercourse, number of partners, and contraceptive use (used interchangeably with birth control method in the data set) were used to operationally define risky sexual behavior in this study. To create a variable for 'age' of the respondents, birth month and year were used to determine the age of respondents. The mean age of respondents was about 17 (*M*=16.90, *SD*=1.42, see Table 3.3).

Table 3.3. Descriptive Statistics for Age of Respondents (n =715).

Statistical Measure	*Result*
Mean	16.90
Median	17.14
Mode	17.94
Minimum	12.65
Maximum	20.66
Standard Deviation	1.42

The number of sexual partners was measured with the following two variables: total number of partners (see Table 3.4) and total number of sexual partners outside of a romantic relationship within the last year (since January 1, 1994) (see Table 3.5). Each variable was

analyzed separately to examine if adolescent females were having sex while in a relationship or not.

Table 3.4 Descriptive Statistics of Total Number of Partners of Respondents (n =702).

Statistical Measure	*Result*
Mean	2.96
Median	2.00
Mode	1
Minimum	1
Maximum	39
Standard Deviation	3.36

Table 3.5 Descriptive Statistics of Total Number of Partners Including Nonromantic Partners of Respondents (n =706).

Statistical Measure	*Result*
Mean	2.05
Median	1.00
Mode	1
Minimum	0
Maximum	111
Standard Deviation	5.28

Contraceptive use was measured by both first-time birth control method (use of a birth control method by self or partner at first intercourse) as well as birth control use at most recent

sexual intercourse. Again, each variable was analyzed separately to see if differences existed between a female adolescent using a birth control method the first time (see Table 3.6) she had sex versus her most recent sexual encounter (see Table 3.7).

Variables and categories of responses used in this study included:

- ***Variable Question:*** Since January 1, 1994, with how many people in total have you had a sexual relationship? (JAN1TOTALPARTNERS)
  Possible Responses: Refused, don't know, not applicable

- ***Variable Question:*** Since January 1, 1994, with how many people, not including romantic partners, have you had a sexual relationship? (JAN1NONROMPARTNERS)
  Possible Responses: Answer given, refused, don't know, not applicable

- ***Variable Question:*** Did you or your partner use any method of birth control the first time you had sexual intercourse? (BIRTHCONTROL1)
  Possible Responses: no, yes, refused, don't know, not applicable, >1 (up to 3 allowed)

- ***Variable Question:*** What method of birth control did you or your partner use the first time you had intercourse? (BCMETHOD1)
  Possible Responses: condoms (rubbers), withdrawal, rhythm (safe time), birth control pills, vaginal sponge, foam, jelly, creme, suppositories, diaphragm (with or without jelly), IUD (intrauterine device), Norplant, ring, Depo Provera, contraceptive film, some other method, refused, don't know, not applicable

- ***Variable Question:*** Did you or your partner use any method of birth control when you had sexual intercourse most recently? (BIRTHCONTROLR)
  Possible Responses: no, yes, refused, don't know, not applicable, >1 (up to 3 allowed)

- ***Variable Question:*** What method of birth control did you or your partner use? (BCMETHODR)
  Possible Responses: condoms (rubbers), withdrawal, rhythm (safe time), birth control pills, vaginal sponge, foam, jelly, creme, suppositories, diaphragm, with or without jelly, IUD (intrauterine device), Norplant, ring, Depo Provera, contraceptive film, some other method, refused, don't know, not applicable

Table 3.6 Frequency of Birth Control Method at First Sex for Respondents (n = 715).

Birth Control Method at First Sex	*Frequency*	*Valid Percent*	*Cumulative Percent*
Condoms (rubbers)	369	89.8	89.8
Withdrawal	10	2.4	92.2
Birth Control Pills	14	3.4	95.6
Ring	2	0.5	96.1
Depo Provera	11	2.7	98.8
Contraceptive Film	2	0.5	99.3
Some Other Method	3	0.7	100.0
Total	411	100.0	
Refused	1	0.1	
Legitimate skip (didn't use birth control)	302	42.2	
Don't Know	1	0.1	
Total	715	100.0	

Table 3.7 Frequency of Birth Control Method at Most Recent Sex for Respondents (n = 715).

Birth Control Method at Most Recent Sex	*Frequency*	*Valid Percent*	*Cumulative Percent*
Condoms (rubbers)	269	70.1	70.1
Withdrawal	23	6.0	76.0
Birth Control Pills	60	15.6	91.7
Foams/jelly/crème/suppositories	1	0.3	91.9
Ring	1	0.3	92.2
Depo Provera	20	5.2	97.4
Contraceptive Film	3	0.8	98.2
Some Other Method	7	1.8	100.0
Total	384	100.0	
Legitimate skip (didn't use birth control)	331	46.3	
Don't Know	1	0.1	
Total	715	100.0	

Mother-Daughter Communication Variables

The communication between an adolescent and her mother was measured using a Likert-type scale indicating how satisfied the adolescent was with communication between her and her mother (see Table 3.8). In addition, a question asking about overall satisfaction with her relationship with her mother was used to operationally define communication between the mother and daughter (see Table 3.9). These variables include:

- ***Variable Question:*** You are satisfied with the way your mother and you communicate with each other. (MOCOMMSATS)
  Possible Responses: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, refused, don't know, not applicable

- ***Variable Question:*** Overall, you are satisfied with your relationship with your mother. (MOSATSREL)
  Possible Responses: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, refused, don't know, not applicable

Table 3.8 Frequency of Responses for Communication Satisfaction between Mother and Daughter (n = 715).

Communication Satisfaction	*Frequency*	*Valid Percent*	*Cumulative Percent*
Strongly Agree	206	31.8	31.8
Agree	241	37.2	69.0
Neither agree nor disagree	78	12.0	81.0
Disagree	88	13.6	94.6
Strongly Disagree	35	5.4	100.0
Total	648	100.0	
Legitimate Skip (no Mom)	67	9.4	
Total	715	100.0	

Table 3.9 Frequency of Responses for Overall Satisfaction with Mother-Daughter Relationship (n = 715).

Overall Satisfaction with Relationship	*Frequency*	*Valid Percent*	*Cumulative Percent*
Strongly Agree	254	39.2	39.2
Agree	262	40.4	79.6
Neither agree nor disagree	48	7.4	87.0
Disagree	62	9.6	96.6
Strongly Disagree	22	3.4	100.0
Total	648	100.0	
Legitimate Skip (no Mom)	67	9.4	
Total	715	100.0	

Mother-Daughter Time Spent Variables

The time spent between a mother and daughter was based on a list of an array of activities. The daughter was asked what activities she had completed with her mother in the past four weeks. The activities include: shopping, playing a sport, gone to a religious service or church-related event, or other events such as a movie, play, museum, concert or sports event or if none of these activities were done. A scale was created based on the number of activities the mother and daughter completed together and a rating from 0 to 6 was given to create the time spent with mother. A zero was given if the mother and daughter completed none of the events or activities in the past four weeks. A rating of one was assigned if the mother and daughter attended a religious event only; two, if shopping and religious event were completed; three, if religious and other events were done, four, if other events only were completed, five, if shopping

was the only activity completed, and six, if all three categories of events were completed (see Table 3.10).

Table 3.10 Frequency of Responses for Time Spent Between Mother and Daughter (n = 715).

Time Spent Activities	*Frequency*	*Valid Percent*	*Cumulative Percent*
Religious Event Only	40	8.9	8.9
Shopping and Religious Event	94	20.9	29.8
Religious and Other Events	5	1.1	31.0
Other Events Only	10	2.2	33.2
Shopping Only	240	53.5	86.6
All Three Events	60	13.4	100.0
Total	449	100.0	
Missing	266	37.2	
Total	715	100.0	

Mother-Daughter Closeness Variables

Mother-daughter closeness was operationally defined by how close the daughter felt to her mother (see Table 3.11) and how much the daughter thinks her mother cares for her (see Table 3.12). Each was analyzed separately on a Likert scale to give an individual perception of mother-daughter closeness based on how close an adolescent female feels to her mother and how much the adolescent female thinks her mother cares about her.

- ***Variable Question:*** How close do you feel to your {MOTHER/ADOPTIVE MOTHER/STEPMOTHER/FOSTER MOTHER/etc.}? (MOCLOSE)
  Possible Responses: Not at all, very little, somewhat, quite a bit, very much, refused, don't know.

- ***Variable Question:*** How much do you think she cares about you?(MOCARE)
  Possible Responses: Not at all, very little, somewhat, quite a bit, very much, refused, don't know.

Table 3.11 Frequency of Responses for Mother-Daughter Closeness of Respondents (n = 715).

How Close Daughter Feels to Mother	*Frequency*	*Valid Percent*	*Cumulative Percent*
Not at all	8	1.2	1.2
Very little	25	3.9	5.1
Somewhat	92	14.2	19.3
Quite a bit	145	22.4	41.7
Very much	377	58.3	100.0
Total	647	100.0	
Legitimate Skip (no Mom)	67	9.4	
Don't Know	1	0.1	
Total	715	100.0	

Table 3.12 Frequency of Responses for Mother-Daughter Caring of Respondents (n = 715).

How Much Mother Cares for Daughter	*Frequency*	*Valid Percent*	*Cumulative Percent*
Not at all	3	0.5	0.5
Very little	4	0.6	1.1
Somewhat	23	3.5	4.6
Quite a bit	69	10.6	15.3
Very much	549	84.7	100.0
Total	648	100.0	
Legitimate Skip (no Mom)	67	9.4	
Total	715	100.0	

Analysis

In order to determine support for the hypotheses, One-Way Analysis of Variance (ANOVA) was conducted to examine whether differences between means existed between the independent variables of time spent, closeness, and communication and the dependent variables used to identify risky sexual behavior (age, contraceptive use, and number of partners). ANOVA provides the opportunity to compare means of more than one group at the same time as well as demonstrates if the scores are significant across the conditions given. One-Way ANOVA tests included age by time spent, closeness, and communication; contraceptive use by time spent, closeness, and communication; and number of partners by time spent, closeness, and

communication. In addition, the Scheffe post-hoc test was run to provide further support for whether or not significance exists. SPSS version 18 was used to conduct the data analysis.

Chapter 4 - Results

This chapter presents the results of the statistical analyses examining how the mother-daughter relationship influences an adolescent female's engagement in sexual behaviors. In this section I will discuss each of the hypotheses and its relationship to sexual behavior according to analyses using Analysis of Variance (ANOVA). In each situation risky sexual behavior serves as the dependent variable. Time spent, closeness, and communication between mother and daughter serve as the independent variables.

H1: Female adolescents who report high levels of spending time with their mothers will show low levels of sexual risk taking.

In order to determine support for the first hypothesis, an ANOVA was run using the time spent with mother by the risky sexual behavior variables. A significant positive association was found between the time spent between mothers and daughters and the birth control method use at the daughters' most recent sexual intercourse, $F_{(5, 404)}$= 2.308, p<.05, MS=0.548 (see Table 4.1). A significant positive association was also found between the time spent with mother and the total number of partners the daughter had in the last year (including romantic partners); $F_{(5, 435)}$ = 2.918, p<.05, MS=29.916 (see Table 4.2). The Scheffe post-hoc test revealed significance between the mean difference of other events only and shopping and religious events. The mean difference was higher for other events than shopping and religious events (MD=3.66, p<.05). In addition the Scheffe post-hoc test displayed significance between the mean difference of other events only and all the category of all events, with the mean difference being significantly higher for other events only (MD=3.96, p<.05).

No significant difference was found between the time spent with mother and birth control method used at first sexual intercourse, total number of nonromantic partners in the last year, and

the age of the female adolescent. Therefore, this hypothesis received mixed support - female adolescents who report high levels of spending time with their mothers show low levels of sexual risk taking in relation to the total number of partners they have had in the last year and their contraceptive use at most recent intercourse. However, my analyses do not support the relationship with low levels of sexual risk taking in relation to contraceptive use at first sexual intercourse, and sex with nonromantic partners.

Table 4.1 Time Spent by Most Recent Birth Control Method.

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Mother	2.739	5	0.548	2.308	0.044*
Error	95.859	404	0.237		
Total	98.598	409			

*p<.05

Table 4.2 Time Spent by Total Number of Partners.

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Mother	149.581	5	29.916	2.918	0.013**
Error	4459.766	435	10.252		
Total	4,609.347	440			

**p<.01

H2. Female adolescents who report high levels of communication with their mothers will show low levels of sexual risk taking.

In regards to determining support for the second hypothesis, which states female adolescents who report high levels of communication with their mothers will show low levels of sexual risk taking, an ANOVA was run using communication between mother and daughter by the risky sexual behavior variables. The results of the ANOVA show a significant association between the daughter being satisfied with the communication with her mother and the daughter's satisfaction with her overall relationship with her mother (the interaction between the two independent variables), in regards to the total numbers of partners in the last year (including romantic partners); $F_{(9, 617)} = 3.097$, $p<.001$, MS=33.190 (see Table 4.3). No additional significance was shown with the Scheffe post-hoc tests.

No significant association was found between independent analyses of satisfaction with communication and satisfaction with the relationship and the age of the female adolescent, number of nonromantic partners in the last year, and birth control methods for first and most recent sexual intercourse. Once again, this hypothesis is received mixed support - female adolescents who report high levels of communication with their mother show low levels of sexual risk taking in relation to the total number of partners she has had in the last year.

Table 4.3 Communication with Mother and Relationship Satisfaction by Total Number of Partners.

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Mocommsats	51.882	4	12.971	1.210	0.305
Mosatsrel	72.463	4	18.116	1.691	0.151
Mocommsats X Mosatsrel	298.709	9	33.190	3.097	0.001***
Error	6611.801	617	10.716		
Total	7009.071	634			

***p<.001

H3. Female adolescents who report high levels of mother-daughter closeness will show low levels of sexual risk taking.

In response to the third hypothesis, an ANOVA was run using closeness by the risky sexual behavior variables. ANOVA results found a significant positive association between the independent variable - perception of caring the daughter feels her mother has for her and the method of birth control used as first sex; $F_{(4, 574)}$= 3.155, p<.05, MS=0.727 (see Table 4.4). The Scheffe post-hoc tests did not reveal additional significance. No significant difference was found between perception of caring and age, method of birth control used at most recent sexual intercourse, total number of partners in the last year, and total number of nonromantic partners in the last year. There were no significant findings in relation to how close daughters felt to their mothers. Therefore, very little support is indicated for this hypothesis - female adolescents who report high levels of mother-daughter closeness show low levels of sexual risk taking in relation to her contraceptive use at first intercourse. The findings do not support low levels of sexual risk taking in relation to age, method of birth control used at most recent sexual intercourse, total number of partners in the last year, and total number of nonromantic partners in the last year or perceptions of closeness and any sexual risk taking variables.

Table 4.4 Female Adolescent's Perception of her Mother's Caring and Closeness by Birth Control Method Used at First Sex.

Source	*SS*	*df*	*MS*	*F*	*Sig.*
Mocare	2.907	4	0.727	3.155	0.14*
Moclose	0.698	4	0.175	0.758	0.553
Mocare X Moclose	2.047	10	0.205	0.888	0.544
Error	132.224	574	0.230		
Total	137.322	592			

*p<.05

Results from the analyses show there are significant associations between time spent and most recent birth control method and total number of partners; communication and total number of partners; and perceptions of caring and the birth control method used at first sex. These results and their implications will be discussed further in the discussion section.

Chapter 5 - Discussion

The risky sexual behaviors of a female adolescent are an important area of study due to both the short and long term effects such as pregnancy, STIs, HIV/AIDS infections, and the risk of continued risky sexual behavior into adulthood. We know that the developmental stage of adolescence provides a variety of influences on the adolescent and their behavior. Using Brofrenbrenner's lens we know that the context of the adolescent is influential, three major factors previously discussed were media, peers, and parents. In the literature, parents are discussed as being ignored by their adolescent as peers take on a more prominent role (Pistella & Bonati, 1998) or the opposite that parents are substantial influences in their adolescent's live (Bersamin et al., 2008). From the literature, we know that mothers are the main source for sex education with their adolescent (DiIorio et al., 1999). How do the factors of time spent, communication, and closeness of the mother-daughter relationship influence the risky sexual behaviors of female adolescents? Results from this study show mixed significant positive support for the three hypotheses of this study at varying levels.

H1: Female adolescents who report high levels of spending time with their mothers will show low levels of sexual risk taking.

Findings suggest that a female adolescent's relationship with her mother is associated with the degree to which she engages in risky sexual behavior. Influential relationship characteristics include the amount of time a mother spends with her daughter. The amount of time spent together impacts the daughter's use of various forms of contraceptives during her most recent intercourse experience, as well the total number of partners with whom she has had sex. When adolescents are routinely involved in activities with their family lower levels of sexual risk behaviors are reported (Coley, Votruba-Drzal, & Schindler, 2009).

The time spent between female adolescents and their mothers has the potential to impact other aspects of the mother-daughter relationship. For example, female adolescents who spend time with their mothers will develop closeness with their mother as well as the possibility of enhancing the communication with their mother.

H2. Female adolescents who report high levels of communication with their mother will show low levels of sexual risk taking.

Also important is the extent of the mother-daughter communication as communication was also a factor in the number of partners the female adolescents had. As adolescents and their mothers' spend time together, they have the opportunity to form a close bond; the adolescent and/or her mother may begin to feel more comfortable and may choose to engage in discussions (i.e. communication) that before may have been awkward and uncomfortable. The increased time together also offers additional opportunities for these conversations to occur (i.e. time spent). "Family communication can increase the likelihood youth will limit the number of sexual partners and use birth control" (Aspy et al., 2007, p. 463).

Communication is a key aspect in understanding the mother-daughter relationship. If a mother and daughter have good communication, the hope is that a comfort exists and an array of topics will be discussed between the mother and daughter including sexual behaviors. Again, time spent between mother and daughter has the opportunity to enhance and build the communication between them. Spending time together allows for the mother and daughter to get to know each other, establish comfort and familiarity with one another and provides the opportunity to influence the communication that occurs between the mother and daughter.

H3. Female adolescents who report high levels of mother-daughter closeness will show low levels of sexual risk taking.

The female adolescents' perception of closeness to her mother was the final instrumental factor in determining risky sexual behavior. Perceived closeness was a factor in determining female adolescents' contraceptive use during her first sexual encounter. This association holds a few implications as well. If a female adolescent perceives she has a close relationship with her mother, she may feel comfortable with going to her and discussing contraceptive use. The closeness between a mother and daughter was related the higher likelihood of birth control use (Jaccard & Dittus, 2000). Examples of this include help in accessing birth control pills, instruction on how to properly use condoms, and conversations around the importance of using contraceptives when engaging in sex.

The aspect of closeness in the mother-daughter relationship can also be influential in regards to the sexual behaviors of female adolescents. Female adolescents who have a close relationship with their mother might spend more time and feel comfortable communicating with their mother. Closeness between a mother and daughter can allow for conversations on sexual health issues to take place and even encourage these conversations because the relationship has been established between the mother and daughter. Often it is assumed that when an individual feels close to another person, the individual is more willing to open up and share information. This could be true in regards to the mother-daughter relationship as well.

Overall, what we have learned is that the mother-daughter relationship has an impact on behavior in adolescent females related to sexual behavior. The findings provide answers to the research question posed, which states how does the mother-adolescent relationship influence the sexual risk taking behavior of female adolescents? From the findings, we can conclude the

following factors of the mother-daughter relationship play an influential role in the lives of female adolescents and their sexual behaviors: time spent, communication, and closeness. This study may not hold the key to answering the question of how to make adolescents engage in healthy sexual behaviors, however it does offer ideas as to how helping professionals can assist in reducing adolescent pregnancy, STIs, and HIV/AIDS infection which we will discuss further.

Limitations/Future Research

The findings presented above are not surprising given the literature on this topic. Although these areas showed expected associations, unforeseen results included the amount of non-significant findings. These may be explained by several factors. It was expected that more associations would be found between the relationship mothers had with their female adolescents and the daughter's sexual risk taking behavior than just time spent between mother and daughters and birth control method use at the daughters' most recent sexual intercourse, time spent with mother and the total number of partners the daughter had in the last year, daughter's satisfaction with the communication with her mother and the daughter's satisfaction with her overall relationship with her mother (the interaction between the two independent variables) and the total numbers of partners in the last year, and the independent variable- perception of caring the daughter feels her mother has for her and the method of birth control used as first sex.

The variables identified in this study do not cover relationship factors as in as much depth as I would have liked. For instance the communication variable simply asks if adolescent females are satisfied with communication with their mother. This is a broad question in that it does not tell us if the communication satisfaction is related to sex. The question is open to interpretation; the adolescent may be satisfied with the tone in which her mother communicates, the frequency of that communication, etc. But it does not direct the adolescent to think about

communication regarding sex directly. If communication related to sex has never occurred, how can the adolescent express her comfort level with it? These same types of issues were present when analyzing the time spent and closeness variables as well.

Secondary data analysis strategies were used in this study. This requires the researcher to operationally define the variables based on the data gathered by others. This presented a challenge in that I was unable to measure every aspect of the mother-daughter relationship in the manner in which I would have liked. For example, parental monitoring is an area that is often addressed in the research related to adolescent sexual engagement. An adequate parental monitoring measure was not available in this data set limiting what I could examine.

Another limitation is that the information collected for research purposes in the 1990s by the original researchers may be in contrast to the current trends in adolescent sexual risk taking behavior. For example, the Add Health data set examines perceptions of closeness between mother and daughter. Research today defines closeness by many additional factors including attachment, connectedness, and parental monitoring. In addition, although the Add Health data set is still in use today and continues to be updated through data collection with original participants, the information regarding behavior during adolescence occurred during Wave one, which was between 1994-1995, many years ago. However, it is important to note that recent studies show similar results and support the findings of this study.

Future research in the area of risky sexual behavior should address these aforementioned limitations. Furthermore, collecting data from both the mother and daughter may provide a wider lens for examining the mother-daughter relationship.

Implications for Family Life Education

We will now revisit the two adolescent females from the introduction. Sally's experience correlates well with our findings. She came from a home where she and her mother had a close relationship. Sally had open conversations with her mother regarding sex and they spent time together engaging in various activities. This time together offered opportunities for continued conversation and developing feelings of closeness. Although Sally became sexually active while she was a teen, she did so in a manner that was healthy and exposed her to less risk. Roxanne, on the other hand, had a different experience. Roxanne did not spend time engaging in activities with her mother; her relationship with her mother was not one she perceived as being close. When Roxanne attempted to communicate with her mother about sex she was in essence brushed off because of her age and her mother's beliefs that the time was not right. Her mother's statement to "not even think about boys" could be an indication that her daughter was not engaging in sexual behavior.

The findings of this study suggest key areas to focus on when helping mothers (like Roxanne's) understand how to educate their female adolescents about sex education. Family Life Educators (FLEs) can use the aspects of time spent, perceptions of closeness, and communication as a foundation for creating parent education programs. It will be beneficial for FLEs to emphasize these factors to mothers as areas that impact risky sexual behavior. Discussing what risky sexual behavior is, discussing the role of mothers in adolescent behavior, and honing in on the impact spending time together, communicating effectively, and feeling close to one's mother has on adolescent sexual risk taking are essential areas to convey to mothers. Assessments can be conducted to pinpoint additional areas where the mother-adolescent relationship calls for further development. FLEs should guide mothers in understanding the

importance of the mother-daughter relationship as previously outlined, to understand how the healthy sexual adjustment in adolescence can prevent risk taking behavior reducing the risk of adolescent pregnancy, STIs, and HIV/AIDS infection.

I believe it is essential to equip mothers with the tools to provide accurate information on safe sex practices. FLEs can serve as advisers in areas such as when to begin having conversations with female adolescents regarding sex as well as a support system in building mother's esteem regarding her ability to be a knowledgeable source of information. This study supports this belief in that relationships between mothers and daughters have an impact on adolescent decision making and behavior. If FLEs provide mothers with accurate knowledge regarding safe sex practices, mothers can transfer that knowledge into the relationship with their daughter offering useful information to be relayed from mother to daughter during times when they are communicating, spending time together, or being close.

Conclusion

This thesis supports the idea that the mother-daughter relationship positively impacts the risky sexual behavior of female adolescents. Time spent, closeness, and communication have implications regarding the number of partners and contraceptive methods used at first and most recent sexual encounters of female adolescents. These implications are focused on the idea that when mothers spend time with their adolescent daughters, and their daughters perceive their relationship with their mother as being satisfactory related to closeness and communication, they engage less often in risky sexual behavior. These findings offer a starting point when investigating ways in which mothers can play a larger role in educating their daughters about healthy sexual behavior as well as offer parent educators some components to consider when facilitating the mother-adolescent relationship. I believe these findings show that enhancing the

mother-daughter relationship allows for the development of healthy sexual ideals among female adolescents. Healthy sexual engagement will ultimately lead to decreased adolescent pregnancy and risk for STIs and HIV/AIDS infection.

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