

ASSOCIATION BETWEEN SCHOOL-BASED SEX EDUCATION AND
CONTRACEPTIVE USE AMONG SEXUALLY
ACTIVE EMERGING ADULTS

By

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To parents and my husband, who have been by my side the entire time

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LIST OF TERMS

Abstinence	Any physical sexual act between two individuals that does not include oral or vaginal sex.
Adolescence	The period of the life between puberty and adult status. For the purpose of this study, ages 11-17 years old represent the time period of adolescence.
Barrier Method	Barrier methods physically prevent sperm from swimming into the uterus and fertilizing the woman's egg.
Contraceptive	A method of preventing pregnancy or infection of sexually transmitted diseases as a result of sexual intercourse.
Emerging Adulthood	A transitory period between adolescence and adulthood. For this study, ages 18-25 years old represent the emerging adulthood time period.
Hormonal Method	Hormonal methods of contraceptive can only be used to prevent pregnancy and cannot be used to prevent the spread of sexually transmitted diseases. Hormonal methods alter a woman's hormonal cycle to prevent fertilization.
Risky Sexual Behavior	Having multiple sexual partners and/or a lack of contraceptive use.

Abstract of Thesis Presented to the Graduate School
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My research investigated the relationship between school-based sex education content and contraceptive use. The effects of gender, grade of first sex education, and number of exposures to sex education were also examined. The Health Belief Model was used to explore and identify possible relationships between sex education content and contraceptive use.

A sample of 738 undergraduate students enrolled in a general education course completed the Sexual Behaviors Questionnaire created for use in this study. The questionnaire consisted of the following conceptual areas: sexual behaviors, sexual activity, grade of first sex education, exposures to sex education, content of the school-based sex education, and demographics. Data was analyzed using ANOVA, t-tests, factor analysis, and bivariate correlations.

Results indicated that content areas such as contraceptives, norms, scare topics, and personal skills/relationships have a relationship to the frequency and consistency of contraceptive use. Specifically, positive relationships were found among contraceptive content and hormonal methods, norms content and any form of contraceptive with oral

sex, and personal skills/relationships and hormonal contraceptives. These findings suggest that when these content areas were discussed there is a positive relationship with the frequency and consistency of reliable contraceptives.

Recommendations for future research and policy include focusing on the content of the sex education program rather than the type of sex education. The study found that there were no relationships between the frequency and consistency of contraceptive use and the type of sex education program (abstinence-only or abstinence-plus). Conclusions reached through this study have important implications for youth practice and public policy.

CHAPTER 1 INTRODUCTION

Teenagers across America are continuing to engage in risky sexual behavior despite recent efforts of teachers, parents, youth workers, programs and policy makers. In 2005 the Center for Disease Control (CDC) reported “47% of high school students had ever had sexual intercourse”(CDC 19) and “14% of high school students had had four or more sex partners” (CDC 20). With almost half of America’s high school students engaging in sexual relations, the issue has become twofold: continuing to discourage sexual relations yet educate students about safer sex practices. The same study done by the CDC, found, “34% of currently sexually active high school students did not use a condom during last sexual intercourse” (CDC 21). Studying the association between risky sexual behaviors and school-based sex education program could reveal possible protective factors.

Risky sexual behavior is most commonly defined as having multiple sexual partners and not using contraceptives. Risky sexual behavior among teenagers leads to multiple problems including teenage pregnancy and a variety of sexually transmitted diseases. In order to reduce the number of teenage pregnancies and the number of new sexually transmitted diseases cases among teenagers each year, contraceptives must become more available and accepted among teenagers.

Risky sexual behavior among teenagers is not a localized problem, but rather a worldwide problem. In many countries and cultures around the world, sexual activity among teenagers is accepted and part of the culture. Each state within the United States currently faces issues with risky sexual behaviors among teenagers. For some states there is an increase in teenage pregnancies, while in other states sexually

transmitted diseases are the major concern. No matter what the specific issue is, they are related to risky sexual behaviors.

Adolescence and Emerging Adulthood

The years of adolescence and emerging adulthood can be exciting as well as difficult for an individual. During this time, youth experience biological changes that can cause an increase in hormones and unexpected emotions. They will begin to experience a sexual drive that until this time period was dormant. Strong feelings and emotions are simply a part of development, but also an area of concern. These feelings and emotions can result in the individual making quick decisions that have not been thoroughly thought through. The years of adolescence and emerging adulthood are defined differently by many researchers. For the purpose of this study, adolescence will be defined as ages 11 to 17 years old. Ages 18-25 years old will be defined as emerging adulthood.

Adolescent Risky Behavior

To understand if a relationship exist between contraceptive use and sex education programs it is important to understand the activities of America's adolescents and emerging adults. Much of the research done on youth's risky sexual behavior focuses on sexual intercourse. According to the CDC almost half of high school students indicated engaging in sexual intercourse, an even higher percentage of youth indicated participating in oral sex. The CDC reported that in 2002, "55% of males and 54% of females aged 15-19 had engaged in oral sex with someone of the opposite sex." Oral sex often precedes sexual intercourse among teenagers; some studies indicate up to 50% of teenagers had oral sex before their first sexual intercourse (Halper-Felsher etc. 845). A study done in the United States found that of the 952 high school students who

had participated in oral sex, 86% had never used a condom and 8% had only used a condom sporadically (Stone, N etc. 7). Contraceptive use among teenagers is the highest when engaging in sexual intercourse with 78% of all sexually active teenagers reporting the use of a reliable method of contraception during their last intercourse (American Academy of Pediatrics 1161-1162).

The reliability of the contraceptive, when reported by the adolescent, is misleading. In order for a contraceptive to be reliable, proper use is required. Birth control must be taken every day at the same time and a condom must not be old, used, or removed improperly. Many adolescents believe they are using a form of contraceptive reliably when in reality they are not (American Academy of Pediatrics 1161). At the same time, the rates of contraceptive use are substantially lower when teenagers are asked if they used a form of contraception the first time they had sexual intercourse, with only 35% saying they had (American Academy of Pediatrics 1161). Contraceptive use among teenagers continues to be a major concern among youth development professionals given that the problems resulting from a lack of contraceptive use continues to negatively affect America's youth.

When a teenager makes the decision not to use a contraceptive when engaging in any form of sexual behavior they place themselves, as well as their partner, at risk for pregnancy and sexually transmitted diseases. Each year the CDC reports that there are "approximately 19 million new STD (sexually transmitted disease) infections and almost half of them are among youth aged 15 to 24." In addition, teenagers are less likely to undergo testing for these diseases and therefore more likely to continue spreading them unknowingly.

Teenage pregnancy accounts for 13% of all pregnancies in the United States or approximately 831,000 per year (Center for Disease Control). Despite the recent drop in live births to teenage mothers, the numbers remain relatively high. While live births to teenage mothers have decreased steadily over the past several decades, the number of abortions by teenagers has increased. Teenagers between the ages of 15 and 19 make up about 19% of abortions each year (Donohoe 16). Women in their twenty's account for 56% of all abortions in the United States (Alan Guttmacher Institute). New laws, including parental consent and notification laws, have been made to decrease the number of abortions by teenagers. The first month of sexual intercourse among teenagers accounts for one fifth of all teenage pregnancies; w the first six months accounts for approximately half (American Academy of Pediatrics 1161). In order to reduce risky sexual behavior among teenagers, efforts must be made to understand teenage motivation for risky sexual behavior.

Internalizing and Externalizing Problems

Risky sexual behavior is often associated with other emotional or behavioral problems. While sexual behavior itself is considered an externalizing problem, internalizing problems often occur at the same time. Internalizing problems generally refer to emotional problems and are most prevalent in female teenagers (depression, anxiety, low self-worth). For some teenage girls, a desire to fit in can result in risky sexual behavior. Other teenage girls simply mature young and their bodies feel biologically ready for sexual intercourse despite the lack of emotional readiness. Externalizing problems also lead to risky sexual behaviors. One of the most common is drug and alcohol use. According to a 2002 study done by the Henry J. Kaiser Family Foundation, "more than one-third of sexually active young people report that alcohol or

drugs have influenced their decisions about sex.” The study further reports that many teenagers indicated they had not used condoms when they were under the influence of drugs or alcohol and had often “done more sexually than they had planned” (Henry J. Kaiser Family Foundation 1). Another common externalizing problem for girls is the lack of strong father figures in their lives (Regnerus, M. 161). Girls who do not have a relationship with their fathers by or before age 5 have the highest rates of early sexual activity and teenage pregnancy (Regnerus, M. 161). Girls whose father or father figure remains constant throughout her life have the lowest rate (Regnerus, M. 161). Boys and girls alike have lower rates of sexual behavior when both parents live together and there is no divorce within the family (Regnerus, M. 160-161). Teenagers who experience these internal and external problems are more likely to engage in risky sexual behavior.

In order to help reduce risky sexual behaviors among adolescents many items must be recognized. The first step is acknowledging that every teen may have a different reason for becoming sexually active. For some peer pressure and a desire to feel loved are motivations. For others, it may be an insuppressible biological drive. No matter what the reason for engaging in the risky behavior, the youth must understand both the possible consequences as well as a way to prevent these consequences. Many youth are not receiving sexual education programs that explain the direct effects of sexual behaviors on the body physically or emotionally. Without understanding the risk associated with their decision to engage in sexual behaviors, youth are unable to prepare for the events following their sexual experiences. Contraceptive use is not being taught in many schools around the country because it is not a part of the abstinence-only programs. Without education on contraceptives and how to obtain

them, youth are simply choosing not to use them. This thesis attempts to explore the relationship between sex education program content and contraceptive use among emerging adults.

Sex Education-Abstinence Only Versus Abstinence plus Programs

Over the last decade federal support for abstinence only educational programs continued to increase. Currently two forms of sex education programs exist in the United States: abstinence plus and abstinence only (Shatz 6). Abstinence plus programs teach that abstinence is the “best choice for avoiding pregnancy and sexually transmitted infections (STIs), but also discuss alternative forms of contraception” (Shatz 6).

In 2004 Sexuality Information and Education Council of the United States (SIECUS) set guidelines for abstinence-plus programs or comprehensive sex education programs (siecus.org). “The Guidelines emphasize six key concepts that comprehensive sexuality education programs should address: human development, relationships, personal skills, sexual behavior, sexual health, and society and culture” (Shatz 7).

Abstinence-only education programs, on the other hand, teach that “abstinence from sexual relationships outside of marriage is expected of all people and that it is the only reliable way to prevent pregnancy and STIs” (Shatz 7). As a result of federal law, educators are prohibited from discussing the benefits of contraceptives, which often results in educators not discussing contraceptives at all or discussing only the failure rates of contraceptives (Shatz 8). According to Title V, by definition, abstinence-only education "teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems"; "teaches that sexual activity outside of the context of marriage is likely to

have harmful psychological and physical effects"; and "teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society" (Shatz 8-9). Federal law allows schools and community organizations to receive federal funding for sex education programs that teach abstinence only if they meet each of the following requirements:

- A. has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;
- B. teaches abstinence from sexual activity outside marriage as the expected standard for all school age children;
- C. teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems;
- D. teaches that a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity;
- E. teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects;
- F. teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society;
- G. teaches young people how to reject sexual advances and how alcohol and drug use increases vulnerability to sexual advances; and
- H. teaches the importance of attaining self-sufficiency before engaging in sexual activity. (Souder 6-7)

Federal funding of abstinence only programs has been increasing over the past two decades. Since 1982, when funding for abstinence-only-until-marriage (AOUM) first began, over \$1 billion has been spent on federally funded programs (Fine and McClelland 1003). In the 2007 budget alone \$204 million was allocated to AOUM funding (Fine and McClelland 1003-1004). According to the U.S. Office of Management and Budget, the federal budget "supports increasing funding for abstinence-only education programs to \$270 million by 2009" (Fine and McClelland 1004). As funding

for abstinence-only programs continue to increase, the relationship of the programs to the use of contraceptives needs to be assessed.

Florida State Policy

Each individual state has the opportunity to decide whether to accept federal funding for abstinence-only sex education or to fund abstinence-plus sex education through state funding. The state of Florida accepts federal funding for abstinence-only sex education and in 2008 accepted \$13,101,054 in federal funding for abstinence-only sex education (SIECUS). Florida state law however allows schools boards to determine what curriculum to use and whether to include information on condoms, contraception, and abortion (Florida Statute, Title XLVIII). In the state of Florida all material must:

- teach abstinence from sexual activity outside of marriage as the expected standard for all school-age students while teaching the benefits of monogamous heterosexual marriage;
- emphasize that abstinence from sexual activity is a certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, including acquired immune deficiency syndrome (AIDS), and other associated health problems;
- teach that each student has the power to control personal behavior and encourage students to base actions on reasoning, self-esteem, and respect for others; and
- provide instruction and material that is appropriate for the grade and age of the student (Florida Statute, Title XLVIII).

Florida, like many other states, accepts federal funding for abstinence-only sex education, but allows counties where sexually transmitted disease rates and pregnancy rates are high to teach sex education that is more appropriate for students who are sexually active.

The Youth Risk Behavior Study from 2007, found that 45% of female high school students and 54% of male high school students in Florida reported ever having had sexual intercourse compared to 46% of female high school students and 50% of male

high school students nationwide (Youth Risk Behavior Study). It was also found that among those high school students who reported being currently sexually active, 59% of females and 73% of males in Florida reported having used condoms the last time they had sexual intercourse compared to 55% of females and 69% of males nationwide (Youth Risk Behavior Study). The study also found that among those high school students who reported being currently sexually active, 20% of females and 11% of males in Florida reported their partner used birth control pills the last time they had sexual intercourse compared to 19% of females and 13% of males nationwide (Youth Risk Behavior Study). The results of this study indicate that while in some areas Florida's sexually active youth differ from the national averages, they are some areas scoring better than the national average which could possibly result from the sex education program within the state of Florida.

Abstinence

Much debate exists surrounding the definition of sexual abstinence and the federal government's perception of it. Confusion exists in abstinence only programs because the definition of abstinence is unclear. For some, abstinence means refraining from actions such as kissing; for others, abstinence includes any sexual act with the exception of vaginal intercourse. A clear definition is needed for teenagers, policy makers, and educators alike.

The new 2004 guidelines given by the AOUM explicitly endorsed the federal government's support of a newer, stricter form of abstinence. Instead of encouraging adolescents to avoid sexual intercourse, this new definition casts a much wider net around what counts as "sexual activity": "Sexual activity refers to any type of genital contact or sexual stimulation between two persons including, but not limited to sexual

intercourse” (Fine and McClelland 1003). This updated version enters into the territory of all things sexually "stimulating". Most importantly, this broad definition of abstinence removes any possibility for sex education curricula to include mention of how teens might engage in nonintercourse behaviors even in an effort to remain abstinent (Fine and McClelland 1002-1003). According to the 2004 guidelines, the only way for adolescents to practice abstinence is to avoid all physical contact with another individual.

For the purpose of this thesis, abstinence is being defined as any sexual act other than oral or vaginal sex (SIECUS). This definition has been chosen because while vaginal sex is the only way for unintended pregnancies to occur, STIs are transmitted through both oral and vaginal sex. Often oral sex is not seen as being a risky behavior that needs attention simply because it cannot result in pregnancy. While reducing teenage pregnancy is a major focus of this thesis, reducing the number of STIs among adolescents is of equal importance.

Sex Education Content

Recent research has focused on the specific type of sex education program that is being offered by a particular state and has focused less on the content that is being taught in the classroom. While there should be a direct relationship in the type of sex education program that is being taught and the content of the sex education program, this is not a guarantee. It can also be difficult for a teacher to control the questions that are asked during sex education, which can lead to discussion of topics outside the program that is being taught. Contraceptives are not to be taught as being a reliable way to protect against sexually transmitted diseases and pregnancy is abstinence-only sex education programs, however it can be mentioned through class discussion and

therefore influence the student's decisions. The specific content of the sex education program must be studied to determine the specifics of what the students are learning rather than simply focusing on the type of sex education program.

The Health Belief Model

The Health Belief Model created by Rosenstock in 1974 focuses on the attitudes and beliefs of the individual (Martin). This theory explains that individuals will decide whether to use a contraceptive, most often a condom, based on several factors. The first is the perceived susceptibility or how likely they feel that they will contract an STD or become pregnant (Martin). The second factor is perceived severity, or how concerned they are with the idea of contracting an STD or becoming pregnant. The third is the perceived benefits of using a condom, or how effective they feel a condom or other forms of contraceptive will be at protecting them from contracting an STD or becoming pregnant. The fourth and final factor is perceived barriers within the relationship to using a form of contraceptive. This factor identifies the concern with approaching their partner and discussing the use of a contraceptive. The individuals perspective and decisions are made as a result of their concern for contracting an STD or becoming pregnant in addition to how severe they believe this outcome would be as well as how well they feel a form of contraceptive will be at protecting them.

Purpose

The purpose of this study is to determine the possible relationship between contraceptive use among sexually active emerging adults as they relate to their school-based sex education program content.

Research Questions

Primary Research Questions and Hypotheses

RQ 1: Does the content discussed in the sex education program affect the frequency of contraceptive use among already sexually active emerging adults?

Ha 1: Contraceptive-based sex education content is positively related to the frequency of contraceptive use among already sexually active emerging adults.

RQ 2: Does the content discussed in the sex education program affect the consistent use of contraceptive among already sexually active emerging adults?

Ha 2: Contraceptive-based sex education content is positively related to the consistency of contraceptive use among already sexually active emerging adults.

RQ 3: Does the grade at which the first sex education session takes place affect the frequency of contraceptive use among already sexually active emerging adult?

Ha 3: The grade of sex education is positively related to the frequency of contraceptive use among already sexually active emerging adults.

RQ 4: Does the grade at which the first sex education session takes place affect the consistent use of a contraceptive among already sexually active emerging adults?

Ha 4: The grade of sex education is positively related to the consistency of contraceptive use among already sexually active emerging adults.

Secondary Research Questions and Hypotheses

RQ 5: Does the number of exposures to sex education programs affect the frequency of contraceptive use among already sexually active emerging adults?

Ha 5: The number of exposures to sex education courses is positively related to frequency of contraceptive use among already sexually active emerging adults.

RQ 6: Does the number of exposures to sex education programs affect the consistent use of a contraceptive among already sexually active emerging adults?

Ha 6: The number of exposures to sex education courses is positively related to consistency of contraceptive use among already sexually active emerging adults.

RQ 7: Does the gender of the emerging adult affect the frequency of contraceptive use among already sexually active emerging adults?

Ha 7: Females show a higher frequency of contraceptive use than males.

RQ 8: Does the gender of the emerging adult affect the consistent use of a contraceptive among already sexually active emerging adults?

Ha 8: Females show more consistent rates of contraceptive use than males.

CHAPTER 2 REVIEW OF LITERATURE

Contraceptive use among teenagers and emerging adults is influenced by many factors. The specific type of contraceptive varies from individual to individual and is a result of many social, personal, and environmental determinants. This literature review focuses specifically on contraceptive use among teenagers and emerging adults and the influence of their exposures to sex education content in schools.

Theory

Adolescence is a time of risk-taking and experimentation that may persist into adulthood and affect personal health in later life (Doswell 56). For example, risky sexually behavior at a young age increases the risk of teenage pregnancy and sexually transmitted diseases (Satcher, 2001). Theories have been used to try and explain different aspects of risky sexual behavior, including social norms and personal attitudes. One specific theory can be used to theoretically understand this decision: The Health Belief Model created by Rosenstock in 1974.

The health belief model. The Health Belief Model, created by Rosenstock in 1974, focuses on the attitudes and beliefs of the individual (Martin). The Health Belief Model indicates before an action or behavior takes place, individuals evaluate the severity of a negative outcome (Wulfert 299). They also take into account the degree to which they believe themselves to be susceptible to the negative outcomes, as well as the possible benefits they can receive from participating in the action or behavior. The model predicts behavior based on the “value of the outcome to an individual and the expectation that the action will result in that outcome” (Orr 873-874). According to the Health Belief Model adolescents’ decision regarding contraceptive use relies

predominately on the perceived risk associated with being sexually active without any form of contraceptives.

Contraceptives

The use of contraceptives during sexual activity helps to reduce the risk of unintended pregnancies and sexually transmitted diseases. About 35% of adolescent females report not having used any form of contraceptive during their first sexual intercourse (American Academy of Pediatrics 1161). On average, it takes twelve months for an adolescent to seek medical advice on contraceptive use after they become sexually active (American Academy of Pediatrics 1161). As a result of the lack of medical advice, approximately half of all teenage pregnancies occur during the first six months after an adolescent becomes sexually active and one-fifth of all teenage pregnancies occur during the first month (American Academy of Pediatrics 1161).

The most recent Youth Risk Behavior Study found that 62% of sexually active youth aged 14 to 17 had used a condom during their last intercourse (Youth Risk Behavior Study). The study also reported 17.6% indicated that they or their partner had used birth control to prevent pregnancy before their last sexual intercourse (Youth Risk Behavior Study). According to the Youth Risk Behavior Study in 1995, 78% of all sexually active adolescents reported using a reliable method of contraception during last intercourse (American Academy of Pediatrics 1161). However, adolescents may believe their form of contraceptive is reliable even when not used properly. A study done by Child Trend, a Washington based nonprofit organization that studies child and adolescent welfare, education, and health issues, found teens reported that they or their partners always used contraceptives in 59% of their relationships (Child Trends). At the same time, they reported not using any contraceptives at all in one-quarter (24%) of

their relationships and using contraceptives inconsistently in 17 % of their relationships (Child Trends).

Contraceptives are available in two forms: barrier methods and hormonal methods. Each of these two forms contains different types of contraceptives, and each has advantages and disadvantages.

Barrier Methods

Barrier methods physically prevent sperm from entering the uterus and fertilizing the woman's egg (Avert). Barrier method contraceptives include the male condom as well as the female condom and different forms of Spermicide. Barrier methods are highly effective in preventing sexual HIV transmission, but they are less effective than hormonal contraceptives in preventing pregnancy (Massad 658). The male condom is the most common form of barrier method contraceptive (Santelli 83).

Condom use has been associated with individual characteristics as well as condom-related attitudes, which include self-efficacy, personal beliefs, and perceptions of peer norms (Lescano 443e2). The use of a condom also depends on the type of partners. Two main types of partners exist: casual partner and main partner. A casual partner is "anyone you have sex with but you do not consider to be a main partner to you" (Lescano 443 e3). A main partner is defined as "someone you have sex with and you consider to be the person you are serious about" (Lescano 443 e3-4). Although some question the definitions, research indicates 48% of teenagers always used a condom with a casual partner while only 23% said they used one with a main partner (Lescano 443 e4). Adolescents are more likely to trust a main partner and believe they do not have a need for the condom. Adolescents perceive a greater health risk when having sex with a casual partner compared to a main partner (Lescano 443 e5).

Regardless of partner type (main or casual) if an individual had a positive attitude towards condoms they are more likely to use them (Lescano 443 e5-6).

Even though only 35% of adolescent females report not having used any form of contraceptive during their first sexual intercourse (American Academy of Pediatrics 1161), the most common form of contraceptive used was the male condom. Among teens, the most common method of contraception used at first sexual intercourse is the male condom—71% of sexually experienced teen boys used a condom the first time they had sex (The National Campaign to Prevent Teen Pregnancy).

Male Condom

Condoms are considered a barrier method of contraception. The male condom is the only method of contraception that men can use. A male condom is a thin latex sheath worn on the penis. The condom works by keeping semen from entering the vagina (Teen Health). The male condom is the most commonly used contraceptive among adolescents (Santelli 83). For many adolescents the male condom is the easiest form of contraceptive to obtain and is very inexpensive. During comprehensive sex education classes, condoms often are recommended because they protect the individual against both unintended pregnancy as well as sexually transmitted diseases. Condom use at first intercourse dramatically predicts future use. Teens who used condoms at first intercourse were 20 times more likely to use condoms in subsequent acts (CDC).

Reported condom use differs greatly by gender. In 2005, 70 % of sexually active male high school students reported using a condom at most recent sexual intercourse, compared with 56 % of females (Child Trends). Condom use is highest among non-Hispanic black students (69%) followed by non-Hispanic white students (63%) and

Hispanic students (58%) as reported in 2005 (Child Trends). Condom use is higher among younger students than older students. In 2005, 75% of sexually active ninth grade students, compared with 62% of eleventh graders and 55 % of twelfth graders, used condoms (Child Trends).

Hormonal Methods

Hormonal methods of contraceptive can only be used to prevent pregnancy and cannot be used to prevent the spread of sexually transmitted diseases. Hormonal methods alter a woman's hormonal cycle to prevent fertilization (Avert). Hormonal methods must be used in addition to a barrier method in order to create the highest level of protection against pregnancy and sexually transmitted diseases. Hormonal methods include but are not limited to birth control pills, Depo-Provera, Norplant and intra-uterine devices.

Oral Contraceptives

Birth control pills and other oral contraceptives must be prescribed by a doctor in order to be obtained. Most oral contraceptives contain two hormones: estrogen and progestin. The combination of the two hormones prevents the ovaries from releasing an egg (FDA). Without the release of an ovum each month, a woman is unable to become pregnant. Oral contraceptives must be taken daily in order to be effective.

Those who choose to use hormonal methods of contraception (e.g. birth control pills) have a higher level of contraceptive consistency (Child Trends). Female teens who used a hormonal method in a previous sexual relationship were 74% more likely to use contraceptives consistently in their subsequent relationships than female teens who used other contraceptive methods or no methods (Child Trends). Users of hormonal methods may be more consistent contraceptive users because they do not need to

address the use of a condom or other contraceptive device every time they engage in sexual intercourse. It is possible however, that female teens who choose to use hormonal methods may be particularly motivated to avoid the risks associated with unprotected intercourse and, as a result, be more consistent users of contraception, regardless of method. When used correctly, oral contraceptives have less than 1% failure rate (Woods, etc 381). When used incorrectly, they have a failure rate of 30% (Woods, etc 381). Oral contraceptives must be taken at the same time everyday in order to be effective. Adolescents often do not understand the importance of taking the pill regularly, which results in the pill becoming an unreliable form of contraceptive.

School-Based Sex Education Programs

Schools across the United States are currently forced to decide what specific type of sex education program, if any, they are willing to teach their students. Decisions as to whether to take federal funding occurs at the state level, while each individual school district is given the opportunity to determine whether they will use the federal funding accepted by the state. Currently in the United States, schools choose between teaching no sex education, abstinence-only or abstinence-plus sex education. While a majority of schools decide to teach some form of sex education program, the controversy sounding each of the two programs greatly concerns school systems. Parents, too, often are split on their opinions of which type of sex education program they would like for their children. For some they see any program other than abstinence-only as giving their children the message that sex is acceptable as long as it is done safely. For others, they believe it is the responsibility of the schools to educate their students on how to have safe sex if they choose to become sexually active. Understanding the specific differences between each of the two programs would enable

schools and parents to have a more informed opinion about the sex education offered to their children.

Abstinence-Only Education

Abstinence-only education programs teach that “abstinence from sexual relationships outside of marriage is expected of all people and that it is the only reliable way to prevent pregnancy and STIs” (Shatz 7). As a result of Section 510(b) of Title V of the Social Security Act, educators are prohibited from discussing the benefits of contraceptives if they use federal money, which often results in educators not discussing contraceptives at all or discussing only the failure rates of contraceptives (Shatz 8). Section 510(b) of Title V of the Social Security Act, which defines the components of abstinence-only education, states “a mutually faithful monogamous relationship in context of marriage is the expected standard of human sexual activity” (Social Security Act). According to Section 510(b) of Title V of the Social Security Act, abstinence-only education “teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems; teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects”; and “teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society” (Shatz 8-9).

Abstinence-only sex education programs have become the norm within the United States. President Clinton and President Bush have shown their support for abstinence-only sex education programs by continuing to only fund abstinence only programs from 1992-2008. Section 510 of the 1996 Welfare Reform Act allowed for \$250 million over five years for programs “with the exclusive purpose of promoting

abstinence” (Waxman Report). The act also requires each state to match \$3 for every \$4 of federal funding for the programs (Waxman). Under the Clinton Administration, abstinence-only programs received approximately \$80 million in federal funding (Waxman Report). The Adolescent Family Life Act was created in 1981 but continues to provide funding to abstinence-only education including approximately \$13 million in 2004 (Waxman). While not every state has chosen to participate in the program provided by the federal government, a majority have, which has resulted in the increase in funding in 2004 to \$50 million per year (Waxman). In 2005 President Bush approved \$270 million for abstinence-only education during the current fiscal year (Waxman Report).

Despite the continued financial support of abstinence-only education programs, the effectiveness of these programs remains in question. Douglas Kirby and the National Campaign to Prevent Teen Pregnancy produced *Emerging Answers: Research Findings on Programs to Reduce Teen Pregnancy* (Kirby), which evaluated programs that educate adolescents on sexual activity and prevention of both pregnancy and sexually transmitted diseases. Kirby found that “there do not currently exist any abstinence-only programs with strong evidence that they either delay sex or reduce teen pregnancy” (Kirby- B 6).

States also have conducted research on the effectiveness of abstinence-only education and have found similar results. A recent analysis of eleven states’ evaluations of some of their abstinence-only education programs found an increase in positive feelings towards abstinence, but the increase was only temporary (Hauser-Five Years of Abstinence). Abstinence-only education programs encourage virginity pledges

which do not delay sex among all adolescents. The Kaiser Family Foundation (2004) found that 88% of adolescents who made virginity pledges still had premarital sex (Kaiser Family Foundation B). Among those adolescents who pledged, no significant difference between their rates of sexually transmitted diseases compared to nonpledges was perceived: however pledges were less likely to use contraceptives than those who did not pledge (Waxman). The effectiveness of abstinence-only education programs has been brought into question in recent years as a result of increased funding from the federal government, as well as the current rates of teenage pregnancy and sexually transmitted diseases within the United States.

Abstinence-Plus Education Programs

Abstinence-only programs are not the only programs questioned by researchers, policy makers, parents, and teachers throughout the United States. Abstinence-plus programs bring with them a large amount of controversy and questions as well. Abstinence-plus programs - or comprehensive programs - are “those that emphasize abstinence as the safest behavior, but also promote condoms or other forms of contraception for young people who do have sex” (Kirby A). Abstinence-plus programs are not required to follow the strict guidelines that abstinence-only programs are and as a result their curriculum varies widely from state to school district to individual classrooms. Without strict guidelines the effectiveness of abstinence-plus programs on reducing risky adolescent sexual behavior is difficult to determine. Some abstinence-plus programs focus on the importance of abstinence but explain the contraceptive options available if adolescents choose to become sexual active. Other abstinence-plus programs discuss the differences between contraceptives as well as the much debated

topic of abortion. Abstinence-only programs are not permitted to discuss abortion as an option for an unplanned pregnancy with regards to sex education and adolescents.

Abstinence-plus programs do not condone sexual activity among adolescents, but they accept that for many adolescents sexual activity is part of their lives. Kirby found in his evaluation of sex education programs that abstinence-plus programs or comprehensive programs do not increase sexual activity among adolescents as had been previously reported by their critics (Kirby A). Kirby also found that programs “can significantly reduce rates of teen pregnancy, childbearing, or STD, even though most studies simply do not have sufficient statistical power to detect the reductions” (Kirby A). Different programs were more effective based on the demographics of the adolescents (Kirby A). The research done by Kirby is very important in the area of sex education programs because its funding was not through abstinence-only or abstinence-plus programs but through the National Campaign to Prevent Teen and Unplanned Pregnancy. Kirby also found a difference between genders, with the program being more effective for females than males.

The age of the individual at the time of sex education program also impacts its effectiveness. Abstinence-plus programs were found to be more effective among younger adolescents who were not yet sexually active than older adolescents who were not yet sexually active (Kirby A). Previous studies have also found that sex education appeared more effective in reliable contraceptive use if the education occurred prior to the individual’s first sexual experience (Mueller 89). These studies show the importance of beginning sex education at a young age, prior to the beginning of sexual activity. Once sexual activity begins, reversing the actions of the adolescent are challenging.

Adolescents who used a contraceptive during their first sexual intercourse were found to be more likely to continue to use a contraceptive (American Academy of Pediatrics 1161). Adolescents who did not use a contraceptive during first intercourse with an individual found it much harder to suggest using a contraceptive during later sexual intercourse with the same partner (American Academy of Pediatrics 1161). These studies suggest that sex education programs must teach at a young age the importance of contraceptive use during all sexual activity, which only abstinence-plus programs can legally do with the acceptance of federal funding.

Adolescent Sexual Health

Before adolescents become sexually active, they must become aware of the health risks associated with sexual activity. Adolescents often have a difficult time understanding that becoming sexually active can have harmful effects both physically and emotionally. Adolescents view being sexually active as a part of life without comprehending the possible negative consequences. Sex education courses have the opportunity to teach adolescents that sexual behavior at an early age can be dangerous to them both physically and emotionally: however, most sex education courses, whether abstinence-only or abstinence-plus, focus only on the physical dangers of sexual activity. The emotional needs of the adolescent must be addressed as well.

Adolescents often act on their emotions, which can result in inappropriate, impulsive behaviors. The emotional decision to participate in sexual behavior can result from peer pressure, low self-esteem, and social norms (Guilamo-Ramos, 2008). Individuals who “have a strong positive emotional response to performing a behavior will be more likely to do so relative to those individuals who have a strong negative emotional response” (Guilamo-Ramos, 2008). Adolescents often make an emotional

decision about sexual behavior without considering the emotional or physical consequences.

The emotional effects of sexual activity vary. Regardless of the type of sex, adolescent males were more likely than their female counterparts to report having experienced only positive consequences and less likely to report having felt used or bad about themselves (Doskoch 2007). Some of the most common negative emotional consequences of becoming sexually active include feeling bad about oneself, regretful, used, or guilty after sex (Doskoch 2007). Other adolescents experience negative consequences that have an emotional impact on their lives, such as getting into trouble with their parents, experiencing a negative change in their relationship with their partner or developing a bad reputation (Doskoch 2007). While these specific consequences are not emotional, however they can result in negative emotional consequences for the adolescent. If the adolescent perceives a negative outcome attached to a sexual experience, there will be an increase in contraceptive use. Adolescents go through each of these decision making processes, often subconsciously, before becoming sexually active.

The physical health of adolescents during sexual activity is often the focal point of sex education courses and discussions with adolescents: however, the emotional health of these individuals is just as important. Adolescents are very vulnerable to their emotions and can act upon these emotions without considering the consequences. They often only consider the physical dangers in becoming sexually active; as a result many protect themselves with the use of contraceptives. Yet, no forms of

contraceptives protect adolescents from the emotional dangers associated with sexual activity.

Summary

Sexual activity among adolescents is influenced by many factors, which may include their school-based sex education program content. This factor can be impacted by researchers and policy makers. As federal funding for abstinence-only programs continues to increase, it is important for a relationship to be made between sex education program content and contraceptive use among adolescents.

Contraceptive use among adolescents can be influenced by the content of the sex education program the adolescent participates in. Adolescents often make their own decision regarding contraceptive use during sexual activity, but with the use of the Health Belief Model, one is able to obtain an understanding of the adolescent's decision-making process. Since all of the individuals in this study are sexually active, the Health Belief Model can be used to determine the individual's personal perceived risk of the behavior. The individual must decide if they perceive a high or low risk associated with the behavior. If they perceive a high risk, they are expected to use a form of contraceptive. If there is no perceived risk, the chances of contraceptive use decreases. The Health Belief Model expands the idea of whether a risk is present with the action and asks whether the individual considers the risk to have a negative outcome.

The purpose of this study is to determine the relationship between contraceptive use among sexually active emerging adults and the content of their school-based sex education program.

CHAPTER 3 METHODOLOGY

Purpose of the Study

This chapter focuses on the specific research design, sampling frame, data collection, instrumentation, and data analysis used in this study. The purpose of this study is to determine the relationship between contraceptive use among sexually active emerging adults and the content of their school-based sex education program. The specific goal of the study is to determine whether contraceptive-based content in school-based sex education programs correlates with the consistent and frequent use of contraceptives among sexually active emerging adults.

Materials and Methods

This study utilizes a cross-sectional design. “Cross-sectional designs have three distinctive features: no time dimension; reliance on existing differences rather than change following intervention; and groups based on existing differences rather than random allocation” (de Vaus p. 170). Cross-sectional designs allow the possibility of examining differences between groups by looking at multiple variables at the same time (Moore 19). Cross-sectional studies look for relationships between two or more variables but are unable to conclusively explain the direction of a relationship. For this study, the predictor variables (content of sex education program, intensity of sex education program, grade of first session of sex education program and gender of the individual) and the outcome variables (consistency of contraceptive use and frequency of contraceptive use) were examined to determine whether any relationships existed.

Population/Sampling Frame

The theoretical population for this study consisted of students enrolled at a large southeastern university in the spring of 2009. The sample population for this study consisted of the approximately 35,000 undergraduate students enrolled at this university during the target semester.

The researcher knew of no compelling reason why students at this university might differ in terms of the primary independent variable, school-based sex education program, from students at other institutions. The population was comprised entirely of undergraduate students. Undergraduates, particularly freshmen and sophomores, were the target population because these individuals are not far removed from adolescence and, thus, were thought to be more likely to accurately recall events from this time in their lives.

The Center for Disease Control reports that “47% of high school students had ever had sexual intercourse” (CDC). The researcher knew of no compelling reasons why students at this University might differ from students at other universities; thus, it was expected that more than half of the participants in this study would have been sexually active in high school. Students were selected from a 2000 level general education course which is offered to students with varying majors. The class sampled for data collection came from one of the largest colleges within the university and represented variability in the selected major (communications, social science, nutrition), suggesting that a broad cross-section of respondents was sampled.

In order to determine the sample size for the study, the following formula was used: $n = (z^2)s^2/d^2$ (n = sample size, z = z value associated with a given alpha level, s^2 = estimated variance, d^2 = acceptable error rate) (Kish, 1995). Use of this formula

indicated that a total of 240 individuals were needed to obtain a sufficient sample with a confidence interval of 0.95 ($\alpha = 0.05$), estimated variance of 0.05 and an error rate of 0.20 ($d = 0.20$, $s^2 = 0.05$).

A total of 968 participants from the general education class completed the questionnaire for this study. Of the completed questionnaires, 748 were used in data analysis. The 220 cases that were removed were done so for one of the following reasons: (a) some individuals were older than 25 and therefore no longer considered part of the emerging adulthood age range or (b) individuals who responded to the sexual behaviors frequency question in a manner that was deemed to have never been sexually active were removed from the study. The study focused only on emerging adults who had been sexually active at some point in their life and were close in age to adolescence so that they had potentially good recall of sex education content.

Data Collection

Data collection took place during Spring Semester 2009 with individuals' currently enrolled in the 2000 level general education course. The professor of the course, at the selected university was contacted requesting permission to survey the students currently enrolled in the course. The instructor agreed to allow data collection in the 2000 level course during the Spring of 2009. The use of the general education course helped to eliminate some of the non-research factors that could be present during the data collection.

All 968 respondents were sent an email asking them for their participation in the study. Within the email, all of the participants were informed that their participation was voluntary, confidential, and anonymous in accordance with the university's Internal Review Board (IRB) regulations. The potential participants were informed that if they

wished to receive the results of the study, they could contact the researcher at the end of the study. The professor of the course offered extra credit for those students who completed the study. Students who wished to not participate in the study were provided with an alternative extra credit assignment. The students who participated in the study were given the researcher's contact information in case they had a question about the study at a later date. Respondents were advised that by completing the survey, they were implying their consent to participate in the research study.

Instrumentation

A 36-item Sexual Behaviors Questionnaire (Payne, Barnett & Forthun 2008) was created for use in this study to explore research questions set out in chapter one. The self-completion questionnaire took approximately 30 minutes to complete using [surveymonkey.com](https://www.surveymonkey.com). The questionnaire was pilot tested on seven undergraduate students attending various 2000 level courses at the selected university. Feedback was used to make any additions, deletions and/or corrections.

The questionnaire consisted of the following conceptual areas: sexual activity, sexual behavior, type of school-based sex education program, content of school-based sex education program and demographics. Each section contained targeted questions in an attempt to answer the research questions stated in chapter one.

Sexual Activity

Sexual activity was studied through items 14 and 21. This section consisted of multiple choice questions that asked the respondent to choose the specific sexual activities they had participated in during their life. Question 14 asked the individual whether they have been sexually active in the past year. It defined sexual activity as "any type of genital contact or sexual stimulation between two persons including, but not

limited to sexual intercourse.” Individuals were then provided with a table for question 21. Participants were provided with a series of questions and responses that would determine their sexual activity. The levels of behavior ranged from kissing to sexual intercourse to allow for individuals who considered different behaviors to be sexual activities. The table consisted of eight behaviors (kissing, French kissing, touching a partner's breast or having your breast touched by a partner, stimulating a partner's penis or having your penis stimulated by a partner, stimulating a partner's vagina or having your vagina stimulated by a partner, performing oral sex, receiving oral sex, and sexual intercourse) with seven frequency options (never, few times in life, few times a year, few times a month, once a week, few times a week, and daily). Individuals were asked to indicate how frequently they participated in the given behaviors. The following items were determined by the researcher to be behaviors that match the definition for being “sexually active”: (a) stimulating a partner's penis or having your penis stimulated by a partner, (b) stimulating a partner's vagina or having your vagina stimulated by a partner, (c) performing oral sex, (d) receiving oral sex, and/or (e) sexual intercourse. If a respondent indicated they had never participated in any of those behaviors, they were deemed not to be sexually active and were removed from the study. The study only focused on those emerging adults who were or had been previously sexually active. The sexual activity of the individual was used simply determine if the individual could be categorized as an individual who had participated in sexual activity at some point during his or her life. This study was not interested in the specific sexual behaviors of the individuals, but their behaviors during sexual activity related to their patterns of contraceptive use post-exposure to sex education content.

Sexual Behaviors

Sexual behaviors were studied through questions 22 and 27. These questions were multiple choice questions that aimed to determine the sexual behaviors of the individual. Sexual behavior included contraceptive use frequency and consistency. Contraceptive use consistency was studied in the first index (question 22) and frequency of contraceptive use was studied in the second index (question 27). These indices were used to determine if there were differences in the consistency and frequency of contraceptive use based on content received in sex education programs. The two indices asked the exact same questions in the same format so as to create similarities in the contraceptive use. The only difference between the questions was the scale on which the frequency or consistency was provided. Consistency of contraceptive use was identified by respondents on a scale of 0%, 25%, 50%, 75% or 100% of the time. Frequency options included never, rarely, some, often and always. Both indices included n/a as a option for the participant to select. However, n/a responses were coded as missing data for each of these indices as there was no way to determine if these individuals were not sexually active or simply chose not to provide a response.

Content of The School-Based Sex Education Program

The content of the school-based sex education program was studied through question 35 and 36. Each of these questions was asked in the form of a multiple choice question in which the individual selected the answer that best described their personal school-based sex education program. The index entitled Type of Sex Education Program (question 35) contained 19 questions that asked participants to indicate what content was taught during their school-based sex education program. It includes the six

key concepts SIECUS established for abstinence-plus programs to address: human development, relationships, personal skills, sexual behavior, sexual health, and society and culture (SIECUS.org). Based on the participants response to these six categories, the researcher determined the content covered during the sex education program. Factor analysis was used to place each of the 19 items into four variables. Each of these four variables was then used to determine content covered in the sex education program. Question 36 specifically asked the participant to identify which type of sex education program he or she attended, abstinence-only or abstinence-plus. The content items were the basis for determining whether their program exposure was more accurately defined, as abstinence-only or abstinence-plus.

Grade of First Sex Education

The grade the individual first participated in sex education was studied through question 32. The question asked the participant to indicate the grade he or she first participated in sex education. The options provided included: before 3rd grade, 4th/5th grade, 6th grade, 7th grade, 8th grade, 9th grade, 10th grade, 11th grade, 12th grade and n/a. Individuals who selected n/a for this question were coded as missing data, as this indicated that they had never participated in a sex education program through the schools or chose not to answer.

Exposures of Sex Education

In order to determine the amount of exposure to of the sex education content received by the individual, the researcher wanted to explore the number of times participants were exposed to some form of sex education. Question 33 was use to determine this, as it asked the individual to indicate all of the grades that they received sex education. The question provided the respondent with options beginning in

kindergarten and continuing through 12th grade. The response n/a was once again provided for individuals who never had sex education content delivered through schools or chose not to answer. These individuals were coded as missing data and removed from this particular question.

Demographics

Demographics were studied with multiple choice and fill in the blanks questions 3-13. These questions asked the sex of the individual, age of the individual, marital status, primary sex of partners, parent's marital status, relationship to current roommate, and involvement of their father and mother during adolescence. These questions were used to determine the relationship between gender and sexual activity based on gender, impact of sex education based on gender, and sexual behaviors based on gender. The relationship with the participant and his or her father and mother as well as his or her parents' marital status was included to try and eliminate possible risk factors for sexual activity.

Limitations

Information collected for this study relied solely on self-reported sexual behaviors and content of school-based sex education programs. As a result of the social stigma often attached to sexual behaviors, there is a possibility of social desirability bias, as some students may have chosen not to divulge such information. To address this, each student was assured their answers would remain confidential and the findings of this study would in no way be connected to individuals. Another possible limitation to this study was that the research instruments had never been used before and remains untested. There was not a specific instrument that met all of the needs of the study, so one was created in order to answer the questions that the study posed. Items were

designed to respond to the research questions of this study. A time constraint was an increased limitation to this study. While the questionnaire was pre-tested and modifications were made further modifications were not made after the initial data collection was completed as a result of the strict time constraints.

With 95% of the students at the University of Florida from the state of Florida, the data will not be able to be generalized to states other than Florida. Since sex education programs differ between states, only the sex education program within the state of Florida can be analyzed. Also it is important to note that no question on the survey asked which specific county in Florida the student received sex education. Each county within the state teaches a different form of sex education, with more rural counties teaching a stricter abstinence-only sex education and larger, more urban counties such as Dade county teaching more abstinence-plus education. Without the specific county it is difficult to determine what type of sex education program the individual more than likely participated in.

Data Analysis

Multiple statistical tests were conducted to analyze the data so as to test the research hypotheses and answer the research questions. Data was analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows Release 17.0. The data collected was analyzed using a variety of tests, including frequencies, factor analysis and bivariate analysis to examine possible relationships between the dependent variables and both independent and demographic variables, and bivariate correlations to explore these relationships in a multivariate context.

Frequencies or descriptive statistics were used to examine the distribution of responses to the demographic variables. They were also used to determine which

individuals were considered to be non sexually active and therefore omitted from the study. Next bivariate analysis (independent-samples t-tests, bivariate correlations, and one-way analyses of variance) were used to look for a relationship between grade of first sex education session and contraceptive use, type of sex education program and contraceptive use, and intensity of sex education program and contraceptive use. Finally, bivariate correlation analyses were used to analyze the many factors influencing sexual decision-making among adolescents. The combination of all of these statistical tests allowed the researcher to consider fully each of the research questions under examination in this study.

CHAPTER 4 RESULTS

The purpose of this study was to determine the recent trends of contraceptive use among sexually active emerging adults as they relate to the content of their school-based sex education program. The specific goals of the study were to examine whether or not the content of the school-based sex education programs was related to the *consistent* and *frequent* use of contraceptive use among sexually active emerging adults. The study also aimed to study any possible relationships between the frequency and consistency of contraceptive use and gender, number of exposures to sex education, and the grade of first sex education.

Statistical Analyses

Multiple statistical tests were conducted to analyze the data in order to answer each of the research questions. First, data analysis began with descriptive analyses of the demographic data. Frequencies were calculated for all of the major demographic variables. Next, A factor analysis was conducted on the items measuring sex education program content (Question 35) as a means to reduce the number of variables in the analyses by identifying groups of variables that are highly related to one another. Then, bivariate analyses (Pearson's Correlation) were computed to look for relationships between frequency and consistency of contraceptive use based on the demographic variables and the various independent variables (content of sex education program, age of first sex education session, and gender of the adolescent). The combination of these statistical tests allowed the researcher to fully examine each of the research questions being evaluated in this research study.

Demographics

A total of 968 respondents from a 2000 level general education course; at the University of Florida completed the online questionnaire administered through surveymonkey.com. Respondents who either did not complete a majority of the survey item (fewer than 50%), who were not sexually active, or who were found to be older than 25 were removed from the study. The study only include individuals who had been sexually active at some point in their life, therefore anyone who had never been sexually active was removed from the study. Respondents over the age of twenty-five were removed from the study, as the study only focused on emerging adults, which includes individuals between the ages of eighteen and twenty-five. A total of 748 respondents remained.

Age/Gender

Of those who remained 288 were male (38.8%) and 455 were female (61.2%). The mean age of the respondents was 19.70 years (SD 1.452).

Race

The majority of respondents (n = 473, 63.6%) identified their race/ethnic origin as White (non-Hispanic). Respondents identifying as Black (non-Hispanic) comprised 12.9% (n = 96). A total of 50 respondents (6.7%) identified their race/ethnic origin as Asian and two respondents (.3%) identified as either Native American or Native Hawaiian. The remaining respondents (n = 121, 16.3%) reported that they identified with a race/ethnic origin other than the given answer choices. Respondents were not given the option to indicate what race/ethnic origin they were if they chose the "Other" category. The racial profile responses were consistent with those of the University undergraduate population. In the University undergraduate population 65.8% are

classified as White (non-Hispanic), 9.6% Black (non-Hispanic), 7.2% Asian and 17.4% identify themselves as other. Of the 17.4% who reported identifying with other, it can be assumed based on the university population that a majority of these individuals were of Hispanic race.

Marital Status

The majority of respondents (n=732, 98.4%) indicated that their marital status was single, only 9 individuals (1.2%) indicated that they were married and only 3 individuals (.4%) indicated they were divorced. Individuals who indicated they were either married or divorced were not removed from the study as their contraceptive behaviors could still be influenced by the sex education program content they received in high school. These individuals also remained in the study because it was undetermined whether their sexual behavior was monogamous or not.

Current UF GPA

A majority of the respondents reported having a GPA between 3.0 and 3.59 (51.7% n=385). A total of 223 individuals (29.9%) reported having a GPA between 3.6-4.0, while 13.6% (n=101) have a GPA between 2.5 and 2.9, 3.6% (n=29) have a GPA between 2.0 and 2.49 and finally 1.2% (n=9) current have a GPA below 2.0.

Sexual Activity

Since the study did not focus solely on sexual intercourse, it was important to determine how many participants were involved in some form of sexual activity. Sexually active was defined as “any type of genital contact or sexual stimulation between two persons including, but not limited to sexual intercourse” (Payne, Barnett, & Forthun 2009). Sexual activity based on the definition above was determined to include only the following behaviors: stimulating a partner's penis or having your penis

stimulated by a partner, stimulating a partner's vagina or having your vagina stimulated by a partner, performing oral sex, receiving oral sex, and sexual intercourse.

Sexual Behaviors

Respondents indicated that 34.5% (n=251) participated in kissing daily. Daily French kissing was reported 24.6% (n=179). Respondents indicated that touching a partner's breast or having your breast touched by a partner was most commonly done a few times a week by 25.4% (n=185). Stimulating a partner's penis or having your penis stimulated by a partner was most commonly done a few times a week (28.6%, n=207), as was stimulating a partner's vagina or having your vagina stimulated by a partner (28.4% n=205). The most common response for performing oral sex and receiving oral sex was "few times a month" with 22.3% (n=161) indicated they had performed oral sex, 25.6% (n=185) indicated they had received oral sex. The most common response for sexual intercourse was a "few times a week" with 25.4% (n=185) indicated that they had sexual intercourse a few times a week. (See Table Sexual Behaviors Frequency for specifics of each of the above behaviors.)

Sexual Activity in The Past Year

The majority of respondents (n=659, 89.5%) indicated that they had been sexually active in the past year. The remaining respondents (n=77, 10.5%) indicated that they had not been sexually active in the past year.

Demographic Differences

Very few demographic differences were found between the respondents who were removed from the study and those who remained. As noted previously, respondents were removed if they failed to answer a majority of the questions, have never been sexually active, and who were over the age of 25. Following the removal of these

respondents the demographics frequencies changed less than two percent in all areas except one. Individuals who remained in the study reported having been sexually active in the past year more often than those who were removed. This was a result of those who were removed being categorized as being sexually active while those who were removed were not considered sexually active. If those who remained reported being sexually active in the past year 89.5% of the time, indicating that if the individual reported having ever been sexually active in their life then most continued to be sexually active in the past year.

Bivariate Analyses

Bivariate analyses were conducted to determine the effect of demographics (gender, age, marital status and race/ethnic origin) on the independent variables (content of sex education program, age of first sex education session and gender). Bivariate analyses were also conducted to determine the relationship between dependent variables (frequency of contraceptive use and consistent use of a contraceptive) and demographic variables, as well as the relationship between the dependent variables and independent variables.

Demographics

It is important to understand the possible impact that demographics had on the independent variables. In order to determine these possible impacts, analyses were done on each independent variable by each of the demographic variables. Significant results are reported in this section.

Gender and Sexual Behaviors

ANOVA was used to study differences between gender and sexual behaviors. Among sexual behaviors significant differences were found for kissing ($F(df) = 4.877$,

$p=.028$), French kissing ($F(df) = 4.306, p=.038$) and receiving oral sex ($F(df) = 10.947, p=.001$). Females reported kissing and French kissing more often while males reported that they received oral sex more often than females did.

Gender and Sex Education Content

ANOVA was used to study differences between gender and sex education content. Gender differences were found in each of the following content areas: benefits of contraceptive use ($F(df)=3.931, p=.048$), risk of sexually transmitted diseases ($F(df)=9.785, p=.002$), oral sex is abstinence ($F(df)=13.940, p=.000$), abstinence includes not kissing ($F(df)=11.284, p=.001$), the development of the human reproductive system ($F(df)=7.689, p=.006$), romantic relationships among heterosexual couples ($F(df)=8.171, p=.004$), personal skills needed to decide about becoming sexually active ($F(df)=4.244, p=.040$), the emotional risk associated with sexual activity ($F(df)=6.070, p=.014$), it is acceptable by cultural norms to be sexually active ($F(df)=14.999, p=.000$) and becoming sexually active is part of adolescence ($F(df)=27.958, p=.000$).

Female Sex Education Content

Females reported that they received the following content in their sex education class more often than males: benefits of contraceptive use, risk of sexually transmitted diseases, the development of the human reproductive system, romantic relationships among heterosexual couples, personal skills needed to decide about becoming sexually active and the emotional risk of becoming sexually active.

Male Sex Education Content

Males were more likely to report having received each of the following content areas in the sex education program: oral sex is abstinence, abstinence includes not

kissing, it is acceptable by cultural norms to be sexually active and becoming sexually active is part of adolescence.

Gender differences also existed in the consistent and frequent use of contraceptives. These differences will be discussed in the section focusing on research questions seven and eight.

Factor Analysis

Question 36 asked emerging adults to determine the type of sex education they experienced in school: abstinence-only or abstinence plus. The respondents were provided a definition of each type of curriculum and asked to identify the one that most closely matched the type of content they received in school. 84.1% of the respondents reported having received abstinence-plus sex education and only 15.9% received abstinence-only education. Test for difference between groups found no significant differences found between the type of sex education program and the consistent and frequent use of contraceptives. As a result of the lack of significance in this area, the researcher evaluated the nineteen specific content items regarding the specific content received during sex education (question 35). These nineteen specific content areas items were established based on the information provided from SIECUS. Each of the 19 items in question 35 were coded by SPSS as individual questions in order to run a factor analysis. Correlation analysis revealed high correlations between multiple content items and factor analysis was used to reduce the factors to four. Factor analysis allows the researcher to “condense a large set of variable or scale items down to a smaller, more manageable number of factors” (Pallant 96).

The factor analysis resulted in four distinct factors which were determined from the pattern matrix and had a factor score of above .40. The four factors were labeled

contraceptive, norms, scare and relationships/skills. The content areas factored in the contraceptive variable were the following items: benefits of contraceptive use, risk of sexually transmitted diseases, reliable forms of contraceptives and males and females have equal responsibility in contraceptive use. The content areas found in the norms variable were the following: oral sex is abstinence, abstinence includes not kissing, abortion is an option during an unplanned pregnancy, romantic relationships among homosexual couples, it is acceptable by cultural norms to be sexually active, becoming sexually active is part of adolescences and it is not acceptable by society for adolescents to be sexually active. The scare variable included the following items: contraceptive use cannot protect against pregnancy and contraceptive use cannot protect against sexually transmitted diseases. The final variable relationships/personal skills included the following items: abstinence until marriage, the development of the human reproductive system, romantic relationships among heterosexual couples, personal skills needed to decide to become sexually active, the physical risk associated with sexual activity, the emotional risk associated with sexual activity, and it is not acceptable by society for adolescents to be sexually active.

Cronbach's alpha, a statistical test of internal consistency, was run on each of the newly created variables. Coefficients above .80 are considered good. The contraceptive variable had an alpha score of .874. The norm variable had an alpha score of .858. The scare variable had an alpha score of .827. The relationships/personal skills variable had an alpha of .824.

Content of the Sex Education Program and Frequency of Contraceptive Use

RQ 1: Does the content discussed in the sex education program affect the frequency of reliable contraceptive use among already sexually active emerging adults?

Ha 1: Contraceptive based sex education content is positively related to the frequency of reliable contraceptive use among already sexually active emerging adults.

In order to determine a possible relationship between the content of the sex education program and the frequency of contraceptive use among sexually active emerging adults, bivariate correlation was conducted for each of the eight items relating to frequency of contraceptive use (question 27) and the content items (question 35). A relationship was found between the frequency of contraceptive use and content of sex education.

The contraceptive use variable was significant in regards to use of hormonal contraceptive ($r=.095$, $p=.029$). When contraceptive use was discussed, individuals reported more use of hormonal contraceptives. The norms variable showed relationships in three areas: any contraceptive use during oral sex ($r= .135$, $p=.001$), use of the rhythm method ($r= .183$, $p=.000$) and oral sex without any form of contraceptive ($r=-.152$, $p=.000$). When norm items were discussed there was a positive relationship to any use of contraceptive during oral sex as well as use of the rhythm method. There was a negative relationship to individuals who reported not using any form of contraceptive with oral sex following the discussion of topics found in the norm variable. The scare variable showed relationships in two areas: use of the withdrawal method ($r=.092$, $p=.033$) and intercourse without any form of contraceptive ($r=.119$, $p=.005$). There was also a positive relationship between the scare content and the frequency of using the withdrawal method as well as the frequency of reported sexual intercourse without any form of contraceptive. The relationships/personal skills variable showed a positive relationship with the use of hormonal contraceptive ($r=.109$, $p=.013$).

When relationships/personal skills items were discussed there was a positive relationship in the use of hormonal contraceptives.

Content of Sex Education Program and Consistency of Contraceptive Use

RQ 2: Does the content discussed in the sex education program affect the consistent use of contraceptive among already sexually active emerging adults?

Ha 2: Contraceptive based sex education content is positively related to the consistency of contraceptive use among already sexually active emerging adults.

While the frequency of contraceptive use among emerging adults is important, the consistency of contraceptive use is equally important. Emerging adults who wish to protect themselves from sexually transmitted diseases as well as unplanned pregnancies must be both consistent and frequent in their use of contraceptives.

Using the same content areas discussed above (contraceptives, norms, scare, and relationships/personal skills) a relationship was tested between the consistency of contraceptive use and sex education content. Bivariate correlations were used to determine these relationships. The contraceptive variable showed significant relationships in two areas: consistent use of any contraceptive use during oral sex ($r=.082, p=.048$) and consistent use of hormonal method ($r=.099, p=.022$). There was a positive relationship between contraceptive variables and any contraceptive use during oral sex as well as a positive relationship in the consistent use of hormonal contraceptives. The norm variable showed significant relationships in three areas: consistency of any contraceptive use during oral sex ($r=.107, p=.010$), consistent use of the rhythm method ($r=.187, p=.000$), and consistency of oral sex without any form of contraceptive ($r=-.100, p=.016$). There was a positive relationship between norm variables and the consistent use of any contraceptive during oral sex as well as a positive relationship in the use of the rhythm method. However there was also a

negative relationship in the consistency of oral sex without any form of contraceptive. The score variable showed significant relationships in four areas: consistent use of any contraceptive use during oral sex ($r=.093$, $p=.026$), consistent use of the withdrawal method ($r=.093$, $p=.032$), consistency of intercourse without any form of contraceptive ($r=.127$, $p=.003$) and consistency of oral sex without any form of contraceptive ($r=-.101$, $p=.015$). The score variable showed a positive relationship in both the consistency of contraceptive use during oral sex and consistent use of the withdrawal method; however it also showed a positive relationship in individuals who reported not consistently using a contraceptive with both sexual intercourse and oral sex. Finally the relationship/personal skills variable showed significant relationships in two areas: consistency of any contraceptive use during oral sex ($r=.083$, $p=.046$) and consistent use of hormonal contraceptives ($r=.113$, $p=.009$). There as a positive relationship between relationship/personal skills variable and the consistent use of contraceptive using oral sex as well as a positive relationship in the consistent use of hormonal contraceptives.

Grade of First Sex Education and Frequency of Contraceptive Use

RQ 3: Does the grade in which the first sex education session takes place affect the frequency of contraceptive use among already sexually active emerging adult?

Ha 3: The grade of sex education is positively related to the frequency of contraceptive use among already sexually active emerging adults.

In order to determine a possible relationship between the age of first sex education and frequency of contraceptive use among already sexually active emerging adults' bivariate correlation was conducted for each of the eight items relating to frequency of contraceptive use (question 27). Each of the eight items were coded by SPSS as individual questions in order to run Bivariate Correlation. These eight items were run

against question 32, which asked specifically “what grade did you first participate in a school-based sex education program”.

It was found that there was no relationship between grade of first sex education and frequency in contraceptive use among sexually active emerging adults. All of the relationships for the grade of the first sex education course and the frequency of contraceptive use were well above the needed p-value to be considered statically significant.

Grade of First Sex Education and Consistency of Contraceptive Use

RQ 4: Does the grade in which the first sex education session takes place affect the consistent use of a contraceptive among already sexually active emerging adults?

Ha 4: The grade of sex education is positively related to the consistency of contraceptive use among already sexually active emerging adults.

The consistency of contraceptive use among already sexually active emerging adults has the potential to be related to the grade at which they first received sex education. In order to determine if a relationship exists bivariate correlation was conducted for each of the eight items relating to consistency of contraceptive use (question 22). Each of the eight items was identified by SPSS as individual questions in order to run bivariate correlation. These eight items were run against question 32, which asked specifically “what grade did you first participate in a school-based sex education program”.

It was found that there was one relationship between grade of first sex education and consistency in contraceptive use among sexually active emerging adults. Use of hormonal method contraceptives ($r=-.094$, $p=.034$) was negatively related to grade of first sex education course. All of the other relationships between the grade of the first sex education course and the consistency of contraceptive use were well above the needed p-value to be considered statically significant.

Number of Exposures to Sex Education and Frequency of Contraceptive Use

RQ 5: Does the intensity of the sex education program affect the frequency of contraceptive use among already sexually active emerging adults?

Ha 5: The number of exposures to sex education courses is positively related to frequency of contraceptive use among already sexually active emerging adults.

In order to determine a possible relationship between the number of exposures to sex education and frequency of contraceptive use among already sexually active emerging adults, bivariate correlation was conducted for each of the eight items relating to frequency of contraceptive use (question 27). Each of the eight items was identified by SPSS as individual questions in order to run bivariate correlation. These eight items were run against question 33, which asked specifically “indicate all of the grades in which you received school-based sex education”. The question allowed for responses ranging from kindergarten through 12th grade. N/A was an option for selection, however if N/A was selected the individual response was coded as missing data, as it indicated that the individual never participated in school based sex education.

It was found that there was no relationship between variables for frequency in contraceptive use among sexually active emerging adults. All of the relationships between the number of exposures to sex education and the frequency of contraceptive use were well above the needed p-value to be considered statically significant.

Number of Exposures to Sex Education and Consistency of Contraceptive Use

RQ 6: Does the intensity of the sex education program affect the consistency of contraceptive use among already sexually active emerging adults?

Ha 6: The number of exposures to sex education courses is positively related to consistency of contraceptive use among already sexually active emerging adults.

In order to determine a possible relationship between the number of exposures to sex education and consistency of contraceptive use among already sexually active emerging adults, bivariate correlation was conducted for each of the eight items relating to consistency of contraceptive use (question 22). Each of the eight items was identified

by SPSS as individual questions in order to run bivariate correlation. These eight items were run against question 33, which asked specifically “indicate all of the grades in which you received school-based sex education”. The question allowed for responses ranging from kindergarten through 12th grade. N/A was an option for selection, however if N/A was selected the individual response was coded as missing data, as it indicated that the individual never participated in school based sex education.

It was found that there was no relationship between the variables for the consistency in contraceptive use among sexually active emerging adults. All of the relationships between the number of exposures to sex education and the consistency of contraceptive use were well above the needed p-value to be considered statically significant.

Gender and Frequency of Contraceptive Use

RQ 7: Does the gender of the emerging adult affect the frequency of contraceptive use among already sexually active emerging adults?

Ha 7: Females show a higher frequency of contraceptive use than males.

In order to determine if gender differences existed between the frequency of contraceptive use, ANOVA was run based on the respondents answer to question 3 (are you male or female) and question 27. Gender differences were found among all area of frequency of contraceptive use.

Within the area of frequency of contraceptive use significant differences were found in all of the provided items: any contraceptive use during intercourse ($F(df)=4.588, p=.033$), any contraceptive use during oral sex ($F(df)=5.779, p=.017$), use of the hormonal method ($F(df)=29.535, p=.000$), use of the male condom ($F(df)=12.175, p=.001$), use of the rhythm method ($F(df)=9.895, p=.002$), use of the withdrawal method ($F(df)=8.453, p=.004$), intercourse without any form of contraceptive

($F(df)=7.345, p=.007$) and oral sex without any form of contraceptive ($F(df)=11.752, p=.001$).

Females reported more frequent use of any contraceptive during intercourse, any contraceptive use during oral sex, use of the hormonal method and use of the withdrawal method. Males reported more frequent use of the male condom and the rhythm method. Males were also more likely to report that they did not frequently use a contraceptive with intercourse and oral sex than females.

Gender and Contraceptive Use Consistency

RQ 8: Does the gender of the emerging adult affect the consistent use of a contraceptive among already sexually active emerging adults?

Ha 8: Females show more consistent rates of contraceptive use than males.

In order to determine if gender differences existed between the frequency of contraceptive use, ANOVA was run based on the respondents answer to question 3 (are you male or female) and question 22. Within the area of consistent contraceptive use, significant difference was found for each of the following: any contraceptive use during intercourse ($F(df)=6.370, p=.012$), any contraceptive use during oral sex ($F(df)=12.854, p=.000$), use of hormonal method ($F(df)=40.989, p=.000$), use of male condom ($F(df)=10.125, p=.002$), use of withdrawal method ($F(df)=9.768, p=.002$), intercourse without any contraceptive ($F(df)=11.165, p=.001$) and oral sex without any contraceptive ($F(df)=12.460, p=.000$).

Females reported more consistency in use of any contraceptive during intercourse, any contraceptive use during oral sex, use of hormonal method and use of withdrawal. Males reported more use of the male condom as well as the rhythm method. Males were also more likely to report not using any form of contraceptive during both intercourse and oral sex.

CHAPTER 5 DISCUSSION

The purpose of this study was to determine the relationship between contraceptive use among sexually active emerging adults and the content of their school-based sex education program. The specific goals of the study were to determine whether or not school-based sex education programs increase the consistent and frequent use of contraceptive use among sexually active emerging adults. The transition from high school to college marks the final stages of adolescence and the beginning stage of emerging adulthood for most youth (Arnett, 2007). This transition can be a confusing period of change for youth. It is one of the final periods of developmental change associated with adolescence. For most adolescents the decision as to whether or not become sexually active has already been made. However, there is a continued decision as to whether or not they use contraceptives to protect themselves and their partners from sexually transmitted diseases and pregnancy. School-based sex education content that was received during adolescence can have a direct relationship to this decision in emerging adulthood. Results of this study indicate that contraceptive based content in sex education programs in adolescence had mixed results associated with the use of reliable contraceptives in emerging adulthood. This relationship is an important but complex one that requires further research, especially over different developmental age ranges, as it suggests possible content change considerations as well as potential policy changes in the areas of abstinence-plus and abstinence-only education programs.

This final chapter will begin by answering research questions identified in the first chapter, followed by a brief discussion of other findings not specifically related to the

research questions. A rationalization of the research findings of this study will follow, including theoretical implications related to the literature review. Thirdly, possible directions for future research resulting from this study will be discussed. Finally, proposed policy changes will conclude the thesis in order to suggest more macro-level change that may, over time, have significant effects on risky sexual behaviors.

Revisiting Research Questions

RQ1: Does the content discussed in the sex education program affect the frequency of contraceptive use among already sexually active emerging adults?

Research questions one and two were the main focus of the study. In order to determine if a relationship exists between the frequency of reliable contraceptive use and content of sex education, varying methods of analysis were used in this study. The alternative hypothesis for this research question was that contraceptive based sex education content is positively related to the frequency of reliable contraceptive use among already sexually active emerging adults. Use of correlation determined that there was a positive relationship between contraceptive based content and reliable contraceptive use. Correlations were also conducted to determine if the other three content areas (norms, scare and personal skills/relationships) had any relationships to the frequency of reliable contraceptive use.

Each of the four content variables (contraceptive, norm, scare, personal skills/relationships) showed significant levels related to the frequency of contraceptive use. There was a positive relationship between contraceptive based content and the frequency of use of reliable forms of contraceptives. When individuals reported having received contraceptive based content, they also reported higher uses of hormonal

contraceptives. While hormonal contraceptives cannot protect against sexually transmitted diseases, they can protect against pregnancy, if they are used properly.

In addition to the contraceptive based content, two other content areas were also found to have a positive relationship to frequency of reliable contraceptive use. There was a positive relationship with the norms content areas and the frequency of use of any form of contraceptive during oral sex. While not all forms of contraceptives are reliable for oral sex, the male condom is reliable for protecting against sexually transmitted diseases through oral sex. The question did not specifically ask what form of contraceptive was being used for oral sex so it is, therefore, impossible to know whether the form of contraceptive being used with oral sex is actually reliable. There was also a positive relationship found with the relationship/personal skills content areas and use of hormonal contraceptives. Once again, hormonal contraceptives cannot protect against sexually transmitted disease, but they are reliable when used properly in protecting against pregnancy. A positive relationship between relationships/personal skills content area and hormonal contraceptives is a very positive finding for this study as it shows a possible way to decrease unplanned pregnancy amongst both adolescents and emerging adults.

However, not all of the items showed a positive relationship in forms of contraceptives that are reliable. Both the rhythm method and the withdrawal method are not reliable forms of contraceptives as both do not protect against sexually transmitted diseases and are not reliable in the protection against pregnancy. However, there was a reported positive relationship in the use of both in relation to more discussion of the scare variables and the norms variables. There was also a positive

relationship found for the lack of contraceptive use with both intercourse and oral sex. Without any form of contraceptive use during sexual intercourse, the individual is placed at risk for both sexually transmitted diseases as well as pregnancy. Individuals who reported having received information through the scare tactic content (contraceptive cannot protect against pregnancy and contraceptives cannot protect against sexually transmitted diseases) reported a negative relationship with using contraceptives during sexual intercourse. Individuals who reported having received information in the norms variable reported a negative relationship to having oral sex without any form of contraceptive. Oral sex without a contraceptive cannot result in pregnancy, but it can result in sexually transmitted diseases.

In order to reduce sexually transmitted diseases and pregnancy among sexually active emerging adults, sex education program content must increase the frequency of contraceptive use. Based on these findings, some content covered in sex education courses actually decreases the frequency of contraceptive use among sexually active emerging adults. While it cannot be determined which type of sex education program (abstinence-only or abstinence-plus) that the individual received, the content contained in the scare variable is most often associated with abstinence only education. The only two items contained in the scare variable related to how contraceptives do not work. The individuals that reported having received this information also reported that they were more likely to have sexual intercourse without any form of contraceptive.

RQ 2: Does the content discussed in the sex education program affect the consistent use of reliable contraceptives among already sexually active emerging adults?

The alternative hypothesis for this research question was that contraceptive based sex education content is positively related to the consistency of contraceptive use

behavior among already sexually active emerging adults. Use of correlation determined that there was a positive relationship between contraceptive based content and reliable forms of contraceptive. Correlations were also conducted to determine whether the other three content areas (norms, scare and personal skills/relationships), had any relationships to the frequency of use of reliable contraceptives.

Based on the content areas discussed during sex education programs, there were eleven areas of consistent contraceptive use behaviors that were found to have relationships with the consistent use of contraceptives. Using the same content areas as frequency, only seven areas of consistent contraceptive use had relationships. However, of the eleven areas in which there were relationships only six areas had a positive relationship with the use of a reliable form of contraceptive that can be used to protect against sexually transmitted diseases as well as pregnancy. Five areas were found to have a positive relationship with methods (withdrawal and rhythm) of contraceptives that cannot reliably protect against sexually transmitted diseases and pregnancy. There was also a positive relationship found with scare variable content and intercourse without any form of contraceptive use. This was consistent with the results found related to the frequency of contraceptive use.

Each of the four content variables (contraceptive, norm, scare, personal skills/relationships) were significantly related to the consistent use of reliable contraceptives. When individuals reported having received contraceptive based content, they also reported higher consistent use of hormonal contraceptives. There was also a positive relationship between the consistency of use and any form of contraceptive during oral sex. The question did not ask the specific type of contraceptive used during

oral sex, so it is impossible to determine whether the form of contraceptive was reliable for oral sex. The only form of contraceptive that is reliable during oral sex is the male condom.

In addition to the contraceptive based content, the three other content areas also were found to have a positive relationship to consistency of reliable contraceptives. There was a positive relationship between use of any form of contraceptive during oral sex and each of the three content areas: norms, scare, and relationship/personal skills. The positive relationship between each of these three content areas in addition to contraceptive content indicates that no matter what specific content is discussed; it is possible to establish a positive relationship to the use of any contraceptive during oral sex. While it is still a concern as to whether or not this form of contraceptive is actually reliable during oral sex, it is important to note that at least the individuals are reporting use of some form of contraceptive, and this may lead to the use of other forms of contraceptives that are also reliable during oral sex.

There was also a positive relationship between the relationships/personal skills content area and the consistent use of hormonal contraceptives. Individuals who are in relationships and are monogamous often use only the hormonal method for contraceptives (Lescano 443 e3). This is a result of there being a decrease in the fear of sexually transmitted diseases. As was stated in the review of literature, individuals who consider their partner to be their main partner rather than their casual partner have a decreased concern for sexually transmitted diseases and focus mainly on pregnancy prevention (Lescano 443 e5-6).

It was also found there is a negative correlation between the items in the scare variable (contraceptives cannot protect against sexually transmitted diseases and contraceptives cannot protect against pregnancy) and the frequent and consistent use of contraceptives during intercourse. It was also found that both the norms variable and the scare variable had a positive relationship to oral sex without use of any form of contraceptive. Therefore, it can be said that there is a negative correlation between the norms and scare variables and contraceptive use during oral sex. As participants were exposed to norms and scare variable content, there was a decrease in the use of contraceptives during oral sex. The lack of contraceptive use during oral sex increases the risk of sexually transmitted diseases.

It once again cannot be determined whether the specific type of sex education program (abstinence-only or abstinence-plus) that the individual participated in influenced consistent and frequent contraceptive use. However, the result for consistent use of contraceptive and frequency of contraceptive are in line with what would be expected based on content. Abstinence-only programs often use a scare tactic to try to convince students not to become sexually active. Abstinence-only programs teach that contraceptives cannot protect against sexually transmitted diseases or pregnancy and that the only way to be protected is to be abstinent. The items found in the scare variable are consistent with these teachings. Abstinence-only programs do not teach the importance of contraceptive use during either sexual intercourse or oral sex and, therefore, place their students at an increased risk for pregnancy and sexually transmitted diseases. Abstinence-plus programs teach the importance of contraceptive use during both sexual intercourse and oral sex. Items

found in the contraceptive variable are most closely related to items taught in abstinence-plus programs. The contraceptive variable had a positive relationship to both the consistency and frequency of hormonal contraceptive use and had a positive relationship to the consistency of contraceptive use during oral sex. While hormonal contraceptives cannot protect against sexually transmitted diseases they do protect against pregnancy if taken properly.

RQ 3: Does the grade in which the first sex education session takes place affect the frequency of contraceptive use among already sexually active emerging adults?

The alternative hypothesis for this research question was that the grade of sex education is positively related to the frequency of contraceptive use among already sexually active emerging adults.

Correlation was used to determine whether there was a relationship between the grade in which first sex education takes place and frequency of reliable contraceptive use. It was found that there was no statistical relationship between the groups in regard to the frequency of contraceptive use among sexually active emerging adults. All of the relationships between the grade of the first sex education course and the frequency of contraceptive use were well above the needed p-value to be considered statistically significant. Since the p-value was not considered to be significant, it cannot be said that there is a relationship between the grade of the first sex education program and the frequency of contraceptive use by already sexually active emerging adults.

While the grade at which the individual first has a sex education course was not found to be statistically significant, there are many factors that may be attributed to this. Of the 657 individual who responded to the question regarding the grade of first sex education course, 49.2% indicated that they first received sex education in 4th/5th grade.

Since this was the most common grade to have first received sex education it is important to consider what the material most likely contained. Students in 4th/5th grades are between the ages of nine and ten, and therefore the material must be developmentally appropriate. Most sex education programs that are taught to 4th/5th grade students focus on foundations of biological development, focusing on the human reproductive system and the changes their bodies are currently going through. It is believed that very few 4th and 5th grade students are actually sexually active, therefore, reducing the need to discuss contraceptives and risks associated with sexual behaviors. However, recent research has indicated that adolescents are becoming sexually active at a younger age and therefore increasing the need to discuss contraceptives and risk associated with sexual behaviors at an earlier age. According to the Youth Risk Behavior Surveillance System (YRBSS) in 2007, 7.4% of adolescences have had sexual intercourse before the age of 13. With the continued decrease in age of sexual debut, the content covered in first sex education programs becomes the important question, not simply the age at which students received their first sex education program. This study, however, did not ask participants what content was included in first exposure of sex education; therefore, it cannot be determined whether there is a relationship between content in first sex education course and frequency of contraceptive use among already sexually active emerging adults.

RQ 4: Does the grade in which the first sex education session takes place affect the consistent use of a contraceptive among already sexually active emerging adults?

The alternative hypothesis for this research question was that the grade of sex education is positively related to the consistency of contraceptive use among already sexually active emerging adults.

Use of correlations found that there was one statistical relationship between the groups in regard to the consistency in contraceptive use among sexually active emerging adults. Use of hormonal method contraceptives was negatively related to grade of first sex education course. All of the other relationships between the grade of the first sex education course and the consistency of contraceptive use were well above the needed p-value to be considered statically significant. Since the p-value was not considered to be significant it cannot be said that there is a relationship between the grade of the first sex education program and the consistency of contraceptive use by already sexually active emerging adults except with hormonal contraceptives.

Hormonal contraceptive use was found to have a negative relationship with the grade of first sex education. This means that the older the individual is when they take the first sex education course, the less likely they are to use hormonal contraceptives. There are many possible explanations for this relationship. The first is that if the individual is taking the sex education course at an older age, then there is an increased possibility that they are already sexually active. If the individual is already sexually active, then they may already be using a form of contraceptive consistently other than hormonal and feel no reason to change. Another possible explanation for this finding is that the hormonal contraceptive requires a prescription and, therefore, can be difficult for the adolescent to obtain. The male condom, on the other hand, is very easy to obtain either from a store or it can sometimes be obtained through the school nurse. The easy accessibility of the male condom may indirectly impact the consistent use of the hormonal method and the grade of first sex education.

One other possible explanation is that it is important to examine the specific item. The question asked about the consistent use of the hormonal method and not the frequency of use. There was no relationship in the frequency of hormonal contraceptives in relationship to the grade of first sex education. It is possible that the individuals are using hormonal contraceptive frequently, but just not consistently. Since the hormonal method does require the prescription and it must be filled monthly, it is possible that the individuals are missing doses and, therefore, are not consistently using the hormonal method.

Despite the one significant finding, one must still look to understand why other areas were not significant. Possible explanations include the idea that students are still reporting that they had their first sex education course in either 4th or 5th grade (49.2%) and, therefore, are potentially not receiving content needed to increase consistent contraceptive use. Without the proper content needed to help increase consistent contraceptive use, the age at which the individual first receives sex education is of no importance. However, since this study did not ask this specific question there is no way to determine whether the age of sex education simply has no relationship to consistent contraceptive use or whether the content of the sex education program is what matters.

RQ 5: Does the number of exposures to the sex education program affect the frequency of contraceptive use among already sexually active emerging adults?

The alternative hypothesis for this research question was that the number of exposures to sex education courses is positively related to frequency of contraceptive use among already sexually active emerging adults.

It was found that there was no statistical relationship between the groups in regards to the frequency in contraceptive use among sexually active emerging adults. All of the relationships between the number of exposures to sex education and the frequency of contraceptive use were well above the needed p-value to be considered statistically significant. Since the p-value was not considered to be significant, it cannot be said that there is a relationship between the number of sex education programs and the frequency of contraceptive use by already sexually active emerging adults.

There are many possible explanations as to why there was no relationship found between the number of exposures to sex education and the frequency of reliable contraceptive use. The most realistic explanation is that if the content of the sex education program did not include material needed to increase the frequency of reliable contraceptive use, then no matter how many times the individual took the course, it would not increase use. This study did not explore how many times an individual received specific content and how that influenced their frequency of use. Future studies should explore relationships from a content perspective rather than just a number of exposures perspectives.

Another possible explanation is that exposures to sex education were so spread out that there was no way to continue the teachings in between exposures. If the individual received sex education every three years, then the inconsistency in the exposures would have reduced the chances of the exposures being productive. Sex education courses need to be taught regularly for the students to maintain the information and to understand its importance.

RQ 6: Does the number of exposures to the sex education program affect the consistency of contraceptive use among already sexually active emerging adults?

The alternative hypothesis for this research question was that the number of exposures to sex education courses is positively related to consistency of contraceptive use among already sexually active emerging adults.

It was found that there was no statistical relationship between the groups in regard to the consistency of contraceptive use among sexually active emerging adults. All of the relationships between the number of exposures to sex education and the consistency of contraceptive use were well above the needed p-value to be considered statically significant. Since the p-value was not considered to be significant, it cannot be said that there is a relationship between the number of sex education programs and the consistency of contraceptive use by already sexually active emerging adults.

The possible explanations for the lack of a significant relationship within this research question are very similar to those in research question five. However, one additional possible explanation is that if all of an individual's exposures to sex education are after the individual is sexually active, then it is less likely that the sex education courses (no matter the content) have influenced their contraceptive behaviors. If all the sex education exposures are in high school, there a greater chance that the individual is already sexually active then if all of the exposures take place in middle school. The younger the individual can receive multiple exposures to sex education, the better the chance that they will either begin sexual activity using a contraceptive or begin using a contraceptive in sexual activity. However, this study did not explore this, so future research is needed to determine this possible relationship.

RQ 7: Does the gender of the emerging adult affect the frequency of contraceptive use among already sexually active emerging adults?

The alternative hypothesis for this research question stated that females have a higher frequency of contraceptive use than males. Females reported more frequent use of any contraceptive use during intercourse, any contraceptive use during oral sex, use of the hormonal method and use of the withdrawal method. Males reported more frequent use of the male condom and the rhythm method. Males were also more likely to report that they did not frequently use a contraceptive with intercourse and oral sex than females.

These findings are consistent with other recent research that suggests that females are more likely to use reliable forms of contraceptives to protect themselves against both sexually transmitted diseases and pregnancy. Males are more likely to report either not using a contraceptive during both intercourse and oral sex, as well as reporting the use of less reliable forms of contraceptive, such as the use of the rhythm method. While it is positive that females are using contraceptives more frequently than males, since females are capable of becoming pregnant, it is just as important for males to protect themselves against sexually transmitted diseases as it is for females. Since males are reporting less frequent use of contraceptives it is important that sex education programs focus on stressing to males the importance of contraceptive use.

RQ 8: Does the gender of the emerging adult affect the consistent use of a contraceptive among already sexually active emerging adults?

The alternative hypothesis for this research question stated that females have more consistent rates of contraceptive use than males. Females reported more consistency in use of any contraceptive during intercourse, any contraceptive use during oral sex, use of hormonal method and use of withdrawal. Males reported more

use of the male condom as well as the rhythm method. Males were also more likely to report not using any form of contraceptive during both intercourse and oral sex.

The consistency of contraceptive use based on gender findings were very similar to the frequency of contraceptives based on gender. Males continued to use the male condom which is an extremely positive finding since it the most reliable form of contraceptive that can protect against both sexually transmitted diseases as well as pregnancy. It is possible that males are reporting a more consistent use of the male condom because females simply feel the question is intended for only males. It is important, however, for females to understand that the use of the male condom protects both themselves and the male from sexually transmitted diseases as well as pregnancy. Males also reported less consistent use of hormonal contraceptives which can be explained by the fact that they may simply not know if their female partner is taking hormonal contraceptives. Hormonal contraceptives, however, can only protect against pregnancy and therefore should be used in addition to the male condom. Males also continued to report higher rates of consistently having either sexual intercourse or oral sex with any form of contraceptive. The lack of consistent contraceptive use during these behaviors places themselves and their partners at risk for sexually transmitted diseases and pregnancy.

Other Findings

Beyond the specific research questions discussed thus far, further analysis determined the effect demographic variables had on sex education content. If there were relationships between demographics and the independent variable, changes in relationship could be mistakenly attributed to an incorrect source. Significant results from correlation analysis are discussed below.

Gender Differences and Sex Education Content

Gender differences were found in the areas of sex education content that the individuals reported they were exposed to in their sex education courses. There were no significant differences found in the reported type of sex education program. Significant differences were found in each of the following content areas: benefits of contraceptive use, risk of sexually transmitted diseases, oral sex is abstinence, abstinence includes not kissing, the development of the human reproductive system, romantic relationships among heterosexual couples, personal skills needed to decide about becoming sexually active, the emotional risk associated with sexual activity, it is acceptable by cultural norms to be sexually active and becoming sexually active is part of adolescence.

Female Sex Education Content

Females reported that they received the following content in their sex education class more often than males: benefits of contraceptive use, risk of sexually transmitted diseases, the development of the human reproductive system, romantic relationships among heterosexual couples, personal skills needed to decide about becoming sexually active and the emotional risk of becoming sexually active.

Male Sex Education Content

Males were more likely to report having received each of the following content areas in the sex education program: oral sex is abstinence, abstinence includes not kissing, it is acceptable by cultural norms to be sexually active and becoming sexually active is part of adolescence.

Gender Differences and Sex Education Content

These gender differences in sex education content can be explained in several different ways. First, possible that sex education programs separated the students by

gender, thus allowing them to teach to the specific gender. However, a more probable explanation is that each gender simply heard and recalls the information that pertained to them differently. It is more likely that males wanted to hear that it is acceptable by cultural norms to be sexually active, as this would allow them a reason as to why it was acceptable for them to become sexually active. Females would be more likely to recall information regarding personal skills needed to decide to become more sexually active, as this would be more pertinent to them. Despite these possible explanations, it is important to consider whether differences in content reported from the sex education course has an influence on differences in the frequency and consistency of contraceptive use.

Implications of Research

Beyond these specific research questions, this study has practical and theoretical implications, both for developmental science research at large and for the specific areas of study related to sex education and contraceptive use. To provide a context for these implications, the theoretical perspectives offered by the Health Belief Model must be re-examined.

The Health Belief Model

The purpose of this study was to examine the relationships between school-based sex education content and the consistency and frequency of contraceptive use among already sexually active adolescents. The results of this study indicate that contraceptive based content along with norms content, scare content and relationships/personal skills content is often positively related to both the consistency and frequency of contraceptive use. A more in-depth examination of the results reveals that some of the positive relationships were among unreliable forms of contraceptives.

In order for an adolescent or an emerging adult to make a decision regarding contraceptive use, they must first understand the severity of a negative outcome as a result of the behavior. Sex education courses are in place to help individuals understand the risks associated with sexual activity. The content of the sex education course may educate the adolescent about multiple risk factors associated with sexual behavior, this study only focused on risks associated with a lack of contraceptive use.

The Health Belief Model focuses on the attitudes and beliefs of the individual (Martin). The Health Belief Model indicates that before an action or behavior takes place the individual evaluates the severity of a negative outcome (Wulfert 299). They also take into account the degree to which they believe themselves to be susceptible to the negative outcomes, as well as the possible benefits they can receive from participating in the action or behavior. The model predicts behavior based on the “value of the outcome to an individual and the expectation that the action will result in that outcome” (Orr 873-874). In order to understand how adolescents determine whether to use a form of contraceptives, it is important to understand how they make their decision. According to the Health Belief Model, adolescent’s decision-making regarding contraceptive use relies predominately on the perceived risks associated with being sexually active without any form of contraceptives.

This study was in line with the Health Belief Model in regard to the content participants received during their sex education course. If the adolescent received information in their sex education course that included the importance of contraceptive use, then they were more likely to use contraceptives. Also, if they discussed the risks associated with sexual behavior, then they were more likely to use contraceptives. The

increase in knowledge of perceived risks resulted in an increase in the use of contraceptives. The Health Belief Model indicates that if the adolescent understands that possible benefits and risks of a particular action, such as the use of a contraceptive, then they are more likely to participate in the action. This study showed this relationship through the positive relationship in contraceptive based content and the use of the hormonal method. As an individual was taught the importance of contraceptives, they showed a positive relationship in their frequency and consistency of hormonal contraceptives.

Contributions to Health Belief Model

This study contributes to the literature surrounding the Health Belief Model in several specific ways. First, it expands the study of the health belief model using school based sex education content. The use of a specific measurement to determine the use of contraceptive can help to identify many of the risk associated with the lack of contraceptive use. Adolescents who are not using contraceptives during sexual activity place themselves and their partner at risk for both sexually transmitted disease and pregnancy. As a result, it is important to understand the decision making process. This study evaluates the correlation of the content in the sex education program with the decision making process in regards to the information they received. The process in part is determined by weighing the negative ramifications of not using a contraceptive during sexual activity versus the positives. The Health Belief Model indicates that the individual will determine if there are possible benefits in the action and, if so, then they are more likely to participate. Therefore it is important for the sex education course to provide content that will help the adolescents and emerging adults to understand the importance of contraceptive use during sexual activity.

Based on the specific sex education content that the individuals received during their sex education program, they made a decision as to whether to use contraceptives during their sexual activity. It is important to note that all of the individuals in this study made the decision to become sexually active no matter what sex education content they received. The only area in which the individual's decision varied was on contraceptive use. Therefore, it is important to use the Health Belief Model to assess the influence of the content of the sex education program on contraceptive use. Based on the results, it can be said that when the individual is taught that there are positive benefits to contraceptive use then there is a positive relationship with the use of contraceptives. This finding supports the Health Belief Model, which states that when an individual is aware of the benefits of a contraceptive, they will be more likely to use them.

Implications for Future Research, Programs and Public Policy

This study focuses on the content of sex education programs rather than the specific type of sex education program. The difference between the two must be noted as there are many differences in the content and the specific type of sex education program. Currently, most research is focusing on whether abstinence-only or abstinence-plus education is the most effective type of sex education in reducing teenage pregnancy and sexually transmitted diseases. However, this study shows the importance of focusing on content rather than type.

Future Research

Future research must be done to continue to explore the possible relationship between sex education content and frequency and consistency of reliable contraceptive use. This study was beneficial in establishing that relationships may exist in these areas and more research is needed to understand the strength of these relationships.

Future studies will need to be done among adolescents to understand the relationship that the sex education programs are having on their contraceptive use. This study was done in a retrospective manner which made it difficult for the individual to recall specifics about their sex education content. If the study was done while the individual was participating in the sex education program then a more accurate response would be expected.

For the best results on examining the relationship between the content of sex education programs and consistency and frequency of contraceptive, use of a controlled study would be needed. Individuals who are currently enrolled in sex education courses would be split into two equal groups. Prior to any treatment each group would be asked to complete the same survey about their beliefs on contraceptive use. Each group would then receive different sex education content and with one group focusing on the positives related to contraceptives use and the other focusing on the negatives. Following the completion of the course, the students would be given the same survey they had prior to the sex education course. The differences in their beliefs would then be studied. Ideally, these same students would be followed through college in order to determine if the sex education content they received in adolescence continued to influence their contraceptive behaviors in emerging adulthood.

Future studies must also look at the importance of the consistency in sex education exposure rather than the frequency. This study only looked at how many times the individual took a sex education program and did not study how consistently they took a sex education program. The lapse in time between exposures may have resulted in the lack of significant findings. Also, it is important to study what content was

received during each sex education program rather than to ask simply if a program was taken. The content of the sex education may be more important than the number of exposures to a sex education program. Again, to be able to conduct this type of study accurately the individuals would need to be currently enrolled in a sex education program.

Practitioner/Programmatic Suggestions

The results of this study indicate the importance of the content of the sex education program rather than the type of program. It is important for school districts, teachers, and parents to understand that the type of sex education program should not be the focus, but rather the content contained in the program. Content of sex education is the actual material and information that the students receive during the sex education program. If the content focuses on the positive benefits of contraceptive use then there is a greater chance that the students will use a reliable form of contraceptive. So much focus has been placed on the specific type of sex education rather than the material that is being presented to the students. The title of the program is simply that, a title, and does not help to create a positive relationship with the use of contraceptives.

Gender differences were also apparent in this study which indicates that it is important for educators to take into account the gender make-up of their class. It may be important for students to be separated by gender in order for the content to be gender based and appropriate. Males and females have different concerns when it comes to sexual activity and as result may need to be separated for sex education programs.

The specific content of the sex education program must also be age and developmentally appropriate as well as relevant for the specific school district. Sexual

activity is beginning at a younger age and, as a result, sex education must begin to be taught at a younger age. While it is still important for the sex education programs to be age appropriate, what is age appropriate is changing. Teachers must teach sex education to their students in a way that fits the needs of their students. School districts with a high rate of teenage pregnancy need to begin to teach contraceptive based sex education at a younger age.

Policy Recommendations

School-based sex education programs have been debated by policy makers for many years and will continue to be for many years to come. While the focus among policy makers has been the difference between abstinence-only and abstinence-plus education, this study shows the importance of the content of the sex education rather than the program type. The United States government allocates money to schools based on the type of sex education program they teach. While there are guidelines for each type of program, very rarely are they followed. Many schools receiving abstinence-only funding teach about contraceptive use, which is allowed by the guidelines set forth by the government. A change in the policy to allow educators to teach content rather than type would allow for a more comprehensive sex education program.

Previous research has shown that abstinence-only education does not help to reduce teenage pregnancy or sexually transmitted diseases. As a result of this research, changes must be made in order to find a way to reduce teenage pregnancy and sexually transmitted diseases. By teaching content that is appropriate to the given group of students, it will allow educators to address the issues within their community. Each state, county and city within the United States is faced with their own challenges relating to adolescents' sexual behaviors. By allowing sex education content to

specifically address the issues at hand, there will be a better opportunity for a reduction in teenage pregnancy and sexually transmitted diseases.

APPENDIX A
CONSENT LETTER

Sexual Behaviors Study

https://www.surveymonkey.com/s.aspx?sm=XyYH_2fMBNcNXdy0RFn84_2fEA_3d_3d

I invite you to participate in the online Sexual Behaviors study, a survey of college student's sexual behaviors as they relate to their school-based sex education programs. The study is being conducted on the University of Florida campus and attempts to better understand the influence of school-based sex education programs on contraceptive use among adolescence.

Extra Credit

Dr. Marshall has agreed to offer extra credit if you complete the survey. Dr. Marshall will add ten points to your total points upon completion of the survey.

Informed Consent (full details on the survey website)

Participation in this study is voluntary. You may choose to skip any question you do not feel comfortable answering, and you may quit the study at any time. All of your answers will be kept confidential. However, to ensure that you receive extra credit, you must print out and fill in the final page of the study and turn it into Dr. Marshall. Your information will not be linked to your survey answers in any way.

Please contact Caroline Payne, Graduate Student: cmpayne@ufl.edu or Dr. Rose Barnett, Associate Professor: rbarnet@ufl.edu with any questions.

For questions about your rights as a research participant, contact IRB at 352-392-0433.

What You Have to Do

Follow the link above. The survey will take approximately 20 minutes to complete, so please allow enough time. Once you have completed the survey please print out and fill in the final page of the survey and turn it into Dr. Marshall's office in order to receive extra credit. None of your answers will be shared with Dr. Marshall. Dr. Marshall's office: Food & Environmental Toxicology Lab, SW 23rd Dr., Bldg. 685, Gainesville, FL – at the corners of Hull and Mowry Rds and SW 23rd Dr. - across from Campus Edge Condos. Please return the survey form to Dr. Marshall's office by **Friday April, 10, 2009**.

**If you are unable to access the survey, please try again later.
Thank you for your participation.

APPENDIX B INSTRUMENTATION

Sexual Behavior Questionnaire

1. consent

Informed Consent

Protocol Title: The Association between School-Based Sex Education Programs and Adolescents' Contraceptive Use

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research study:

To determine the association between school-based sex education programs and the contraceptive use among adolescents.

What you will be asked to do in the study:

You will be asked to answer approximately thirty-four questions on a questionnaire.

Time required:

20-45 minutes

Risks and Benefits:

You may experience emotions regarding your sexual behavior. There are no potential benefits to participating in this study.

Compensation:

There is no financial compensation for participating in this research.

Confidentiality:

Your identity will be kept confidential to the extent provided by law. No identifying information will be obtained for you, with the website being a secured site so that your answers may not be traced back to you.

Voluntary participation:

Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:

You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:

Caroline Payne, Graduate Student, Department of Family, Youth and Community Sciences, 352-353-5105

Rose Barnett, Associate Professor, Department of Family, Youth and Community Sciences, (352) 273-3519

Whom to contact about your rights as a research participant in the study:

IRB02 Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone 392-0433.

*** 1. Agreement:**

I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

agree

disagree

*** 2. If you are under the age of 18 parental consent is needed and therefore you may not participate in this study.**

I hereby certify that I am 18 years of age or older.

yes

no

Sexual Behavior Questionnaire

2. Demographics

3. Are you:

male

female

4. How old are you?

5. Please select your ethnicity (all that apply)

White

Black or African American

American Indian or Alaska Native

Asian

Native Hawaiian or Other Pacific Islander

Other

6. Current UF GPA:

3.6-4.0

3.0-3.59

2.5-2.9

2.0-2.49

below 2.0

7. Who do you live with: (please select all that apply)

No one I live alone

Roommates (no relatives)

Siblings/ Relatives

My Child(ren)

Parent(s) or guardian(s)

Spouse or significant other

8. Martial Status:

Single

Married

Divorced

Widowed

Sexual Behavior Questionnaire

9. Mother/mother-figure's marital status:

- Single
- Married
- Divorced
- Widowed

10. Father/Father figure's marital status:

- Single
- Married
- Divorced
- Widowed

11. My partner(s) are:

- Male
- Female
- Both

12. Was your father part of your life during your teenage years?

- always
- often
- some
- rarely
- never

13. Was your mother part of your life during your teenage years?

- always
- often
- some
- rarely
- never

Sexual Behavior Questionnaire

3. Sexual Behavior Questions

For the following questions please either select the best answer or fill in the blank.

14. Have you been sexually active in the past year (sexual activity refers to any type of genital contact or sexual stimulation between two persons including, but not limited to sexual intercourse)?

Yes

No

15. If you are sexually active or have ever been sexually active, how many partners have you had total?

1-2

3-5

6-9

more than 10

16. Have you ever had sexual intercourse while under the influence of drugs or alcohol?

always

often

sometimes

rarely

never

17. Have you ever had oral sex while under the influence of drugs or alcohol?

always

often

sometimes

rarely

never

18. Have you or one of your sexual partners ever become pregnant?

Yes

No

Not that I am aware of

19. If you answered yes to question 16, how long had you and your partner been sexually active at the time of conception?

less than a month

2-3 months

4-6 months

6 months to a year

longer than a year

20. If you answered yes to question 16, what decision did you and/or your partner make regarding the pregnancy?

kept the baby

abortion

adoption

other

Sexual Behavior Questionnaire

4. Sexual Behaviors

21. Please indicate on a scale of Never to Daily how often you engage in the following sexual behaviors.

	Never	Few times in life	Few times a year	Few times a month	Once a week	Few times a week	Daily
Kissing	<input type="radio"/>						
French Kissing	<input type="radio"/>						
Touching a partner's breast or having your breast touched by a partner	<input type="radio"/>						
Stimulating a partner's penis or having your penis stimulated by a partner	<input type="radio"/>						
Stimulating a partner's vagina or having your vagina stimulated by a partner	<input type="radio"/>						
Performing oral sex	<input type="radio"/>						
Receiving oral sex	<input type="radio"/>						
Sexual intercourse	<input type="radio"/>						

Sexual Behavior Questionnaire

5. Contraceptive Behaviors

22. Please indicate on a scale of 0 (never) to 100% (always) how consistently you currently engage in the following contraceptive behaviors. Please select n/a if the question does not apply to you.

	0	25%	50%	75%	100%	N/A
Any contraceptive use during intercourse	<input type="radio"/>					
Any contraceptive use during oral sex	<input type="radio"/>					
Use of hormonal method contraceptives	<input type="radio"/>					
Use of male condom	<input type="radio"/>					
Use of the rhythm method	<input type="radio"/>					
Use of the withdrawal method	<input type="radio"/>					
Intercourse without any form of contraceptive	<input type="radio"/>					
Oral sex without any form of contraceptive	<input type="radio"/>					

23. During the last time you were sexually active did you use a form of contraceptive?

- Yes
 No
 N/A

24. During the last time you had sexual intercourse what form(s) of contraceptive did you use?

- Birth Control (hormonal methods)
 Condom
 Withdrawal
 Rhythm Method
 Other form of barrier method (diaphragm, cervical cap)
 None
 N/A

25. What form of contraceptive do you prefer to use?

- Birth Control (hormonal methods)
 Condom
 Withdrawal
 Rhythm Method
 Other form of barrier method (diaphragm, cervical cap)
 None
 N/A

26. In the past 12 months I have used condoms:

- Never
 25% of the time
 50% of the time
 75% of the time
 100% of the time
 N/A

Sexual Behavior Questionnaire

27. Please indicate on a scale of never to always how frequently you engage in the following contraceptive behaviors. Please select n/a if the question does not apply to you.

	never	rarely	some	often	always	not applicable
Any contraceptive use during intercourse	<input type="radio"/>					
Any contraceptive use during oral sex	<input type="radio"/>					
Use of hormonal method contraceptive	<input type="radio"/>					
Use of male condom	<input type="radio"/>					
Use of the rhythm method	<input type="radio"/>					
Use of the withdrawal method	<input type="radio"/>					
Intercourse without any form of contraceptive	<input type="radio"/>					
Oral sex without any form of contraceptive	<input type="radio"/>					

Sexual Behavior Questionnaire

6. School Type

For the following questions please select the best answer.

28. Please indicate what type of school you attending during each of the following grade levels.

	Public School	Private School	Home School	Combination
Elementary School (K-5th grade)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Middle School (6th-8th grade)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
High School (9th-12th grade)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. What size was your high school?

- less than 150 students
- less than 400 students
- less than 600 students
- less than 1,000 students
- more than 1,000 students

30. Where did you attend high school

- Florida
- Southeast United States (not Florida)
- Midwest United States
- Northeast United States
- West United States
- Outside the United States

Sexual Behavior Questionnaire

7. School-Based Sex Education Program

31. Were you ever part of a formal sex education program at school?

- yes
 no

32. What grade did you first participate in a school-based sex education program?

- before 3rd grade 8th grade 12 grade
 4th/5th grade 9th grade N/A
 6th grade 10th grade
 7th grade 11th grade

33. Indicate all of the grades in which you received school-based sex education.

- Kindergarten 5th grade 10th grade
 1st grade 6th grade 11th grade
 2nd grade 7th grade 12th grade
 3rd grade 8th grade N/A
 4th grade 9th grade

34. Please indicate on the scale below how your contraceptive behaviors changed following the most recent school-based sex education program.

	not at all	very little	some	a lot	completely	not applicable
Contraceptive use during intercourse	<input type="radio"/>					
Contraceptive use during oral sex	<input type="radio"/>					
Use of oral contraceptives	<input type="radio"/>					
Use of male condom	<input type="radio"/>					
Use of the rhythm method	<input type="radio"/>					
Use of the withdrawal method	<input type="radio"/>					
Intercourse without any form of contraceptive	<input type="radio"/>					
Oral sex without any form of contraceptive	<input type="radio"/>					

Sexual Behavior Questionnaire

35. On the table below please indicate how often the sex education program you took discussed each of the following topics.

	never	rarely	some	often	always
Benefits of contraceptive use	<input type="radio"/>				
Risk of sexually transmitted diseases	<input type="radio"/>				
Abstinence only until marriage	<input type="radio"/>				
Oral sex is abstinence	<input type="radio"/>				
Abstinence includes not kissing	<input type="radio"/>				
Contraceptive use cannot protect against pregnancy	<input type="radio"/>				
Contraceptive use cannot protect against sexually transmitted diseases	<input type="radio"/>				
Abortion is an option during unplanned pregnancy	<input type="radio"/>				
Reliable forms of contraceptives	<input type="radio"/>				
Males and females have equal responsibility in contraceptive use	<input type="radio"/>				
The development of the human reproductive system	<input type="radio"/>				
Romantic relationships among heterosexual couples	<input type="radio"/>				
Romantic relationships among homosexual couples	<input type="radio"/>				
Personal skills needed to decide about the decision as to whether or not to become sexually active	<input type="radio"/>				
The physical risk associated with sexual activity	<input type="radio"/>				
The emotional risk associated with sexual activity	<input type="radio"/>				
It is acceptable by cultural norms to be sexually active	<input type="radio"/>				
Becoming sexually active is part of adolescence	<input type="radio"/>				
It is not acceptable by society for adolescents to be sexually active.	<input type="radio"/>				

Sexual Behavior Questionnaire

36. Which type of school-based sex education program did you attend?

- Abstinence-Only: Abstinence-only education programs teach abstinence from sexual relationships outside of marriage is expected of all people and that it is the only reliable way to prevent pregnancy and STIs
- Abstinence-Plus (Comprehensive Sex Education): Abstinence-plus programs teach that abstinence is the best choice for avoiding pregnancy and sexually transmitted infections (STIs), but also discuss alternative forms of contraception

Sexual Behavior Questionnaire

8. Thank you!

Thank you for your participation in this study!

APPENDIX C
TABLES OF SIGNIFICANT RESULTS

Table C-1. Age of sample

Age	Sample frequency	Valid percent
18	161	21.5
19	237	31.7
20	154	20.6
21	99	13.2
22	72	9.6
23	13	1.7
24	5	.7
25	7	.9
Total	748	100.0

Table C-2. Gender of sample

Gender	Sample frequency	Valid percent
Male	288	38.8
Female	455	61.2
Total	743	100

Table C-3. Race of sample

Race	Sample frequency	Valid percent
White	473	63.6
African American	96	12.9
Native American	2	.3
Asian	50	6.7
Native Hawaiian	2	.3
Other	121	16.3
Total	744	100.0

Table C-4. GPA of sample

GPA	Sample frequency	Valid percent
3.6-4.0	223	29.9
3.0-3.59	385	51.7
2.5-2.9	101	13.6
2.0-2.49	27	3.6
Below 2.0	9	1.2
Total	745	100.0

Table C-5. Marital status of sample

Marital status	Sample frequency	Valid percent
Single	732	98.4
Married	9	1.2
Divorced	3	.4
Total	744	100.0

Table C-6. Sexual behaviors frequency

	Kiss	French Kissing	Touching of your breast/ partner's breast	Touching of your penis/ partner's penis	Touching of your vagina/ partner's vagina	Receiving Oral Sex	Performing Oral Sex	Sexual Inter-course
Never	3 (.4%)	5 (.7%)	9 (1.2%)	23 (3.2%)	25 (3.5%)	81 (11.2%)	126 (17.5%)	105 (14.4%)
Few times in life	27 (3.7%)	32 (4.4%)	65 (8.9%)	79 (10.9%)	65 (9.0%)	92 (12.7%)	83 (11.5%)	74 (10.2%)
Few times a year	91 (12.5%)	102 (14.0%)	126 (17.3%)	139 (19.2%)	141 (19.6%)	161 (22.2%)	147 (20.4%)	131 (18.0%)
Few times a month	174 (23.9%)	183 (25.1%)	174 (23.9%)	159 (21.9%)	164 (22.7%)	185 (25.6%)	161 (22.3%)	133 (18.3%)
Once a week	55 (7.6%)	64 (8.8%)	51 (7.0%)	50 (6.9%)	64 (8.9%)	65 (9.0%)	65 (9.0%)	66 (9.1%)
Few times a week	127 (17.4%)	163 (22.4%)	185 (25.4%)	207 (28.6%)	205 (28.4%)	127 (17.5%)	128 (17.7%)	185 (25.4%)
Daily	251 (34.5%)	179 (24.6%)	118 (16.2%)	68 (9.4%)	57 (7.9%)	13 (1.8%)	12 (1.7%)	34 (4.7%)

Table C-7. Gender vs. sexual behaviors

Variable	Female	Male	Test statistic (F)	Significance
Kissing	5.35 (1.614)	5.07 (1.637)	4.877	.028
French kissing	5.12 (1.612)	4.87 (1.553)	4.306	.038
Touching a partner's breast or having your breast touched by a partner	4.71 (1.687)	4.62 (1.608)	.524	.469
Stimulating a partner's penis or having your penis stimulated by a partner	4.44 (1.631)	4.36 (1.623)	.484	.487
Performing oral sex	3.62 (1.685)	3.41 (1.779)	2.480	.116
Receiving oral sex	3.54 (1.593)	3.94 (1.606)	10.947	.001
Sexual intercourse	3.98 (1.923)	3.84 (1.711)	1.036	.309

Table C-8. Gender vs. sex education content

Variable	Female	Male	Test statistic (F)	Significance
Benefits of contraceptive use	4.06 (1.177)	3.88 (1.169)	3.931	.048
Risk of STDS	4.47 (.966)	4.23 (.990)	9.785	.002
Abstinence only until marriage	3.53 (1.234)	3.20 (1.175)	2.353	.126
Oral sex is abstinence	1.87 (1.182)	2.23 (1.268)	13.940	.000
Abstinence includes not kissing	1.55 (1.073)	1.86 (1.263)	11.284	.001
Contraceptives cannot protect against pregnancy	2.66 (1.451)	2.86 (1.376)	3.308	.069
Contraceptives cannot protect against STDS	3.17 (1.507)	3.06 (1.3665)	.956	.329
Abortion is an option during unplanned pregnancy	2.43 (1.249)	2.62 (1.271)	3.678	.056
Reliable forms of contraceptives males and females have equal responsibility in contraceptive use	3.81 (1.221)	3.68 (1.137)	1.819	.178
The development of the human reproductive system	3.69 (1.313)	3.65 (1.163)	.195	.659
Romantic relationships among heterosexual couples	3.76 (1.235)	3.48 (1.153)	8.171	.004
Romantic relationships among homosexual couples	2.04 (1.226)	2.11 (1.266)	.567	.452
Personal skills needed to decide about the decision as to whether become sexually active	3.29 (1.322)	3.09 (1.168)	4.244	.040
The physical risk associated with sexual activity	3.85 (1.195)	3.67 (1.156)	3.757	.053
The emotional risk associated with sexual activity	3.52 (1.300)	3.27 (1.221)	6.070	.014
It is acceptable by cultural norms to be sexually active	2.34 (1.265)	2.71 (1.170)	14.999	.000
Becoming sexually active is part of adolescence	2.02 (1.210)	2.53 (1.241)	27.958	.000
It is not acceptable by society for adolescents to be sexually active	2.31 (1.288)	2.31 (1.256)	.002	.968

Table C-9. Summary of exploratory factor analysis results for sex education content

Item	Factor loading-pattern matrix			
	Contraceptive	Norm	Score	Relationships/skills
Benefits of contraceptive use	.843	.094	.106	-.018
Risk of STDS	.646	-.222	.188	-.363
Abstinence only until marriage	-.185	.014	.275	-.652
Oral sex is abstinence	-.068	.659	.308	.007
Abstinence includes not kissing	-.199	.645	.315	.028
Contraceptives cannot protect against pregnancy	.036	.084	.870	.002
Contraceptives cannot protect against STDS	.162	-.052	.877	-.032
Abortion is an option during unplanned pregnancy	.303	.704	.060	.074
Reliable forms of contraceptives	.833	.165	-.002	-.051
Males and females have equal responsibility in contraceptive use	.710	.221	-.019	-.129
Romantic relationships among heterosexual couples	.227	.033	-.037	-.615
Romantic relationships among homosexual couples	-.020	.759	-.077	-.147
Personal skills needed to decide about the decision as to whether become sexually active	.163	.259	-.100	-.584
The physical risk associated with sexual activity	.151	-.102	.029	-.761
The emotional risk associated with sexual activity	.096	.098	-.078	-.753
It is acceptable by cultural norms to be sexually active	.141	.762	-.160	-.127
Becoming sexually active is part of adolescence	.070	.838	-.054	.009
Alpha Levels	.874	.858	.827	.824
The following items were removed as they overloaded in multiple factors				
It is not acceptable by society for adolescents to be sexually active	-.397	.400	.083	-.493
The development of the human reproductive system	.472	-.090	.012	-.455

Table C-10. Contraceptive use frequency vs. sex education content variables correlation

		Any contraceptive use during intercourse	Any contracept ive use during oral sex	Use of hormonal method contraceptive	Use of male condom	Use of the rhythm method	Use of the withdrawal method	Intercourse without any form of contraceptive	Oral sex without any form of contraceptive
Contraceptive	Pearson Correlation	.073	.062	.095*	.016	-.096*	.038	-.028	.005
	Sig. (2- tailed)	.081	.134	.029	.707	.035	.383	.512	.895
Norms	Pearson Correlation	-.068	.135**	.010	.022	.183**	.045	.064	-.152**
	Sig. (2- tailed)	.107	.001	.823	.605	.000	.294	.132	.000
Scare	Pearson Correlation	-.069	.061	.026	-.043	.054	.092*	.119**	-.068
	Sig. (2- tailed)	.100	.144	.554	.303	.241	.033	.005	.102
Relationships	Pearson Correlation	.058	.055	.109*	.022	-.018	.021	-.012	-.059
	Sig. (2- tailed)	.168	.183	.013	.605	.695	.622	.783	.154

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Table C-11. Contraceptive use consistency vs. sex education content variables correlation

		Any contraceptive use during intercourse	Any contraceptive use during oral sex	Use of hormonal method contrace ptives	Use of male condom	Use of the rhythm method	Use of the withdrawal method	Intercourse without any form of contraceptive	Oral sex without any form of contraceptive
Contraceptive	Pearson Correlation	.050	.082*	.099*	.006	-.075	.053	.026	.003
	Sig. (2-tailed)	.229	.048	.022	.881	.106	.223	.545	.948
Norms	Pearson Correlation	-.053	.107*	.001	.042	.187**	.021	.037	-.100*
	Sig. (2-tailed)	.201	.010	.974	.306	.000	.631	.378	.016
Scare	Pearson Correlation	-.052	.093*	.019	-.051	.073	.093*	.127**	-.101*
	Sig. (2-tailed)	.218	.026	.671	.222	.115	.032	.003	.015
Relationships	Pearson Correlation	.039	.083*	.113**	.001	-.009	.041	.047	-.069
	Sig. (2-tailed)	.356	.046	.009	.985	.852	.339	.263	.097

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Table C-12. Grade of first sex education vs. frequency of contraceptive use

		Any contraceptive use during intercourse	Any contraceptive use during oral sex	Use of hormonal method contraceptive	Use of male condom	Use of the rhythm method	Use of the withdrawal method	Intercourse without any form of contraceptive	Oral sex without any form of contraceptive
What grade did you first participate in a school-based sex education program?	Pearson Correlation	-.046	.070	-.084	.055	.069	.049	.024	-.074
	Sig. (2- tailed)	.285	.098	.060	.194	.144	.264	.579	.081

Table C-13. Grade of first sex education class vs. consistency of contraceptive use

		Any contraceptive use during intercourse	Any contraceptive use during oral sex	Use of hormonal method contraceptives	Use of male condom	Use of the rhythm method	Use of the withdrawal method	Intercourse without any form of contraceptive	Oral sex without any form of contraceptive
What grade did you first participate in a school- based sex education program?	Pearson Correlation	-.053	.043	-.094*	.038	.069	.063	.070	-.023
	Sig. (2- tailed)	.211	.310	.034	.374	.147	.151	.105	.584

*. Correlation is significant at the 0.05 level (2-tailed).

Table C-14. Number of sex education exposures vs. frequency of contraceptive use

		Any contraceptive use during intercourse	Any contraceptive use during oral sex	Use of hormonal method contraceptive	Use of male condom	Use of the rhythm method	Use of the withdrawal method	Intercourse without any form of contracepti ve	Oral sex without any form of contraceptive
Number of Sex Education Exposures	Pearson Correlati on Sig. (2- tailed)	.021	.021	.017	-.002	.024	-.040	.011	.014
		.608	.601	.684	.962	.588	.343	.798	.730

Table C-15. Number of sex education exposures vs. consistency of contraceptive use

		Any contraceptive use during intercourse	Any contraceptive use during oral sex	Use of hormonal method contraceptives	Use of male condom	Use of the rhythm method	Use of the withdrawal method	Intercourse without any form of contraceptive	Oral sex without any form of contraceptive
Number of Sex Education Exposures	Pearson Correlation	-.027	-.002	.040	.028	.097*	.002	.006	.012
	Sig. (2- tailed)	.507	.953	.348	.488	.031	.959	.890	.758

*. Correlation is significant at the 0.05 level (2-tailed).

Table C-16. Gender vs. frequency of contraceptive use

	Males Mean (SD)	Females Mean (SD)	F	Sig.
Any contraceptive use during intercourse	4.22 (1.173)	4.42 (1.103)	4.588	.033
Any contraceptive use during oral sex	1.52 (1.090)	1.78 (1.403)	5.779	.017
Use of hormonal method contraceptive	2.56 (1.702)	3.43 (1.827)	29.535	.000
Use of male condom	3.83 (1.285)	3.42 (1.520)	12.175	.001
Use of the rhythm method	1.45 (.944)	1.22 (.690)	9.895	.002
Use of the withdrawal method	2.14 (1.395)	2.50 (1.475)	8.453	.004
Intercourse without any form of contraceptive	1.77 (1.084)	1.54 (1.007)	7.345	.007
Oral sex without any form of contraceptive	4.12 (1.428)	3.68 (1.656)	11.752	.001

Table C-17. Gender vs. consistency of contraceptive use

	Males Mean (SD)	Females Mean (SD)	F	Sig.
Any contraceptive use during intercourse	4.05 (1.367)	4.32 (1.237)	6.370	.012
Any contraceptive use during oral sex	1.32 (.892)	1.69 (1.402)	12.854	.000
Use of hormonal method contraceptives	2.33 (1.707)	3.38 (1.895)	40.989	.000
Use of male condom	3.80 (1.408)	3.40 (1.606)	10.125	.002
Use of the rhythm method	1.43 (1.005)	1.27 (.830)	3.648	.057
Use of the withdrawal method	2.01 (1.338)	2.40 (1.528)	9.768	.002
Intercourse without any form of contraceptive	1.78 (1.151)	1.48 (.997)	11.165	.001
Oral sex without any form of contraceptive	4.20 (1.438)	3.73 (1.730)	12.460	.000

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BIOGRAPHICAL SKETCH

Caroline Payne was born in Stuart, Florida and grew up in Gainesville, Florida. She began her involvement in sports in kindergarten with soccer and continued with many different sports until she focused solely on running in high school. Following graduation from Buchholz High in Gainesville, FL, she signed a letter of intent and began her running career for the University of Florida. Injury eventually ended her college career in Cross Country and Track, but she remained involved in the sport by coaching at Oak Hall School in Gainesville, Florida. After earning her B.S in family, youth and community sciences, she entered into the M.S. program in family, youth and community sciences. In the fall, Caroline plans to begin her Ph.D in health education and policy in order to continue her dream of helping youth through education and policy.