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Shani Robertson April 22, 2011

"Who Can I Turn To?"
The Impact of Familial and Non-Familial Forms of Social Support on the Sexual Health Knowledge, Sexual Attitudes and Sexual Behaviors of Adolescents that Access Sexually Explicit Media

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Abstract

"Who Can I Turn To?"
The Impact of Familial and Non-Familial Forms of Social Support on the
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Access Sexually Explicit Media

By Shani Robertson

Previous studies have confirmed the protective role of parental support on adolescent sexual health, knowledge and behaviors. Not all adolescents have positive parental support, and some may have strong social support from other sources instead, such as a mentor. Few studies have exclusively examined the protective nature of these non-familial relationships on adolescent sexual health in comparison to familial social support. Adolescents must navigate through a sexualized media environment and, without adequate guidance or sexual health education, they are likely to make poor choices when engaging in sexual behavior. A secondary data analysis was conducted on a national sample of 445 youth aged 14-18 (mean of 15 years; 79.5% White, 53.5% female) to examine the protective role of familial and non-familial social support on the outcomes of exposure to sexually explicit media, specifically on the sexual health knowledge, sexual attitudes and sexual behaviors of adolescents who access it. Independent samples t-test analyses found that exposure to sexually explicit media is strongly associated with behaviors such as 'hooking up', communicating with a partner about sex, multiple oral sex and sex partners, and increased lifetime prevalence of oral sex or sexual intercourse. Exposure was found to be negatively associated with intention to use condoms at next sex act. Linear regression analyses that controlled for age and gender found that familial and non-familial social support moderated the effect of exposure to sexually explicit media on the likelihood of an adolescent having sex or oral sex. Future studies should examine the protective effect of individual non-familial relationships on adolescents' sexual health in light of weaker parental relations.

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CHAPTER I: BACKGROUND AND SIGNIFICANCE

Adolescents and young adults are heavy consumers of media, especially the Internet and the effect of these mediums cannot be ignored by researchers, educators and parents who seek to make any meaningful impact on the sexual health knowledge, attitudes and subsequent behaviors of adolescents. Recent studies have shown that adolescents are using the Internet to find a potential partner, as seen by the prevalence of websites devoted to teenage dating (Pujazon-Zazik and Park, 2010). Attitudes about sex are learned at a young age and with the push for abstinence-only sex education in many part of the United States, teenagers look to the media as a primary source of sexual health information (Strasburger, 2009).

The powerful relationship between mass media and the sexual beliefs of American youth is undeniable. As Braun-Courville & Rojas (2009) suggest, sexually explicit web sites have the potential to "…*reinforce negative societal stereotypes around sexuality, particularly as it relates to casual sex*..." (Braun-Courville & Rojas, 2009). Negative effects of prolonged exposure to sexually explicit websites include inaccurate presumptions of increased sexual activity amongst peers, and sexually lenient attitudes (Braun-Courville & Rojas, 2009). Consequently, this inaccurate information coupled with lack of supportive social relationships, negatively impacts their sexual health outcomes.

The United Nations (UN) established a "*Declaration of Commitment*" with one of the goals being to reduce new HIV (Human Immunodeficiency Virus) infections among youth ages 15 to 24, by 25% (UNAIDS, 2008). As HIV is primarily spread through unprotected vaginal and anal sex, it can be assumed that the majority of youth who are HIV-positive

acquired the disease through sexual intercourse and not through mother-to-child transmission (MTCT). If the UN intends to attain its goal, adolescents and young adults must receive relevant information about their sexual health.

Several studies have focused on the protective impact of parental social support on the sexual health knowledge, attitudes and behaviors of adolescents (Strasburger, 2009; Markham et al, 2008; Collins et al, 2003). However, the adolescents that are in greatest need of comprehensive sexual health education are those that have little or no parental/familial support. It may not be that youth do not have parents present in their lives, but that parents are unable to provide the support required or the relationship is unhealthy or overbearing. Without this support, adolescents will be unable to ask sexually related questions. Furthermore, unhealthy parent-child relationships are actually a risk factor for negative sexual health outcomes (Markham, Lormand, Gloppen, Peskin, & Flores, 2010).

Forging positive non-parental/non-familial relationships may be a suitable solution for adolescents that have strained or formal relationships with their parents. However, the benefit of non-familial social support on the sexual health knowledge of youth has yet to be thoroughly examined. Non-familial social support has been found to be positively associated with academic success (Elias and Haynes, 2008), and fewer incidents of depressions (Hurd and Zimmerman, 2010), but its protective role on the sexual health knowledge, sexual attitudes and behavior of adolescents, has yet to be explicitly examined. This study seeks to examine the protective benefit of social support on the sexual health knowledge, sexual attitudes and behaviors of adolescents' ages 14 to 17 that access sexually explicit media.

Purpose & Research Questions

The purpose of this study is to compare the impact of familial and non-familial social support on sexual health knowledge, attitudes and behaviors of adolescents who access sexually explicit media. Within the context of this study, non-familial social support is defined as having positive relationships with an adult(s) who is not a family member, i.e. a teacher, doctor or mentor, and does not act in a parental role. This thesis study seeks to answer the following research questions:

1. What is the prevalence of exposure to sexually explicit media among the sample of adolescents?

    - Hypothesis 1: Exposure to sexually explicit media among the sample of adolescents will significantly differ across gender and age groups.

2. How do adolescents who have some level of exposure to sexually explicit material differ in sexual health knowledge, sexual attitudes, sexual behaviors and social support from adolescents who have no exposure to sexually explicit material?

    - Hypothesis 2: Adolescents' sexual health knowledge, sexual attitudes, sexual behaviors and social support will significantly differ based on their level of exposure.

3. What is the relation between sexually explicit media exposure and sexual attitudes, sexual behavior and social support?

    - Hypothesis 3: Sexual attitudes, sexual behaviors and social support will be significantly associated with the frequency of an adolescent's exposure to sexually explicit media.

4. Does social support act as a moderator between exposure to sexually explicit material and sexual behavior?

    - Hypothesis 4: Various forms of social support will act as a moderator between exposure to sexually explicit material and the sexual behavior of participants at higher levels of social support.

Theoretical Framework

The theoretical framework that informed this thesis study was the Social Cognitive Theory (SCT) (Bandura, 1986). SCT identifies and explains the interactions between people and their environment (i.e. reciprocal determinism), specifically how personal, behavioral and environmental influences dynamically interplay to produce the product of human behavior. The constructs of SCT that apply to this thesis study are: observational learning, self-efficacy, reciprocal determinism, outcome expectations and self-regulation (Glanz, 2008). Outcome expectation is an individual's belief of the positive outcomes that will occur after they engage in a given behavior. Positive outcomes could be psychological, psychosocial, social or physical. This is one of the more powerful constructs, as it demonstrates the importance of an individual to feel positively about himself or herself, either through self-assessment or receiving external feedback: more so than any other social or material outcome. Consequently, this allows an individual to resist peer pressure or indulgence in other external desires (Glanz, 2008). When applied to this study, this highlights that even though an adolescent maybe be surrounded by peers who engage in risky sexual behaviors, or be exposed to sexually explicit media, expected positive reinforcement about their choice will determine if they will engage in a sexual behavior or not.

Observational learning applies to the behaviors that an individual can observe, be it through media exposure, behavior presented by peers, family and/or their surrounding environment. Within this construct are the four processes of attention, retention, production and motivation (Glanz, 2008). These identify respectively: an individual's perceived functional value of a behavior's outcomes (engagement in protected sexual intercourse to avoid STDs); their intellectual capacity (knowing that the Pill does not offer protection from STDs);

physical and communication skills and self-efficacy (belief in ability to use condom and communicating this desire with a sexual partner); and the costs and benefits of the behavior observed (more benefits to using a condom during sexual intercourse).

The construct of reciprocal determinism recognizes that an individual will be unable to make a desired behavior change if the environment is unsupportive. Consequently, it also accounts for ability of an individual to change their environment, and change the influence the environment has on their behavior (Glanz, 2008). For example, if a female adolescent is with a male partner who refuses to use condoms (low partner social support), and she cannot refuse sex with him, then engaging in protected sexual intercourse will be impossible. However, if the same female changes her belief that she must only engage in protected sexual intercourse or abstain from sex altogether, then her male partner will either support her decision or she will find a new partner who is more respectful (change in social environment).

The self-efficacy construct describes the process through which an individual can develop a new behavior by: dividing the behavior into steps that allow the individual to master each one (mastering); being shown how peers can also do it through detailed demonstration (social modeling); reducing anxiety about performing the behavior before any attempt (improving physical/emotional states); and, strong encouragement to boost confidence (verbal persuasion) (Glanz, 2008). Proper condom use can be taught to adolescents who have no prior sexual experience using wooden models, as a sexual health educator can simplify the process. Thus, they and their peers around them can practice the steps of proper condom use on the wooden model, under the guidance of a trained instructor that provides verbal encouragement. This practice will also reduce participants'

fears about condom use when they are with their partner, as they will feel skilled enough to perform the behavior accurately.

Self-regulation describes an individual's ability to withstand short-term negative outcomes with the knowledge that long-term positive outcomes will result. This is done through: self-monitoring of one's behavior; identifying changes that can be obtained through goal setting; evaluating the quality of one's performance from feedback; self-reward through various forms of rewards; self-instructing oneself to perform and complete a behavior; and finding people who can encourage the individual's choices by enlisting their social support. In the context of this thesis study self-regulation can be applied to an adolescent desiring to remain abstinent until they meet a partner they feel comfortable with. The self-regulation they may use to attain this goal can include: noticing pre-coital behaviors that increase their desire and avoid them; setting a life milestone as to when they would be ready; noticing positive or negative comments from peers about their choice to abstain; rewarding oneself every time they resist a sexual advance; reminding oneself prior to and during a romantic date, about the initial decision and its importance; and, engaging in friendships or relationships that are respectful of their choice to abstain.

The social cognitive theory guided this thesis study by providing the framework to examine the relationships of exposure to sexually explicit media and social support (environment) on the sexual attitudes, beliefs (personal) and sexual acts (behavior) of adolescents. The knowledge, attitudes and behaviors of adolescents can vary between individuals, based on a number of environmental factors, including stigma related to HIV and STDs, homophobia, and socioeconomic issues such as poverty, poor education, and cultural barriers (Warren-Jeanpiere, 2006). In addition to these factors youth, especially minority youth, often have

lower-levels of parental and familial support. This support can be a meaningful resource for youth as it ensure clear understanding of sexual health information, and can provide the verbal encouragement youth need to follow through with sexual choice such as abstinence. This is especially important, given the wide array of sexual health information and sexual norms and stereotypes youth are exposed to through various media (Cox et al., 2009; Collins et al., 2003; de Visser, 2005). Without social support, youth will continue to access various forms of media to learn about their sexuality, without the skills or support to discern fact from fiction (Delgado and Austin, 2007).

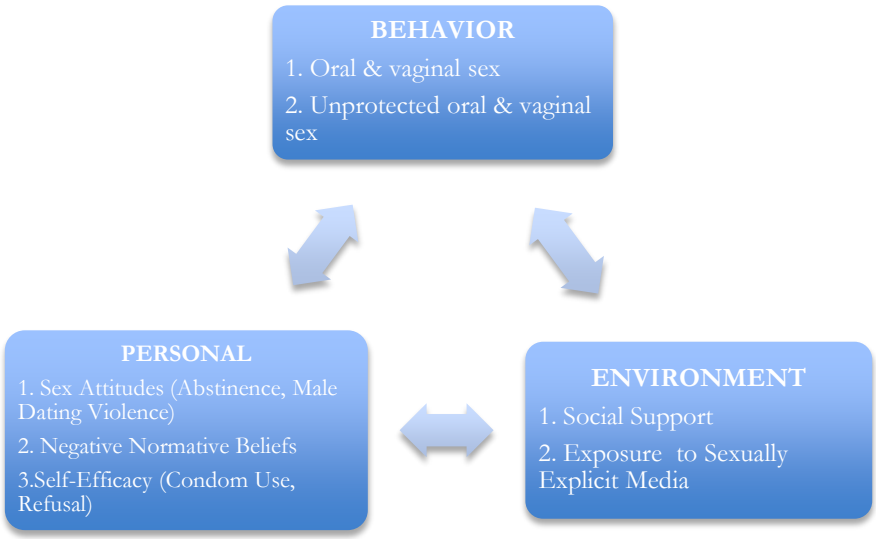

Figure 1: Theoretical Framework using components from the Social Cognitive Theory (Bandura, 1986)

CHAPTER II: REVIEW OF LITERATURE

Introduction

The World Health Organization/Pan American Health Organization (WHO/PAHO) and the World Association for Sexology (WAS) released a report in 2000 titled *Promotion of Sexual Health Recommendations for Action*, where sexual health was defined as the "experience of the ongoing process of physical, psychological, and sociocultural well being related to sexuality." (WHO, PAHO & WAS, 2000). Sexual health is not just a physiological concept. It impacts an individual's ability to make healthy choices for their lives.

There is an average gap of approximately 13 years between the time adolescents reach puberty and when they marry a partner (Salazar, Santelli, Crosby, & DiClemente, 2009). This creates a challenge for adolescents, who for over a decade, must navigate their sexuality and consistently make decisions about whether or not to be sexually active, and how to do so safely. This challenge becomes even more difficult as adolescents are unable to access accurate information required to make healthy choices, due to the restrictions placed on the content of sexual health education programs presently in schools (Barnett & Parkhurst, 2005).

As the debate continues on how best to educate adolescents about their sexuality, adolescents have quietly taken measures into their own hands. Whether through friends, the Internet, or modeling the behaviors presented through the media, which range from sexually explicit to suggestive, adolescents are searching for information on sex and sexuality. Even with access to sexual health information, adolescents require a social environment that will be supportive of the healthy sexual behavioral choices they make, in order to maintain the

behavior. Fortunately, various forms of social support have been found to be a protective factor for an adolescent's sexual health knowledge, attitudes and behavior.

Prevalence of STDs among adolescents

In 2004, adolescents and young adults ages 15 to 24 represent 25% of all sexually active persons, but 50% of all new cases of sexually transmitted diseases (STD) (Salazar, Santelli, Crosby, & DiClemente, 2009). This translates into 4 million cases per annum accounted for by adolescents alone. This disproportion in the distribution of STD cases is seen not only by age but also gender. The Centers for Disease and Control (CDC) found that female adolescents accounted for the highest rates of chlamydia and gonorrhea among all age and gender groups (CDC, 2010). Furthermore, it was been estimated that in 2008, 3.2 million girls between the ages of 14 and 19 had been infected with at least one STD (Salazar, Santelli, Crosby, & DiClemente, 2009).

Most sexually transmitted diseases (STDs) are curable, and leave no permanent damage if treated early. Unfortunately, early treatment depends on early detection. Recently legislation has been introduced into 10 states and US Congress that proposes the restriction of access sexual health services for adolescents over 18, or those who have parental consent. However, studies have shown that girls would delay and possibly not seek services for STD testing and treatment or contraceptives, if they knew their parents would be notified (Reddy, Fleming, & Swain, 2002). Unfortunately, repeated incidences of STDs, as well as untreated STDs have been know to cause infertility and sterility later in life. Furthermore, the financial burden of STDs among adolescents carries a heavy price tag of 6 billion dollars each year, indicating the financial hardship incurred by adolescents who become infected with STDs (Cox, Scharer, & Clark, 2009).

In addition to infertility, having a STD increases one's risk of contracting HIV (Centers for Disease Control and Prevention, 2008). HIV, which causes acquired immune deficiency syndrome (AIDS), has spread across the world at an alarming rate. In 2007, there were an estimated thirty-three million people living with HIV worldwide. Of all new infections in 2007, youth ages 15 to 24 accounted for 45% percent of diagnoses (UNAIDS, 2008). The majority of HIV cases among adolescents ages 15 to 24 in the United States, are still accounted for by males. However, the proportions are changing slightly, as cases among female adolescents have increased by 8% from the 1995 estimate of 32% (Salazar, Santelli, Crosby, & DiClemente, 2009). Along racial demographics, the distribution of HIV cases is unsettling. Blacks account for 69% of HIV cases amongst 15 to 19 years olds; far beyond their actual population proportion of 17% of the same age group. To compound this issue, being co-infected with a STD and HIV, allows both infections to proliferate at a faster rate, as they place incredible strain on an infected individual's immune system, which is unable to adequately fight off the infections (CDC, 2008). Given that the high rates of STDs and HIV among female and male adolescents respectively, and it is clear that adolescents must be educated and supported to make healthy decisions regarding their sexuality, regardless of the behavior they choose to engage in (i.e. abstinence or safer sex).

Adolescents in relationships often find themselves negotiating whether or not to have sex, and what method of birth control should be used (Salazar, Santelli, Crosby, & DiClemente, 2009). Unfortunately, youth are more focused on preventing pregnancy than mitigating their STD and HIV risk, as found in a 2005 study that youth were more concerned with pregnancy as the consequences are more visible (de Visser, 2005). The same study also found that most youth had a laissez-faire attitude toward STDs as *"…you* [can] *just*

take something…" and that adolescents' concern of contracting any disease decreased as the length of their relationship increased. Even though adolescents are more concerned about pregnancy estimates show that three in ten young women will become pregnant before their twentieth birthday (Centers for Disease Control and Prevention, 2010).

Risk Factors

The Internet and adolescents

Adolescents and young adults are heavy consumers of media, especially the Internet. A 2004 Nielsen survey found that 75% of the US population (204 million people) had Internet access at home, with the largest proportion of Internet users falling within the 2 to 17 age group; approximately 49 million people (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009). Among adolescents between the ages of 12 and 17 years, survey data has revealed that 50% of this age group use the Internet daily, for an average of 46 minutes. Older adolescents (ages 15 to 17) spend even more time, with weekly totals reaching 6 hours or more (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009). In addition to the Internet, adolescents also consume large amounts of television with estimates placing the daily total at 3 hours (Collins, Elliott, & Miu, 2009). Mass media plays an extremely influential role in forming adolescents' views about sex, especially given its expanding accessibility.

Exposure to sexually explicit content on the Internet and sexual risk behaviors among adolescents

Sexually explicit media includes material that ranges from soft-core erotica, such as nude pictures, to pornographic material that graphically displays sex acts (Doring, 2009). Print material that is sexually explicit has been easier to regulate than its digital form, as age limitations can be enforced when purchasing those materials in person. The Internet prevents such enforcement due to its relatively anonymous nature. Furthermore, sexually explicit media on the Internet is rapidly expanding in both availability and popularity, with an estimated 10% of websites with the highest traffic being sexually related (Braun-Courville & Rojas, 2009). In 2003, there were an estimated 1.3 million pornographic websites on the Internet that contain 260 million web pages (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009). Although this only comprises a small fraction of the total number of web pages on the Internet, a survey found that 25% of Internet users ages 10 to 17 years, were unwantedly exposed to photos of nude persons or persons having sex: 71% of these exposures occurred while searching for something else and 28% occurred while viewing their email. While some adolescents experience unwanted exposure, 8% of the same survey sample admitted to intentionally accessing sexually explicit websites, though the actual estimate is thought to be considerably larger (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009).

Adolescents access sexually explicit websites primarily to explore their curiosity about sex and sexuality. However, the negative stereotypes and themes displayed on these pornographic sites, distorts adolescents beliefs and attitudes of what actually is a healthy sexuality (Braun-Courville & Rojas, 2009). A 2009 study found that adolescents who viewed online pornography were 10 times as likely to believe that: concurrent sexual relationships is okay; sex can be used to solve life's problems; there would be fewer problems in life if sex

was less restricted; sex as just an exchange of favors is okay if both people agree; one-night stands are enjoyable; sex can exist without commitment; and, it is okay for sex to be a just good physical release (Braun-Courville & Rojas, 2009). Additionally, similar studies found that adolescents who watch online pornography are often sexually insecure, and more likely to have negative attitudes towards marriage, family and monogamy (Doring, 2009; Braun-Courville & Rojas, 2009). These negative and potentially harmful attitudes and beliefs are also believed to have an influence on adolescents' sexual behavior (Kaiser Family Foundation, 2008; Wingood et al. 2001). A 2006 study found that female adolescents ages 12 to 14 who were exposed to higher levels of sexually explicit media, were 2.2 times more likely to have sex within the next 2 years than their peers who were exposed to lower levels of the media (Sarracino and Scott 2008). The authors noted, however, that it is not known if the girls who accessed higher levels of the material were already intent on engaging in sexual activity or if the actual exposure is causally linked to the behavior.

Are adolescents engaging in sexual risky behaviors? Reports indicate yes. A 2010 CDC report, which revealed that approximately two-thirds of youth have had sex by the time they graduate from high school; 40% of students reporting not using a condom at last sex; and 22% of youth admitting to consuming alcohol or drugs prior to having intercourse at last sex (Centers for Disease Control and Prevention, 2010). The 2009 national Youth Risk Behavior Survey found that 6% of US high school students had sex before the age of 13 (Centers for Disease Control and Prevention, 2010) and another study reported that 20% of teens have engaged in sexual intercourse before they reached fifteen years of age (Doss, et al., 2006), although 81% of this latter sample had regretted doing so. In addition to regret, the same study also found that youth who engage in sexual intercourse at younger ages have higher numbers of lifetime sexual partners, and a greater risk for unplanned pregnancies and

contracting STDs and HIV (Doss, et al., 2006). Unfortunately, there are too few social resources to combat the negative effects of the sexualized media that adolescents consume. Consequently, this inaccurate information coupled with lack of supportive social relationships, negatively impacts their sexual health outcomes.

Protective Factors

Knowledge

Sexual health is also intrinsically tied to sexual rights, and as such, it cannot exist without protecting the sexual rights of all persons. Among the 11 sexual rights decreed by the World Association for Sexology (WAS), there are three of notable mention (WAS, 1999):

- *The right to make free and responsible reproductive choices.*
- *The right to sexual information based upon scientific inquiry.*
- *The right to comprehensive sexuality education.*

Sexual education is a lifelong learning process, and although no one person remains in an educational setting for life, it is important that they at least have the basic information that they can build on. Several societies have attempted to limit adolescents from receiving any information related to sexual health (Barnett & Parkhurst, 2005). The US federal government has heavily funded abstinence-only programs, and estimates of the total cost of these programs are placed at 175 million dollars. Unfortunately, these programs do not provide any knowledge on contraceptive methods, except for their failure rates (Ott & Santelli, 2007). Furthermore it was found that youth who had attended abstinence-only programs had not delayed engaging in sexual intercourse (Robert & Sonenstein, 2010) and, when compared to their peers who had not completed the program, they were at a similar

level of risk for contracting HIV, sexually transmitted diseases (STDs) and unwanted pregnancy, as both groups did not know how to protect themselves (Ott & Santelli, 2007). Youth have also expressed that they wish that their sexual health education had started at a younger age, and that shocking images that accompany current educational material does more to detract from the message than it does to change behavior (de Visser, 2005). Sexual health education programs that withhold accurate sexual health information from adolescents are not only a waste of financial resources, but they also exacerbate dire health consequences that impact a country's future workforce. Furthermore, they are also a direct violation of the sexual right to comprehensive education. Although schools play a quintessential role in delivering sexual health education, families, communities and other sectors of a society, including mass media, also have a vital role to play in ensuring that adolescents have the information required to make healthy choices. Adolescents will make decisions about sex based on the knowledge that they have. Without a comprehensive sexual education, they will make choices without knowing consequences that may befall them.

As adolescents are large consumers of media, and given its influential effects on sexual health knowledge, attitudes and behaviors, researchers and educators have realized that media can be used to positively influence adolescents. Stand-alone video interventions, aimed at urban adolescents ages fourteen to eighteen, administered over six months were found to be effective in: reducing viewers risky sexual behavior; delaying their sexual activity; improve condom efficacy; and reduce the likelihood of being diagnosed with an STD (Downs et al., 2004). Researchers noted that the effects of the intervention could be maintained through booster sessions. Another study that showed the positive effects of delivering sexual health information through media channels, showed increased knowledge of some adolescent viewers after the television series *Friends* has raised the issue of condom

efficacy. The episode in question had delivered accurate statistics on the protective rates of condoms (Collins, Elliott, & Miu, 2009). Researchers found that 15 to 31% percent of adolescent surveyed, who watched the episode, could recall the efficacy rates of condoms. These viewers were also more likely to remember this information six months later. Also 10% of adolescents, who had discussed the episode with an adult, reported that they learned something new (Collins, Elliott, & Miu, 2009).

Social Support

Cohen and Wills proposed through their matching theory of social support that support is most protective when it specifically addresses the stressful situation being experienced by an individual (Cohen & Wills, 1985). In the context of this thesis study, the role of social support is being examined as a potential moderator for the effect of sexually explicit media on sexual health knowledge, attitudes and behaviors of adolescents. Fortunately, previous studies have found that parents are a viable solution to both obstacles of age-restriction and scarce information adolescents encounter when trying to access adequate sexual health information. However, not all adolescents have strong positive bonds with their parents, and some may not have bonds to their biological parents at all. Thus other aspects of social support both familial support and non-familial, need to be examined for their protective effects, including: school connectedness; quality communication between adults and adolescents; family cohesiveness; positive peers; ethnic pride and neighborhood environment. These protective effects in turn have been found to predict high levels of self-efficacy (i.e. behavioral intentions) (Bellamy, Wang, Matthew, Leitao, Agee, & Yan, 2008).

In a study that examined the long-term effects of an intervention focused on developing strong positive bonds to school and family, and social competence training in multiethnic urban children, it was found that sexual intercourse, violent behavior and heavy drinking for adolescents who had received the intervention in the elementary grades were reduced at 18 years of age compared to their peers who only received the intervention at grade 5 and 6 (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). The authors noted the importance of both teachers and parents in the development of the child feeling connected to school, non-familial and familial social support respectively, which consequently mediated the risk of and prevented participants from engaging is detrimental behaviors. However, the authors noted that the study was limited in determining the individual effect of each component.

In a study that examined HIV risk among minority adolescents, it was found that youth who strove to achieve long-term goals were less likely to make risky sexual choices, due to their motivation to succeed (Bellamy, Wang, Matthew, Leitao, Agee, & Yan, 2008). The same study also found that school connectedness, was found to be related to HIV sexual risk behaviors, through a pathway that was moderated by alcohol and substance use (Bellamy, Wang, Matthew, Leitao, Agee, & Yan, 2008). Specifically, higher levels of school connectedness were linked to lower levels of alcohol and substance use. Lower levels of alcohol and substance use lowered the likelihood of using them before sex, as well as the likelihood of having multiple sex partners. These latter behaviors are risk factors for HIV, thus an adolescent's HIV risk is also lowered as a result.

Positive peer role models have also been found to be a protective factor for delaying sexual intercourse amongst teens between the ages of 13 to 14. In a study that examined the relationship between youth assets and sexual intercourse amongst 13 to 14 year olds, it was

found that having positive role models was associated with a lower likelihood on engaging in sexual activity. Furthermore, peer-led interventions that focus on negative messaging in the media, peer pressure and developing skills that strengthen refusal self-efficacy were also found to delay sexual initiation and increase the use on contraceptives when adolescents did engage in sexual intercourse (Doss, et al., 2006).

Having a family is not enough to provide the protective effects of parental support. Strong communication between parents and adolescents is the key protective factor. A 2006 study by Aspy et al, found that parents who taught their adolescents to say no to sex, set clear boundaries, and discussed the pros and cons of delaying sexual activity in addition to birth control, were less likely to have adolescents who had initiated sexual activity. For youth who had already initiated sexual activity, but whose parents provided clear communication around sex, STDs and the appropriate use of birth control, were more likely to use birth control (Aspy, Vesely, Oman, Rodine, Marshall, & McLeroy, 2007). The study also found that regardless of demographics, quality parent-child communication as well as greater family cohesiveness was associated with lower proportions of sexually active adolescents.

Fortunately the definition of parent is not restricted to one's biological mother or father, but someone who raises and cares for a child/adolescent. Thus, grandparents, stepparents, foster parents and guardians can provide quality communication about sex and birth control to adolescents that would offer the same protective effects as if their own biological parents had addressed the issues with them (Riesch, Anderson, & Krueger, 2006). It should be noted that differences in parenting styles vary with culture, which will modify the effect parents have on adolescents' decisions. Parents that are stricter with curfews, limiting access to substances, provide clear structure and supervision and also model positive health behaviors are more influential over their adolescents' behavior than those who are less

so (Riesch, Anderson, & Krueger, 2006). Even though this shows great promise, the actual number of parents engaging their adolescents at any age have decreased significantly. In a study that compared parent-adolescent communication about STDs and birth control among the three time-periods of 1988, 1995 and 2002, it was found that there was a fourteen percent decline in the number of conversations between parents and female adolescents between 1995 and 2002 (44% vs. 58%) (Robert & Sonenstein, 2010). Furthermore, females were more likely to have had a conversation about STDs and birth control than their male counterparts. This decrease in the prevalence of the parent-adolescent discussions is concerning, as these discussions are a vital opportunity for adolescents to receive factual information. More importantly, studies have shown that parents influence adolescents more than peers or the media, although parents believe the opposite (Robert & Sonenstein, 2010; Aspy, Vesely, Oman, Rodine, Marshall, & McLeroy, 2007).

Although family cohesion has been reported to be a protective factor for adolescents' sexual health, the reality is that healthy families are not a reality for everyone. A study on the health implications of parent-child communications found that family not being involved in an adolescent's life weakened the familial bonds, and reduced the effect of any positive influences. Consequently, this increases the impact of any negative external influences (Reisch, Anderson and Krueger, 2006). These findings were consistent with another study (Markham, Lormand, Gloppen, Peskin, & Flores, 2010) which found that adolescents who were in overly controlled social relationships, especially with parents, were at risk for poor sexual health outcomes, than those who were connected to social relationships, whether parental or peer group. Lower income families are less likely to provide this structure and supervision due to limited family structure and financial limitations.

If parents are unable to provide pubescent youth with age appropriate information, then what is a suitable alternative? One study has shown that pediatricians and pediatric nurses are in a position to encourage abstinence where possible and for those who have already initiated sexual intercourse, offer appropriate sexual behavioral changes that will reduce risk, and help these budding adolescents identify goals for safer sex behaviors (Committee on Adolescents, 2007). Similar to the communications strategies that are effective in parent-child relationships (Aspy, Vesely, Oman, Rodine, Marshall, & McLeroy, 2007), pediatricians should be supportive and non-judgmental when counseling adolescents about their sexual health and behaviors, and ensure patient confidentiality (Committee on Adolescents, 2007). It is recognized that this is not a suitable alternative for all adolescents, as not all are able to see a pediatrician on a regular basis due to financial limitations. Furthermore, study authors also acknowledged that due to time limitations, follow-up visits might be required to discuss appropriate contraceptive strategies (Committee on Adolescents, 2007).

Ethnic pride has also been found to have significant relations to other protective factors, such as neighborhood attachment, school connectedness, family cohesion and positive peer behavior (Bellamy, Wang, Matthew, Leitao, Agee, & Yan, 2008). Additionally, the same study found a modest positive association between Black female adolescents' likelihood of sexual initiation and the concentration of idle residents in the neighborhoods they resided. Negative associations were observed when residents were Hispanic, or the concentration of married couples was higher (Bellamy, Wang, Matthew, Leitao, Agee, & Yan, 2008).

Conclusion

As shown in the review, there is a clear negative association between exposure to sexually explicit media and the sexual health knowledge, attitudes and behaviors of adolescents. As previously mentioned, youth are interested in finding information about their sexuality and the Internet has become to medium of choice for many adolescents. However, given the impressionable nature of most adolescents, and the influence of media, they should be directed to reputable sites, or be taught to discern which information is accurate or not. Past research has mentioned the importance of parental support for the healthy outcome of an adolescent's sexual health, and studies have shown that youth wished that their sexual health education had started at a younger age (de Visser, 2005). Unfortunately, most parents have an understandable discomfort talking to their adolescents about sex, and at present there is no indication that the educational system plan to meet this demand for comprehensive sexual health education in a timely fashion. Furthermore, adolescents that are in greatest need of comprehensive sexual health education are those that have little or no parental support. It may not be that youth do not have parents present in their lives, but the relationship may not be healthy, or worse overbearing. Consequently, that relationship has become a risk factor instead of a protective factor for the adolescent (Markham, Lormand, Gloppen, Peskin, & Flores, 2010). Acknowledging the positive impact that social support has on adolescents, the moderating effect of non-familial social relationships, which include educators, mentors and other persons, needs to be examined for the protective effect these relationships have on an adolescent's sexual health knowledge, attitudes and behaviors.

CHAPTER III: METHODOLOGY

Tracking Teen Trends

This thesis study is a secondary data analysis of the data set collected from the Tracking Teen Trends (T3) study, which commenced in 2001 and was completed in 2005. The primary goals of the T3 study were to examine the association between exposure to sexually explicit content on the Web and sexual risk behaviors among adolescents who regularly access the Internet.

In order to accomplish these goals, the T3 research team tracked and stored the web pages viewed by study participants that contained sexual content over an 18-month period. Researchers then viewed these cached web pages and coded them based on their content e.g. coercive sexual acts, sexually graphic acts etc. To determine the relationship between exposure to the sexual content and their attitudes and behaviors, researchers also assessed study participants knowledge, attitudes, beliefs, intentions and behaviors related to diet, nutrition, physical activity, smoking, substance use, and sexual behaviors.

Thesis Study

T3 Study Participants

The T3 study sample comprised 590 adolescent males and females between 14 and 17 years of age residing in one of the 48 contiguous United States (Vivolo, 2008). In addition to being between the ages of 14 and 17, participants in the study also had to have used the Internet at home in the past 30 days and be at the junior level or lower in high school (Vivolo, 2008).

Thesis Study Participants

To be included for this thesis study, participants from the T3 study population must have completed all three questionnaires at baseline and subsequent follow-ups. Participants will be excluded from this thesis study if they consistently indicated throughout the assessments that they: have never accessed or not accessed in the past 30 days any form of media i.e. television, movies, Internet, video games, read a magazine; and do not have media environment in their home i.e. TV, VCR, DVD player, radio, CD player, computer, or video game system.

Sample Recruitment Procedure

Random digit dialing (RDD) procedures were used to accrue a nationally representative sample of adolescents. It was calculated that 1,000,000 numbers would be required to obtain a sample of 550 participants, and researchers developed a list of random addresses and phone numbers in the 48 contiguous US states. Recruitment was conducted from July 2004 to November 2004 by having experienced interviewers contact the households on the compiled list. In order to determine if a selected household was eligible for participation, the head of the household first had to consent to a brief questionnaire based on the study's selection criteria. Questions assessed if there was an adolescent in the house between 14 – 17 years of age, who was at the junior level or lower, and had accessed the existing Internet in the house at least once in the past 30 days. Once eligibility was determined, interviewers then asked the head of household if they would be interested in more information about study that involved their teen. If interest was expressed, an information package on the study was mailed to their house. 1242 households requested this additional information, which included a T3 shirt, details on the risks and benefits of participating in the study, T3 website tracking software, and written consent and assent forms.

After both parental consent and adolescent assent were obtained, the T3 software was installed on the home computer that the adolescent used. The adolescent was then enrolled into the study through online methods. Participants were assured that all information that was divulged or obtained through Internet monitoring would be kept confidential and not shared with parents.

Online questionnaires were sent to participants via a link in an email, with reminder emails being sent or reminder phone calls made to participants every few days if a participant failed to complete it. In addition to emails and phone calls, "pop up" reminders were also used to encourage participants to complete the questionnaire. Prior to the deadline for survey completion, a final reminder email was sent to participants who had not completed the survey. 326 adolescents of the original study population of 590 completed all three surveys. Questionnaires were administered at baseline, 6 months, and 12 months during the study period. Participants were reimbursed $20.00 via check or credit debit card for each survey completed, for a total reimbursement of $180.00 if all questionnaires were completed (Vivolo, 2008).

Measures

Dependent Variables

The dependent variables are sexual health knowledge, sexual attitudes, sexual behaviors, self-efficacy and sexual self-esteem. All measures, scales and indexes to be used in this study are the same as those used in the T3 study, and have established reliability and validity.

Sexual Health Knowledge

Sexual health knowledge was measured using the 'Sex Knowledge STD/HIV' questionnaire adapted from the study 'SIHLE', and the 'Pregnancy Prevention Knowledge' questionnaire, developed by ADD Health. 14 items of the sex knowledge questionnaire's original 16 items were selected for analysis. Items examined knowledge relating to sex, STDs and HIV, and participants had to respond to the statement, to the best of their ability, using a three-point categorical scale that consisted of the three choices 'True', 'False', and 'Don't Know'. Similarly, the pregnancy prevention questionnaire presented 6 items related to pregnancy prevention and 4 items were selected. As both questionnaires used the same scales, a total sexual health knowledge score was calculated by recoding each knowledge related question of the adapted SIHLE Sex Knowledge STD/AIDS questionnaire and Pregnancy Prevention questionnaire by ADD Health, into 1 for a correct answer and 0 for a incorrect answer, then adding all the questions to create a total sexual knowledge score for each participant. The minimum possible score was 0 (0% correctly answered) and the maximum score being 18 (100% of questions answered correctly).

Sexual Attitudes, Self-Efficacy and Self-Esteem

Sexual attitudes were measured using the four questionnaires: Abstinence Beliefs (Blinn-Pike, Berger, Hewett, & Oleson, 2004), Negative Normative Beliefs (ADD Health), and Attitudes to Male Dating Violence (Price, Byers, Belliveau, Bonner, & Caron, 1999).

The Abstinence Beliefs (Blinn-Pike et al., 1998) questionnaire consisted of 17 dichotomous items, and 9 items were selected that addressed specific reasons that participants did not have sex. Participants were required to answer 'yes/no' to each statement to indicate if it was a reason for participants' abstinence from sex. The 9 items

selected were summed to create a total score for abstinence beliefs, with the minimum score for a participant being 0 and the maximum score being 9. Greater scores equated to a participant having more reasons to abstain.

The Negative Normative Beliefs (ADD Health) questionnaire assessed participants beliefs about having sexual intercourse at this point of their lives, regardless if the participant had already had sex or not. The questionnaire consisted of 8 items, each with a 5-point Likert scale for responses ranging from 'Strongly Agree' to 'Strongly Disagree'. 6 items were chosen that analyzed what participants may believe about sexual intercourse, and how peers and family members would feel if a participant had sexual intercourse. The 6 items were summed, using reverse-coded versions of items when required, to create a total score for abstinence beliefs, with the minimum score for a participant being 6 and the maximum score being 30. Greater scores equate to a participant having more negative beliefs about sex.

Attitudes to Male Dating Violence (Price, Byers, Belliveau, Bonner, & Caron, 1999) questionnaire assessed the acceptability of male dating violence to participants. The questionnaire consisted of 12 items, each with a 5-point Likert scale for responses ranging from 'Strongly Agree' to 'Strongly Disagree', and 6 items were selected that examined violence associated with sexual behaviors, and summed, using reverse-coded versions of items when required, to create a total attitudinal score for a participant with the minimum score for a participant being 6 and the maximum score being 30. Higher scores equate to greater belief that male dating violence is acceptable.

Sexual Self-Efficacy

Self-efficacy was measured using the two questionnaires 'Refusal Self Efficacy' (Cecil & Pinkerton, 1998) and Condom Use Self Efficacy (CUSES) (Brafford & Beck, 1991).

The Refusal Self Efficacy (Cecil & Pinkerton, 1998) questionnaire consisted of 7 items that assessed how sure participants would be able to say no to having either sex or oral sex with someone under the conditions of seven different scenarios i.e. a participant knew to person for a few days or less, or they had had sex with them before. Responses were given on a 4-point scale, ranging from 'I definitely CAN'T say no' to 'I definitely CAN say no'. 3 items that examined specific behaviors a participant could refuse to engage in were selected and summed to create a total score for refusal self-efficacy, with the minimum score for a participant being 3 and the maximum score being 12. Higher scores indicate a greater ability to refuse engagement in sexual behaviors.

The Condom Use Self-Efficacy questionnaire consisted of 6 items, and assessed participants' feelings about condom use under different circumstances. Each item was a statement that participants had to respond to using a Likert scale, with responses ranging from 'Strongly Agree' to 'Strongly Disagree'. All items were summed, using reverse-coded versions of items when required, to create a total condom self-efficacy score, with the minimum score for a participant being 6 and the maximum score being 30. Higher scores indicate greater belief in one's ability to use a condom.

Sexual Self-Esteem

The Sexual Self-Esteem (Adapted From: MDSSCQ; Snell) consisted of 5 items, with each item being a statement that participants rated their level of agreement using a 6-point scale consisting of responses ranging from '*Not at all like me'* to '*Very much like me',* and '*Not Applicable*'. The questionnaire was developed to assess the feelings and opinions participants

had about their romantic relationships. 3 items that specifically addressed sexual behaviors were selected and summed, using reverse-coded versions of items when required, to create a total score for a participant's sexual self-esteem, with the minimum score for a participant being 3 and the maximum score being 15. Higher scores indicate a higher sense of self-esteem.

Sexual Behaviors

Several questionnaires examined sexual behaviors of study participants, using various ordinal response scales for individual questions. Consequently, each question that related to a specific behavior was analyzed individually. Types of behavior analyzed included "hooking up", precoital behaviors, oral sex, likelihood of engaging in oral or vaginal intercourse, number of sexual partners, talking with a partner about sex, and use of condoms during sexual acts. For questions that had ordinal categorical responses, they were treated as continuous variables and Independent Means t-tests were performed. Questions with dichotomous responses were analyzed using Chi-square tests.

Sexual behaviors were measured using items selected from the questionnaires 'Relationships', 'Oral Sex', 'Sexual Intercourse', 'Condom Use', and 'Contraceptive Use' developed by T3 Principal Investigators, Partner Communication about Sex (Milhausen et al.), and the 'Precoital Behaviors' scale developed for the ASAI study by researchers Hansen, Wolkenstein and Hahn (Hansen, Wolkenstein, & Hahn, 1992).

The Relationships scale (T3 Principal Investigators, 2001) examined participants' relationships, sexual behaviors and attitudes about dating and sex. 1 item was selected from the questionnaire that examined the frequency of a participant "hooking up", and participants responded using a 4-point scale consisting of the responses '*Never*' to '*Often*'.

Precoital Behaviors (Hansen, Wolkenstein, & Hahn, 1992) assessed the various sexual experiences that participants had. The questionnaire consisted of 10 items, each having the dichotomous response 'yes/no'. All 10 items were summed to create a participant's total score of precoital experiences, with the minimum score for a participant being 0 and the maximum score being 9. Higher scores indicate a greater number of precoital experiences.

The Oral Sex questionnaire (T3 Principal Investigators) consisted of 14 items, which assessed beliefs and behaviors related to oral sex such as the perceived percentages of peers engaged in oral sex/had it performed on them, and participants' intention to have oral sex in the next 6 months, or number of oral sex partners in the past 6 months (if applicable). All 14 items were used to assess participants' oral sex behaviors and related attitudes. 6 items asked participants to estimate peers and friends engagement in oral sex using one of 2 scales: 4 items used a 5-point ordinal scale with responses ranging from *None* to *All*, and 2 items used a 10-point scale of 10% ranges (i.e. 1-10%, 11-20%). 2 items had the dichotomous response 'yes/no', 2 items used a 6-point scale that examined the number of persons a participant had oral sex with, with responses ranging from *1 person* to *6 or more people*. Likelihood of engagement in oral sex (1 item) used a 5-point scale with responses ranging from *Extremely likely* to *Not at all likely*. Age of first oral sex act used a 7-point scale with responses ranging from *11 years or younger* to *17 years old or older*.

The Sexual Intercourse questionnaire (T3 Principal Investigators) consisted of 19 items, which assessed behaviors such as prevalence of virginity, sexual activity, and condom usage amongst peers, participants' intention to have sex within the next 6 months, intention to use a condom at next sex, and number of sexual partners. Scales used for responses included 5-point ordinal scales with responses ranging from *None* to *All*, a 10-point scale of 10% ranges (i.e. 1-10%, 11-20%), a scale with the dichotomous response 'yes/no', a 6-point

scale that examined the number of persons a participant had sex with, with responses ranging from *1 person* to *6 or more people*. Likelihood of engagement in sex (1 item) used a 5-point scale with responses ranging from *Extremely likely* to *Not at all likely*. Age of first sex used a 7-point scale with responses ranging from *11 years or younger* to *17 years old or older*. Average age or sexual partners used a 5-point scale with responses ranging from *Much younger than you (5 or more years)* to *Much older than you (5 or more years)*. The gender of participants' sexual partners was analyzed using a 3-point scale with the responses *Only Males, Only Females, Both males and females*. No items were summed.

The Condom Use questionnaire (T3 Principal Investigators, 2001) assessed condom usage during last sex by asking participants' 3 questions. The responses were either dichotomous 'yes/no' or scaled i.e. *'never'* to *'always'*.

The Contraceptive Use questionnaire (T3 Principal Investigators, 2001) consisted of 2 items, which assessed methods used to prevent pregnancy, and if participants had already been pregnant/gotten someone else pregnant. The question "The last time you had sexual intercourse, what one method did you or your partner use to prevent pregnancy?" presented participants with seven answers to select one response from. The question "How many times have you been/gotten someone pregnant?" had a 4-point response category ranging from 'Never' to '2 or more times' or 'Not sure'.

The Partner Communication about Sex (Milhausen et al.) questionnaire consisted of 5 items, which assessed how often in the past 6 months did a participant talk about sex, condom use and STD/HIV prevention with a partner. All items used a 4-point scale with responses ranging from 'Never' to 'Often', and were summed to give a total score for a participant, with higher scores indicating greater communication with their partner about sex. Scores range from 5 to 20.

Independent Variables

The independent variables for this study are exposure to sexually explicit media, non-familial and familial forms of social support. As familial and non-familial support are not directly measured by one questionnaire alone, a combinations of questionnaires will be used to assess the levels of the various supports that participants received.

Exposure to Sexually Explicit Media

Frequency of exposure to sexually explicit media was assessed using 5 separate questions, each pertaining to a specific type of media e.g. television, Internet etc, and 10 items per question examined the type of media that was viewed. Only the 5 items that identified Adult programs were selected. All items used the same 3-point scale, with response being *Never, Sometimes,* and *A lot of the time*. All sexually explicit media exposure variables were summed to give a total exposure frequency score, with the minimum score for a participant being 5 and the maximum exposure score being 15. Higher scores indicated higher frequency of exposure to sexually explicit media.

Familial Social Support

The questionnaires that address familial forms of social support are: Parental Monitoring of General Media (Jane Brown); Parental Monitoring of Internet Media (Harris Interactive, 2002); Parental Monitoring of General Behavior (Patterson & Stouthamer-Loeber, 1994); Parental Communication about Sex (Sales, Milhausen, Wingood, DiClemente, Salazar, & Crosby, 2008); and Family Cohesiveness (Byles, Byrne, Boyle, & Offord, 1988).

The Parental Monitoring of General Media questionnaire (Jane D. Brown) consisted of 10 items, each with 5-point Likert scale responses ranging from 'Strongly Disagree' to 'Strongly Agree'. The items assessed how involved parents were in the life of a participant,

and how closely they monitored participant's use of media. All items were summed to give a total score for a participant. Higher scores indicated a greater level of parental monitoring over a participant's media use. Scores ranged from 10 to 50.

The Parental Monitoring of Internet Media (Harris Interactive, 2002) questionnaire consisted of 12 items, 10 of which used 5-point Likert scales for responses and the final 2 using a 5-point and 4-point scale respectively. The items assessed how parents monitored participants' Internet usage as well as participant's beliefs about parental monitoring of the Internet. The first 10 items were summed to give a total score for a participant, with higher scores indicating greater parental monitoring over a participant's Internet usage. The final 2 items were not summed. Scores ranged from 10 to 50.

Parental Monitoring of General Behavior (Patterson & Stouthamer-Loeber, 1994) questionnaire consisted of 9-items that examined the restrictions parents placed on a participant's general activities. 8 items using a 5-point scale with responses ranging from 'Never' to 'Always' and 1 item using a dichotomous response of 'no/yes'. The first 7 items were summed to give a total score for a participant, with higher scores indicating greater parental monitoring over a participant's general activities. Scores ranged from 7 to 35.

Parental Communication about Sex (Sales, Milhausen, Wingood, DiClemente, Salazar, & Crosby, 2008) questionnaire consisted of 5 items, which assessed how often in the past 6 months a participant and their parent talked about sex, condom use and STD/HIV prevention. All items used a 4-point scale with responses ranging from 'Never' to 'Often'. All 5 items were summed to give a total score for a participant, with higher scores indicating greater communication with their parent about sex. Scores ranged from 3 to 12.

Family Cohesiveness (Byles, Byrne, Boyle, & Offord, 1988) questionnaire consisted of 13 items, which assessed the health of the participant's family relationships. 12 of the items used a 4-point scale with responses ranging from 'Strongly Agree' to 'Strongly Disagree', and these items were summed, using reverse coded variables when required, to give a total score for a participant, with higher scores indicating greater family cohesiveness. Scores ranged from 6 to 24.

Non-Familial Social Support

The questionnaires that address non-familial forms of social support are: School Connectedness (ADD Health); Loneliness (Wittenberg & Reis, 1986); Alienation (Jessor & Jessor, 1977); and Social Support (Zimet, Dahlem, Zimet, & Farley, 1988); Unwillingness to Communicate (Burgoon, 1976).

The School Connectedness (ADD Health) questionnaire consisted of 6 items, which assessed the thoughts and feelings participants had toward their school, by posing statements such as 'I feel like I am part of this school' and having participants indicate their level of agreement. 3 items were selected that examined and all items used a 5-point Likert scale with responses ranging from 'Strongly Agree' to 'Strongly Disagree'. The 3 items were summed to give a total score for a participant, with higher scores indicating greater connectedness to their school. Scores ranged from 3 to 15.

The Loneliness (Wittenberg & Reis, 1986) questionnaire consisted of 10 items, which assessed participants' feelings about the quality of their social relationships. Participants were presented with a series of statements, which they responded to using a 5-point scale, with responses that ranged from 'Never' to 'Very Often'. 6 items were selected that addressed the support received from non-familial sources and were summed to give a total score for a

participant, with higher scores indicating greater feelings of loneliness. Scores ranged from 6 to 30.

The Alienation questionnaire (Jessor & Jessor, 1977) consisted of 15 items that assessed the feelings participants had surrounding personal and social issues. Participants were presented with a series of statements, which they responded to using a 4-point scale, with responses that ranged from 'Strongly Agree' to 'Strongly Disagree'. 6 items were selected and were summed to give a total score for a participant, with higher scores indicating greater feelings of alienation when dealing with personal and social issues. Scores ranged from 6 to 24.

The Social Support questionnaire (Zimet, Dahlem, Zimet, & Farley, 1988) consisted of 12 items that assessed the support in participants' lives. Participants were presented with a series of statements, which they responded to using a 4-point scale, with responses that ranged from 'Strongly Agree' to 'Strongly Disagree'. 6 items were selected and summed to give a total score for a participant, with higher scores indicating higher levels of social support. Scores range from 6 to 24. Additionally, 4 items that pertained to non-familial support was then separate from the 2 items examined familial support and a separate score totaled for each type of support. Non-familial scores ranged from 4 to 16, and familial scores ranged from 2 to 8.

The Unwillingness to Communicate questionnaire (Burgoon, 1976) consisted of 15 items that assessed a participant's ability to seek support from peers and family. 4 items were selected that specifically addressed the quality of the communication participants' had with their family and friends. All items were positive statements that respondents had to indicate their level of agreement with, using a 5-point Likert scale, and the 4 items were summed to

give a total score for a participant, with higher scores indicating higher quality communication with friends and family. Scores range from 4 to 20.

CHAPTER 4: RESULTS

Data were collected using Internet surveys and through preliminary screening by T3 interviewers, from July 2004 until November 2004. All data were processed using SPSS version 18.0 for Windows. The T3 study included 590 adolescents, however due to eligibility criteria of this thesis study only 445 adolescents were included in the study. The research questions for this study sought to determine:

1. The prevalence of exposure to sexually explicit media among the sample of adolescents.
2. How adolescents who have some level of exposure to sexually explicit material differ in sexual health knowledge, sexual attitudes, sexual behaviors and social support from adolescents who have no exposure to sexually explicit material.
3. The relation between sexually explicit media exposure and sexual attitudes, sexual behaviors and social support.
4. If social support acts as a moderator between exposure to sexually explicit material and sexual behavior.

In order to answer these questions, several analyses were conducted including frequencies, descriptive statistics, Chi-square analysis, Independent Means t-tests, Linear Regression, Multiple Linear Regression, and Logistic Regression. Computing and recoding selected variables from the T3 data set, to create relevant variables, was done when required.

Sample Characteristics

For the 445 participants included in the thesis study sample, age ranged from 14 to 18 years with the mean age = 15.43 years (SD=1.00). The majority of the sample comprised females (n=238, 53.5%). Ethnic and racial demographic questions were available for only 83 participants, however of those, 7.2% identified being of Spanish, Hispanic, or Latino origin or descent (n=6). Racially, 79.5% of study participants were White (n=66), 3.6% were Black or African American (n=3), 8.4% identified as Mixed race (n=7), and 3.6% identified as Other (n=3). Regarding school, the majority of the respondents who answered the related questions (n=54, 65%), reported being in either the 10^{th} grade (n=27, 32.5%) or 11^{th} grade (n=27, 32.5%). Regarding participants' household structure, again only 83 participants responded to the household questions. Of these respondents, 88.0% live with their biological mother (n=73), while only 72.3% live with their biological father (n=60), 12.0% live with a stepfather (n=10) and 12.0% of respondents reporting No male parent of guardian living in their household (n=10).

Question One: The prevalence of exposure to sexually explicit media among the sample of adolescents.

All participants included in this thesis study had accessed some source of media (i.e. television, Internet etc.). However, not all participants had viewed sexually explicit media on every source. Only 43 participants (9.7%) noted that they had watched a sexually explicit (Adult) program on TV in the past 30 days, and only 9.3% of these participants (n=4) reported watching it most often on a typical day. Most of this sample of participants (n=15, 34.9%) ranked adult programming as being the 6th or 7th show they watched most often on a typical day.

A total of 16% (n=71) of participants responded that they had visited a sexually explicit website (e.g. playboy.com) within the last 30 days, and 47.9% of these participants (n=34) ranked adult-themed websites as one of the top three websites they visit on a daily basis. A total of 28 participants (6.3%) of all participants noted using a file exchange program to download nude photos, and 36 participants in the total sample (8.1%) noted downloading X-rated videos in the past 30 days. Only 9.1% (n=39) out of 428 participants noted seeing an X-rated movie in the past 30 days (9.1%), and only 5.6% (n=3) of the 54 participants who reported having a TV in their bedroom, noted that they get adult-themed movie channels on that TV in their bedroom. Due to low responses for each individual form of media exposure frequency, all sexually explicit media exposure variables were summed to give a total exposure frequency score, with the minimum score for a participant being 5 and the maximum exposure score being 15.

Research Question Two: How do adolescents who have some level of exposure to sexually explicit material differ in sexual health knowledge, sexual attitudes, sexual behaviors and social support from adolescents who have no level of exposure to sexually explicit material.

A median split was performed on the total exposure to sexually explicit media variable such that participants with scores of 5 were placed in the 'No exposure' category and participants with scores of 6 or greater were placed in the 'Some exposure' category. This created a dichotomous independent variable with values of 0 (no exposure) and 1 (some exposure). Bivariate statistics were performed to examine the differences between groups based on sociodemographic variables. The only significant sociodemographic variable was gender (χ^2 =33.95, df =1, p<0.0001), with adolescents who reported some exposure being more likely to be male (83.3%) than adolescents who had no exposure (34.3%). Age was analyzed using both an Independent Means t-test for the continuous form of the variable and a Chi-square for the dichotomous form, (1 = Younger (14-15), 2 = Older (16+)). There were no significant differences in mean age between those exposed and not exposed (t = -1.035, df=154, p=.302), nor between younger and older groups (χ^2 = 0.164, df=1, p=0.685).

Sexual Health Knowledge

The mean knowledge score for was 6.34 (SD =3.187) with a range of 0 to 18. There was no difference between groups on knowledge, (t =1.158, df = 152, p=0.249).

Sexual Attitudes

Sexual Attitudes related to Refusal Self-Efficacy Belief, Abstinence Beliefs, Negative Normative Beliefs about Sexual Intercourse, Condom Use Self-Efficacy, and Attitudes to Male Dating Violence were examined to answer the second research question. Significant differences in attitudinal outcomes between exposure groups can be found in Table 1. Adolescents, who were exposed had lower refusal self-efficacy, weaker abstinence and negative normative beliefs, and were more accepting of male dating violence, than adolescents who had no exposure.

Peer norms and belief of prevalence of sexual behaviors amongst peers were also compared by exposure level. Significant findings for belief estimates can be found in Table 1. Adolescents, who were exposed were more likely to believe that their peers had sex, never used condoms and received oral sex, that their friends had also received oral sex and less likely to agree that "Teenagers can be trusted to follow parental Internet rules" compared to adolescent who were not exposed (See Table 1 for statistics).

Table 1. Analyses Measuring the Association Between Exposure Level to Sexually Explicit Media and Adolescents' Sexual Attitudes

	Independent t-Test Analyses				
	Exposure to Sexually Explicit Media				
	Mean (SD)				
	None	Some	t[1]	(DF)[2]	*P*
Sexual Attitudes					
Refusal Self-Efficacy[3]	9.76 (2.08)	8.43 (2.50)	3.530	152	.001*
Abstinence Beliefs[3]	3.84 (2.28)	2.81 (2.34)	2.089	99	.039*
Negative Normative Beliefs[4]	20.02 (4.42)	16.15 (3.57)	5.891	129.49	.000*
Acceptance of Male Dating Violence[4]	9.14 (3.50)	12.17 (4.18)	4.775	152	.000*
Condom Self-Efficacy	22.25 (4.34)	23.33 (4.14)	-1.501	152	.135
Sexual Beliefs					
Peers who are virgins	3.41 (0.883)	3.06 (0.960)	2.326	154	.021*
Peers who are waiting until marriage	2.56 (1.020)	2.11 (1.003)	2.622	154	.010*
Peers who have had sex	2.86 (0.985)	3.24 (0.899)	-2.356	154	.020*
Peers who never use condoms when they have sex	1.82 (.861)	2.19 (.913)	-2.445	154	.016*
Peers who received oral sex	2.63 (1.151)	3.15 (1.106)	-2.724	154	.007*
Friends who received oral sex	4.93 (3.256)	6.17 (3.113)	-2.289	154	.023*
Teenagers trusted to follow parental Internet rules	2.83 (.050)	2.48 (.105)	3.024	78.12	.003*

[1]t=T-test statistic

[2]DF=Degrees of Freedom

[3]Total score created from summing select items from the scale. Higher scores indicates stronger attitudes, self-efficacy or beliefs

*Significant at 0.05 level

Sexual Behaviors

Behaviors that were found to be statistically significant based on exposure can be found in Tables 2 and 3.

Table 2. Significant Independent t-Test Analyses Measuring the Association Between Exposure to Sexually Explicit Media and Adolescents' Sexual Behaviors

	Exposure to Sexually Explicit Media				
Sexual Behavior	Mean (SD)		t[1]	DF[2]	*P*
	None	Some			
Lifetime experience of precoital behaviors	5.23 (3.04)	6.44 (2.92)	-2.433	154	.016
How often do you 'hook up'?[3]	1.96 (.911)	2.54 (.966)	-3.681	154	.000
Likelihood of oral sex in the next 6 months[3]	3.67 (1.143)	2.85 (1.28)	3.507	154	.001
Lifetime number of oral sex partners[3]	2.21 (1.53)	3.00 (1.682)	-2.024	66	.047
Likelihood of sexual intercourse in 6 months[3]	3.66 (1.55)	2.96 (1.37)	2.771	154	.006
Number of sexual partners in past 6 months[3]	2.09 (.963)	2.91 (1.60)	-2.138	31.42	.040
Partner Communication about Sex	7.52 (3.68)	9.19 (5.26)	2.074	154	.041
Lifetime number of sexual partners[3]	8.16 (1.67)	9.36 (1.87)	-2.491	52	.016

[1]t=T-test statistic

[2]DF=Degrees of Freedom

[3]Higher mean indicates greater likelihood of engaging in behavior

Table 3. Significant Bivariate Analyses Measuring the Association Between Exposure to Sexually Explicit Media and Adolescents' Sexual Behaviors

	Exposure to Sexually Explicit Media				
	N (%)				
Sexual Behavior	None	Some	χ^2	DF[2]	*P*
Had oral sex	38 (55.9%)	30 (44.1%)	4.809	1	.028
No intention to use condom as next act of sexual intercourse	5 (100.0%)	0 (0.00%)	4.945	1	.026
Used alcohol or drugs during last sex act	3 (30.0%)	7 (70.0%)	4.352	1	.037
Hooked up with someone they met online	5 (35.7%)	9 (64.3%)	5.982	1	.014

[1]χ^2=Chi-square test statistic
[2]DF=Degrees of Freedom
[3]Higher frequency indicates greater likelihood of engaging in behavior

Adolescents who were exposed to sexually explicit media were more likely to have: engaged in more precoital behaviors; hooked up; hooked up with someone they met online; a higher lifetime number of oral sex and sexual partners; use a condom at the next act of sex; have talked to their partner about sex; and, have had a higher number of sexual partners in the past six months than adolescents who were not exposed. Also, adolescents who were exposed were less likely to have sex and oral sex in the next six months and less likely to ever had oral sex than adolescent who were not exposed (See Tables 2 and 3 for statistics).

Social Support

All questions that explored familial or non-familial forms of social support were added into a total score social support score. Independent Means t-tests were conducted to assess the difference between social support and exposure level. Findings are presented in Table 4. Parental monitoring of both Internet usage and general activities was higher for adolescents

who were not exposed to sexually explicit media. Adolescents who were exposed were less likely to communicate with friends and family and more likely to feel alienated from their social environment (See Table 4 for statistics).

Table 4. Significant Independent t-Test Analyses Measuring the Association Between Exposure to Sexually Explicit Media and Social Support Adolescents' Receive

	Exposure to Sexually Explicit Media				
	Mean (SD)				
Social Support	None	Some	t[1]	DF[2]	*P*
Parental Monitoring of the Internet[3]	26.23 (5.88)	24.24 (5.37)	2.066	154	.041*
Parental Monitoring of General Activities[3]	29.44 (5.89)	26.06 (5.82)	3.431	154	.001*
Willingness to Communicate[3]	15.19 (2.83)	13.70 (2.40)	3.060	133	.003*
Feeling Alienated from Social Environment[3]	12.80 (3.72)	14.85 (3.11)	3.203	133	.002*
Social Support[3] (Familial and Non-Familial)	18.46 (4.19)	17.65 (3.91)	1.087	133	.249
Non-Familial Social Support[3]	12.69 (2.97)	11.91 (2.67)	1.480	133	.141
Familial Social Support[3]	5.78 (1.83)	5.74 (1.54)	.115	133	.909

[1]t=T-test statistic

[2]DF=Degrees of Freedom

[3]Higher mean indicates greater social support received

* Significant at the 0.05 level

Research Question Three: The relation between sexually explicit media exposure and sexual attitudes, sexual behavior and social support.

After determining which attitudes and behaviors were significantly associated with exposure to sexually explicit media at the bivariate level, linear and logistic regression models were constructed to determine the relationship between exposure to sexually explicit media and the respective attitudinal and behavior outcomes at the multivariate level. As gender was found to be significantly associated with the exposure variable it was controlled for in all linear and logistic regression models. Additional, age was also controlled for due to its significant association being observed in the analysis of the T3 data in other studies.

Sexual Attitudes

Refusal Self-Efficacy, Abstinence Beliefs, Negative Normative Beliefs, Acceptance of Male Dating Violence, perceptions of sexual behaviors amongst peers and friends were analyzed using Linear Regression models that controlled for gender and age. The IV for the Linear Regression models was the original total exposure frequency score for a participant, a continuous variable. Statistically significant relationships with frequency of exposure to sexually explicit media are presented in Table 5.

Table 5. Relation Between Exposure to Sexually Explicit Media and Adolescents' Sexual Attitudes (Controlling for Age and Gender)

	Linear Regression Analyses		
	Exposure to Sexually Explicit Media as a Predictor (Controlled for Age and Gender)		
	F (DF)[1], *P*	B[2]	*P*
Sexual Attitudes			
Refusal Self-Efficacy[3]	(3,153) = 6.294, .002	-.190	.051
Negative Normative Beliefs[4]	(2,153) = 14.123, .000	-.645	.000
Acceptance of Male Dating Violence[4]	(2,153) = 7.614, .001	.542	.001
Sexual Beliefs			
Peers who received oral sex	(3,155) = 6.205, p=.001	.182	.000
Friends who have had oral sex	(3,155) = 6.982, p = .000	.487	.000
Peers who are virgins	(3,155) = 7.756, p =.000	.149	.000
Peers who are waiting	(3,155) = 3.357, p=.023	.123	.006
Peers that had sex	(3,155) = 7.771, p = .000	.161	.000
Peers that never use condoms when they have sex	(3,155) = 5.793, p=.001	.135	.000

[1]F Value = Does exposure reliably predict the sexual behavior
[2]B = Relationship between exposure and sexual behavior

Exposure to sexually explicit media was a marginally significant predictor of a participant's refusal self-efficacy (p=.051), but a significant predictor of negative normative beliefs (p<0.0001). As exposure to sexually explicit media increased by 1 unit, a corresponding decrease of .645 was seen in Negative Normative Belief score. Acceptance of Male Dating

Violence was significantly predicted by exposure (p=.001), with each unit increase in exposure frequency, there was a .542 point increase in acceptance scores.

Beliefs of the prevalence of specific sexual behaviors amongst their peers and friends were also found to be statistically significant as presented in Table 5.

Participants' belief about their peers receiving oral sex was significantly predicted by exposure (p<.0001). With each unit increase in exposure score, there was a 0.182-point increase in perceived prevalence of peers engaged in oral sex. Perception of percentage of friends that have had oral sex was significantly predicted by exposure (p<.0001). With each unit increase in exposure score, there was a 0.487 point increase in perceived prevalence of peers that had oral sex. Exposure also significantly predicted participants' belief of the approximate number of peers who are virgins was significant (p<.0001). With each unit increase in exposure score, there was 0.149-point decrease in perceived prevalence of peers who are virgins. Participants' belief of the approximate number of peers who are remaining abstinent until marriage was significantly predicted by exposure (p=.006). A 1-unit increase in exposure score saw a corresponding 0.123 unit decrease in perceived prevalence of peers who are waiting until marriage. Participants' belief of the approximate number of peers who have had sex was significantly predicted by exposure (p<.0001). A 1-unit increase in exposure score saw a corresponding 0.161 unit increase in perceived prevalence of peers who have had sex. Also the belief that peers that use never use condoms when they have sex was significantly predicted by exposure (p<.0001), with a 1 unit increase in exposure seeing a .135 unit increase in the belief that friends never use condoms when they have sex (See Table 5 for statistics).

Sexual Behaviors

Significant behavioral analysis results are presented in Table 6:

Table 6. Relation Between Exposure to Sexually Explicit Media and Adolescents' Sexual Behaviors (Controlling for Age and Gender)

	Linear Regression Analyses			Logistic Regression Analyses		
	Exposure to Sexually Explicit Media as a Predictor					
Sexual Behaviors	F (DF), *P*	B	*P*	AOR[1]	(95% CI)[2]	*P*
Lifetime experience of precoital behaviors	(2,155) = 8.884, 0.0001	.477	.000			
How often do you "hook up"?[3]	(3,155) = 2.810, .041	.099	.017			
Likelihood of oral sex in the next 6 months[3]	(3,155) = 8.874, .0001	.221	.000			
Likelihood of sexual intercourse in 6 months[3]	3,155) = 4.758, .003	-.214	.000			
Number of sexual partners in past 6 months[3]	3,155) = 3.516, .022	.223	.003			
Lifetime number of sexual partners[3]	(3,53) = 1.342, .271	.207	.052			
Lifetime number of oral sex partners[3]	(3,67) = 2.633, .057	.172	.048			
Partner Communication about Sex	(3,155) = .559, .643	.087	.646			
Ever had Oral Sex				2.343	(1.088, 5.050)	.03
Use of alcohol or drugs at last sex				5.322	(1.084, 26.130)	.039
Ever hooked up with someone met online				4.141	(1.091, 15.718)	.037

[1]AOR=odds ratio adjusted for gender and age

[2]95% CI=95% confidence interval

Exposure was found to be predictor of: precoital experiences (p<0.0001), with a 1-unit increase seeing a .477 unit increase in number of precoital experiences (B=.477); frequency of 'hooking up' (p=.017), with a 1-unit increase seeing a .099 increase in hook-up frequency (B=.099); likelihood of engaging in oral sex in the next 6 months (p<.0001), with a 1-unit increase seeing a .221 decrease in likelihood of engaging in oral sex in the next 6 months (B=-.221); sexual intercourse in the next 6 months (p<.0001), with a 1-unit increase seeing a .214 decrease in the likelihood of engaging in sex in the next 6 months (B =-.214); and, number of sex partners in the past 6 months (p=.003), with a 1-unit see a .223 increase in the number of sex partners (B =.223) (See Table 6 for further details).

Logistic regression models were used to analyze the relationship between exposure to sexually explicit media (dichotomous variable), and dichotomous behavioral outcome variables while controlling for age and gender (See Table 6).

Results from the analysis of lifetime occurrence of oral sex (AOR = 2.343, CI: 1.088, 5.050; p=.03) suggested that those who were exposed to some (or high levels of explicit media) were 2.34 times more likely to report ever having had oral sex, 5.32 times more like to have drank alcohol or used drugs

(AOR = 5.322, CI: 1.084, 26.130; p=.039), and 4.14 times more likely to have hooked up with someone who they met online (AOR = 4.141, CI: 1.091, 15.718; p=.037).

Social Support

Finally, linear regressions were performed to determine the relationship between significantly related forms of social support (See Table 4) and level of exposure to sexually explicit media in multivariate models. Significant relationships with exposure to sexually explicit media were found for parental monitoring of the Internet (B=-.688, p=.005) and general activities (B=-

1.061, p=.000), being willing to communicate with friends and family (BB=-.349, p=.007), and alienation from social environment (B=.480, p=.006). All statistics of the analyses are presented in Table 7.

Table 7. Relation Between Exposure to Sexually Explicit Media and Social Support Adolescents Received (Controlling for Age and Gender)

	Linear Regression Analyses		
	Exposure to Sexually Explicit Media as a Predictor (Controlled for Age and Gender)		
Social Support	F (DF)[1], *P*	B[2]	*P*
Parental Monitoring of the Internet[3]	(3,155) = 4.989, .002	-.688	.005
Parental Monitoring of General Activities[3]	(3,155) = 8.875, .000	-1.061	.000
Willingness to Communicate[3]	(3,134) = 7.644, .000	-.349	.007
Feeling Alienated from Social Environment[3]	(3,134) = 5.491, .001	.480	.006
Social Support (Familial & Non-Familial)	(3,134) = .994, .398	.031	.878
Familial Social Support	(3,134) = .794, .500	.030	.729
Non-Familial Social Support	(3,134) = 1.400, .246	.001	.992

[1]F Value = Does exposure reliably predict the sexual behavior
[2]B = Relationship between exposure and sexual behavior

Research Question Four: Does social support act as a moderator between exposure to sexually explicit material and sexual behavior

The role of social support as a moderator of the relationship between exposure level to sexually explicit media (IV) and continuous behavioral variables (DVs) was analyzed using linear regression. The relationships between the IV and the respective DV, the moderator and the DV and the interaction effect of (IV * Moderator) on the DV were examined, while controlling for age and gender (See Table 8). Main effects were found for: familial social support on likelihood of sex in the next 6 months (B=.201, p=.016); exposure to sexually explicit media on frequency of hooking up (B=1.616, p=.023) and partner communication about sex (B=-6.852, p=.047); familial social support on likelihood of sex in the next 6 months (B=.201, p=.016); and feelings of loneliness on total precoital experiences (B=-.156, p=.029). Interaction effects were seen for: likelihood of oral sex in next 6 months with both social support (B=-.134, p=.021) and non-familial social support (B=-.192, p=.022); likelihood of sex in the next 6 months for non-familial (B=-.248, p=.009), familial social support (B=-.395, p=.014) and social support (B=-.187, p=.004); partner communication about sex for non-familial (B=.652, p=.019) and social support (B=.395, p=.040); and an interaction effect for frequency of hooking up just reached significance for willingness of a participant to communicate (B=.130, p=.055) (See Table 8).

For dichotomous behavioral variables, logistic regression was performed, while controlling for gender and age. A main effect for total feelings of loneliness on lifetime experience of oral sex (AOR = .894, CI: .802, .996; p=.041) was found. However no interaction effects were observed, thus feeling less lonely does not act as a moderator.

Effects of Social Support at High and Low Levels

The relation between exposure to sexually explicit media and sexual behaviors were examined for two levels of social support, for all types of social support that had interaction effects (See Table 9). When participants were less willing to communicate, the relationship between exposure and frequency of hooking up was not significant (p=.344) whereas for greater willingness to communicate the relationship was significant (B=.777, p=.001). The relationship between exposure and likelihood of oral sex in the next 6 months was found to be not significant for lower levels of social support (p=.312), but significant at higher levels (B=-1.078, p<0.0001). Additionally, this relationship was also significant for both lower (B=-2.291, p=.015) and higher levels (B=-.906, p=.001) of non-familial social support. The relationship between exposure and likelihood of sexual intercourse in the next 6 months was not found to be significant at lower levels of non-familial (p=.092) familial (p=.320) and social support (p=.654), but significant at the high levels of those forms of social support (B=-.812 p=.008), (B=-.751, p=.025), and (B=-.944, p=.005) respectively. Finally, the relationship between exposure and partner communication about sex was not found to be significant at neither low levels of non-familial (p=.768) and social support (p=.179), nor high levels of non-familial social support (p=.176). However the relationship was significant for high levels of social support (B=2.136, p=.038)

Table 8. Role of Social Support as a Moderator Between Exposure to Sexually Explicit Media and Adolescents' Sexual Behaviors (Controlling for Age and Gender)

		Linear Regression Analyses	
		Effect for Exposure and Social Support on Sexual Behavior	
Sexual Behaviors	Type of Social Support	Main Effect[2] B[1], *P*	Interaction Effect[3] B[1], *P*
How often do you "hook up"?	Willingness to Communicate	None	B = .130, p = .055
	Loneliness	(IV)B = 1.616, p= .023	None
Likelihood of oral sex in the next 6 months	Social Support (Familial & Non-Familial)	None	B=-.134, p=.021
	Non-Familial	None	B=-.192, p=.022
Likelihood of sexual intercourse in 6 months	Non-Familial	None	B = -.248, p=.009
	Familial	(M) B=.201, p=.016	B=-.395, p=.014
	Social Support	None	B=-.187, p=.004
Total precoital experiences	Feelings of Loneliness	(M) B=-.156, p=.029	None
Partner Communication about Sex	Non-Familial	(IV) B=-6.850, p=.047	B = .652, p = .019
	Social Support	None	B = .395, p =.040

[1]B = Relationship between exposure and sexual behavior

[2]Main Effect = Main effect for exposure to sexually explicit media (IV) or social support (M)

[3]Interaction Effect = Interaction between type of Social Support and exposure to sexually explicit media

Table 9. Effects of Exposure to Sexually Explicit Media on Adolescents' Sexual Behaviors (Controlling for Age and Gender) for High and Low Levels of Social Support

		Linear Regression Analyses	
Sexual Behaviors	Type of Social Support	Low Social Support	High Social Support
		B	B
How often do you "hook up"?	Willingness to Communicate	.296	.777*
Likelihood of oral sex in the next 6 months	Social Support (Familial & Non-Familial)	-.503	-1.078*
	Non-Familial	-2.291*	-.906*
Likelihood of sexual intercourse in 6 months	Non-Familial	-1.733	-.812*
	Familial	-.584	-.751*
	Social Support	-.283	-.944*
Partner Communication about Sex	Non-Familial	.872	1.232
	Social Support	-1.810	2.136*

*Significant at the 0.05 level

CHAPTER V: DISCUSSION

Summary

Prevalence of exposure to sexually explicit media

Adolescents are exposed to sexually explicit media (SEM) whether they desire it or not, with most exposures occurring through Internet usage such as use of search engines or emails from friends (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009). As evident from this thesis study's findings however, adolescents are not exposed to SEM through Internet use alone, but as part of a compendium of media sources. Other main sources of exposure cited by participants were television, explicit photos and videos acquired through file-sharing, and explicit movies. Previous studies have estimated that 8% of adolescents willing accessed SEM (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009), however, the prevalence of exposure for this study is 12.1% (n=54). As suggested by the authors of those studies, social desirability bias may have impacted those findings hence the lower reported number. The original T3 data maybe subjected to this same bias, however it is unclear if a difference in methodology may have contributed to a difference in the prevalence rates.

Sexual Health Knowledge, Sexual Attitudes and Sexual Behaviors by Exposure Level

Sexual Health Knowledge

Males participants were found to have a greater likelihood of exposure to SEM than females, and this is congruent with existing literature. Male adolescents are under greater pressure from their peers to be sexually active, and one study found that this peer pressure has resulted in male adolescents experimenting with drugs used to treat erectile dysfunction as early as age 15 (Apodaca and Moser, 2011). Furthermore, previous literature indicates that

age is also positively associated with exposure to SEM (i.e. older adolescents being more likely to view SEM). Although age was not significantly associated with exposure to SEM in this thesis study, further analyses found it to be a significant co-variate with some sexual behaviors, including lifetime experience of ever having sex.

Sexual Health knowledge was low among the sample (mean=6.34, (SD=3.19) maximum score=18), and exposure level was not found to be significantly associated with sexual health knowledge. This highlights the poor quality of the sexual health information available to adolescents. Also, with no significant difference in knowledge between adolescents who were not exposed (mean=6.91, SD=3.19) and adolescents who were exposed (mean=6.27, SD=3.30), this refutes previous claims that SEM negatively impacts the sexual health knowledge of the adolescents that access it (Downs et al., 2004; Braun-Courville & Rojas, 2009).

Sexual Attitudes

Adolescents who had been exposed to SEM were more likely to believe that their peers and friends were sexually active. Conversely, those adolescents that had not been exposed to sexually explicit media were found to be more positively associated with attitudes related to abstinence beliefs, being less accepting of male dating violence and less likely to believe that their peers are engaged in sexual acts. This relates to the Social Cognitive Theory's (SCT) construct of outcome expectation, as the adolescents with no exposure to SEM regard engaging in sexual behaviors as having negative consequences. Furthermore, the belief that peers and friends are also abstaining highlights the positive reinforcement that these adolescents may receive from their social environment, more so than adolescents who were exposed to SEM. Adolescents with at least some exposure to SEM were also less likely

to agree with the statement "Teenagers can be trusted to follow parents rules about using the Internet", basing their assumption on the fact that they had probably broken the rules themselves. Condom self-efficacy was found to be higher among adolescents who were exposed to SEM (mean=23.33, SD=4.14) than those who were not exposed (mean=22.25, SD=4.34) however this difference was not found to be statistically significant (p=.135).

Sexual Behaviors

Adolescents who were exposed to SEM were more likely to engage in precoital behaviors, 'hook-up' more frequently, and have more oral sex and sexual partners in the past 6 months than adolescent who were not exposed. These findings are congruent with previous findings of other studies (Kaiser Family Foundation, 2008; Wingood et al. 2001; Sarracino and Scott 2008). However, one finding that contradicts the literature was that adolescents, who had no level of exposure, were more likely to engage in sexual intercourse at next sex act without a condom. As condom self-efficacy was not significantly associated with exposure to SEM, it is not immediately clear as to why this is the case. However, some conclusions drawn from previous literature are: the adolescents could be in a committed, monogamous relationship; the female participant/partner is using a non-prophylactic method of birth control; and/or, participants who were not exposed did not know how to use a condom. As there is little difference in sexual health knowledge and condom self-efficacy between the exposure groups, a more controversial suggestion would be that adolescents who were exposed to SEM may have observed condoms being used during the sexual acts depicted, and thus decided that condoms were required during sexual intercourse. Following the observational learning construct of SCT this suggestion fits within the associated four processes: attention – two adults, not in a relationship, are using a condom when having sexual intercourse; retention – intellectual knowledge that condoms are being used to prevent pregnancy, STDs and HIV

transmission; production – intending to use a condom at next act of sexual intercourse and discuss it with their partner; and motivation – use of condoms during sex extends the duration of the act, prevents negative consequences and can consequently reduce anxiety about engaging in sexual intercourse. Another finding of this study supported the third process, production. Specifically, adolescents who were exposed to SEM were more likely to communicate with their partner about sex (i.e. how to use condoms, prevent pregnancy etc.) than adolescents who were not exposed to SEM. However, this apparent protective effect of SEM warrants further examination before concluding there is a significant association.

Social Support

As predicted by the literature, adolescents who were exposed were more likely to have lower levels of parental monitoring than adolescents that had no level of exposure (Aspy, Vesely, Oman, Rodine, Marshall, & McLeroy, 2007). Furthermore, adolescents who were exposed were more likely to feel alienated. The greater likelihood of exposed adolescents communicating with their partners about sex was surprising, given that this group had weaker refusal self-efficacy abilities. It is plausible that these adolescents had already decided to engage in sex versus being pressured by a partner. Another finding that contradicted the literature was that adolescents who were exposed were less likely to engage in both oral sex and sexual intercourse in the next 6 months. While it is clear that SEM is not influencing this desire, and that peers and friends of unexposed adolescents are supportive of abstinent behaviors, further research is required in this area to determine the other driving forces behind these adolescents choice to engage in oral sex and sexual intercourse. Furthermore, previously sexually active teens that are unlikely to engage in sex in the next 6 months, should be studied to determine their reasons for willingly abstaining.

Relation between Exposure to Sexually Explicit Media and Sexual Attitudes, Sexual Behaviors and Social Support

The regression model for exposure and refusal self-efficacy did not show a significant association (p=0.051). This indicates that the negative effects of SEM may not be as influential as suggested by the literature, and adolescents who are exposed to SEM are not immediately persuaded to engage in sexual acts. As the dataset obtained for this study did not assess the predominant forms of adult/explicit genre that adolescents were exposed to, it is plausible that the themes and stereotypes presented in the media is a more significant predictor (Braun-Courville & Rojas, 2009). A related finding of this study was the positive association between acceptance of male dating violence and exposure to SEM. As some of the questions in the Male Dating Violence questionnaire examined agreement with statements such as "*Often guys have to be rough with their girlfriends to turn them on"*, a common dynamic observed in certain adult genres, this suggests that it is not simply the exposure to SEM that influences beliefs, but rather the content of the exposure that influences sexual attitudes.

Beliefs

A strong positive relationship was found between exposure sexually explicit media and a greater belief in the prevalence of sexual behaviors among adolescents. As age was also a significant predictor for this relationship, with a negative association found between age and belief of prevalence (B=-.201, p=.005). This indicates that younger participants were more likely to believe that their peers are virgins or are abstaining till marriage.

Sexual Behaviors

As predicted by the literature frequency of hooking up, pre-coital behaviors, likelihood of oral sex in the next 6 months was positively associated with SEM exposure. Adolescents in the sample who were exposed to SEM were 2.3 times more likely to have oral sex and 5.3 times more likely to have used drugs or alcohol during the last act of sexual intercourse. What is not clear, but plausible, is that these adolescents used drugs or alcohol to reduce their anxiety about engaging in sex. Also, adolescents who were exposed to SEM were 4.1 times more likely to hook up with someone they met online. Hooking up was defined by the study participants as behaviors that range from going on a date or kissing to engagement in. As the Internet provides a degree of anonymity not possible in an adolescent's daily life, it is possible they are using these online-based relationships to experiment sexually, without it negatively impacting their social life. It should be noted that neither feelings of loneliness nor feeling alienated were associated with exposure to SEM.

One finding that contradicted the literature was the negative relationship between exposure to SEM and likelihood of sex in the next 6 months (B=-.214). As no co-variates were associated with this relationship, and there was a positive association between exposure and the likelihood of oral sex in the next 6 months, it would be interesting to further explore this negative relationship. Plausible explanations include the perceived safety of oral sex compared to sexual intercourse, as the pregnancy risk is eliminated, as well as the unknown prior experiences (negative or positive) adolescents may have had regarding sex.

Social Support

In accordance with the literature, parental monitoring of both Internet usage and general activities were found to be negatively associated with exposure to SEM. Thus, greater levels of parental monitoring are associated with reduced frequency of exposure for an adolescent in question. Also, adolescents being willing to communicate with friends and family

was also found to be negatively associated with exposure to SEM, thus affirming the protective nature of various forms of social support. Conversely, adolescents who felt alienated from their social environment were positively associated with exposure to SEM, though given this study's design causality cannot be determined.

Social Support as a Moderator Between Exposure to Sexually Explicit Media and Sexual Behaviors

Interaction effects, the product of exposure to SEM and the social support under analysis, were found for the following sexual behaviors: likelihood of having sex in the next 6 months, the likelihood of oral sex in next 6 months, partner communication about sex and frequency of hooking up. Each of these relationships, between exposure to SEM and the sexual behavior in question, were analyzed for 2 levels of social support (i.e. each type of social support that was significantly associated with each behavior). As hypothesized, higher levels of social support were found to moderate certain sexual behaviors.

Unwillingness to Communicate

Unwillingness of an adolescent to communicate with their peers and family moderated the relationship between exposure to SEM and frequency of hooking up at higher levels. Specifically, the more willing an adolescent was to communicate with their social network the less effective exposure to SEM was for predicting hook-up behaviors.

Social Support

No main effects for Social support (both familial and non-familial) were found, however social support was found to moderate the relationship between exposure to SEM and communication with one's partner about sex at higher levels. Thus the more support an adolescent had from all sources, the more likely were they to communicate about sex with their partner.

Familial and Non-Familial Social Support

A main effect was found for familial social support and non-familial support on communicating with partner about sex and pre-coital experience. As the association is negative, familial and non-familial social support are associated with lower levels of these two behaviors. Interaction effects, the product of exposure to SEM and the social support under analysis, were found for likelihood of oral sex and sexual intercourse in the next 6 months. Familial social support was found to moderate the relationship between exposure to SEM and the likelihood of sexual intercourse in the next 6 months at high levels. Non-familial social support moderated the relationship between exposure to SEM and both the likelihood of oral sex and sexual intercourse in the next 6 months at higher levels as well. However, non-familial social support also moderated the relationship between exposure to SEM and likelihood of sex in 6 months at lower levels of social support.

These findings show that familial and non-familial social support, both combined and separately, do serve to buffer the effects of exposure to sexually explicit media on adolescents' sexual behaviors and act as main effect on these sexual behaviors. While social support is not completely protective against negative influences from one's environment, the findings of this thesis study align with that of previous study findings that it offers a significant protective role. Furthermore, non-familial social support was found to have interactive effects with exposure to SEM for the 3 out of the 4 behaviors analyzed, highlighting the importance of these relationships.

Strengths and Limitations

Upon review of the methodology and analysis used for this thesis study, several strengths and limitations were identified. A major strength is that the study population was a national probability sample, making it more representative of the general population, and thus the findings of this study would be more generalizable. However, after participants were selected based on frequency of media exposure and completion of all questionnaires, the sample size decreased to 156. This was sufficient for most analyses; however there were a few bivariate analyses that had cell counts lower than the expected value. Also, given the disproportionate racial demographics, that did not accurately reflect that of the national statistics, the external validity of the study findings was weakened. Another limitation to ensure a representative sample was that as this study was dependent on an adolescent having a computer with Internet access within their home, this may have been a barrier for more adolescents of low socioeconomic status (SES) to participate.

The cross-sectional design of this study allowed a concise overview as to the current issues being faced by adolescents today. However, this design makes it impossible to determine causality of significant relationships. For example, it is unsure if the initial exposure to SEM occurred before the behavior or if through the exploration of their sexuality, they wanted to find out more about what occurs during sexual intercourse. Furthermore, it maybe possible that given the high rates of unwanted exposure to SEM (Salazar, Fleischauer, Bernhardt, & DiClemente, 2009) that an adolescents curiosity in SEM was heightened, however future research studies are required to determine the dynamics of this exposure behavior relationship.

As this was a quantitative study, the format of the questions was generally close-ended, with the exception of asking participants to define "hook up". Consequently, certain findings of this thesis study that contradicted findings in existing literature could not be explained, and

researchers are left with some doubt as to why the relationship is occurring. Also, as this was a secondary data analysis all instruments used were unable to be modified, thus not all constructs could be measured with the specificity this researcher desired. For example, instead of measuring familial support the prevalence of parental and non-parental social support would have determined which relationships with extended family members or even siblings is protective. In addition to the lack of qualitative data, social desirability bias must be taken into account. The nature of the questions can be considered sensitive, and as there was little established trust between T3 researchers and the participants, participants may have been hesitant to truthfully estimate the frequency of their voluntary exposure to SEM, number of sexual partners in the past 6 months and engagement in sexual behaviors.

Although social desirability bias must be accounted for, the use of tracking software by T3 researchers and the eventual habituation to the software's presence that would inevitably occur among participants, it is expected that participants would engage in their normal Internet use habits, including visiting website and downloading content that is sexually explicit. Another issue to consider when examining and mitigating the effects of social desirability is the consent process. As parental consent and adolescent assent were required prior to enrollment in the T3 study, if there was coercion on adolescents by parents to participate or not, this would have affected the sample size as adolescents may be likely to drop out. Also, if a T3 recruiter was unclear about the confidential nature of the study and/or a participant felt that their parents or guardians would receive access to the information collected then this might influence their decision to participate or not. Also, if they did not feel sure about the study's confidentiality, and they still chose to participate, then their answers would not have been valid.

Implications

As depicted by the literature review, exposure to sexually explicit media is a regular occurrence for adolescents who access any form of media, but more so for those who use the Internet on a regular basis. The protective role of parental relationships has been identified in previous research (Riesch, Anderson, & Krueger, 2006). However, the roles of mentoring relationships, positive peer relationships and non-familial relationships have not been examined in the context of adolescents' sexual health knowledge, sexual attitudes and sexual behaviors. Some studies have mentioned the benefit of such relationships on these latter factors within the context of violence or drug risk studies (Bellamy, Wang, Matthew, Leitao, Agee, & Yan, 2008), however no study has explicitly looked at this direct relationship. As the findings of this thesis study indicate that non-familial relationships are a significant protective factor to adolescents' sexual health knowledge, sexual attitudes and sexual behaviors, this study opens the door into a world of untapped resources of protective social support. As the educational system and strained parent-child relationships are unable to be repaired in time to meet adolescents demand for accurate sexual health education, a healthier alternative must be presented immediately. The role of trusted family and community members to impart such knowledge must be further explored through research and the development of relevant interventions.

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