

THE ATTITUDES, PERCEPTIONS, AND EXPERIENCES OF COLLEGE
STUDENTS REGARDING SEXUAL HEALTH ISSUES

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STUDENTS REGARDING SEXUAL HEALTH ISSUES

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CHAPTER I

INTRODUCTION

Introduction

This study focused on the attitudes and perceptions of college students associated with sexual health issues. Furthermore, experiences were assessed to better understand the attitudes and perceptions reported. The Health Belief Model (HBM) was used as the theoretical framework for this study. Constructs from the HBM examined in this study included perceived susceptibility, perceived severity, perceived barriers, and self-efficacy. The research design employed a survey that measured the attitudes, perceptions, and experiences of college students regarding sexual health issues. The HBM constructs helped guide the creation of the instrument, which was utilized to measure college students' attitudes, perceptions, and experiences regarding the following: sexually transmitted infections (STI), use of condoms and other contraceptive methods, HIV concerns, self-efficacy, and other sexual health issues.

The sample for this study was Texas State University-San Marcos students enrolled in University Seminar courses. Data were collected from participants during individual class meetings by a trained survey administrator. Collected data were consolidated into a SPSS data file. Results were reported using descriptive and inferential statistics using SPSS.

Significance of Problem

One of the health challenges on university campuses is responsible sexual behaviors. The American College Health Association created *Healthy Campus 2010* to establish nationwide health objectives for college campuses and act as a framework for creating and developing strategies to improve student health. *Healthy Campus 2010* is categorized into ten leading health indicators, with one being responsible sexual behavior.¹ However, there are various definitions of "responsible" sexual behavior and how an individual defines and understands the terms "risky" and "sex" will have an impact on his/her behaviors.²

An estimated 50% of adolescents between the ages of 15-19 have engaged in sexual intercourse. Furthermore, 87% of people aged 20-24 years reported engaging in sexual intercourse at least once.³ These statistics show that as the adolescent and young adult population age, more people decide to participate in sexual intercourse. Public health concerns regarding young people participating in sexual intercourse include preventing inconsistent and incorrect condom use, STIs, unintended or unwanted pregnancy, and abortion.⁴⁻¹⁰

Statement of Purpose

The purpose of this study is to measure the attitudes, perceptions, and experiences of Texas State University-San Marcos students regarding sexual health issues.

Research Questions

In order to understand the attitudes, perceptions, and experiences of Texas State University-San Marcos students regarding sexual health issues, the following research questions were asked:

1. Does a relationship exist between attitudes, perceptions, and experiences of Texas State students associated with regarding sexual health?
2. What are Texas State students' self-efficacy regarding sexual health issues?
3. What are Texas State students' attitudes and perceptions of risky sexual behaviors?
4. Do males and females differ in attitudes, perceptions, and experiences regarding sexual health issues?
5. Do ethnic groups differ in attitudes, perceptions, and experiences regarding sexual health issues?

Rationale

Two major issues young adults face when entering college include STIs and unintended pregnancies caused by engaging in risky sexual behaviors. Research has found the 15 to 24 year-old cohort is at a higher risk for being infected with STIs due to behavioral and cultural reasons.¹⁰ Various factors affect the prevalence of STIs in adolescents and young adults including lack of ability to pay for health services, lack of transportation, services designed for the adult population, anxiety about confidentiality, low self-efficacy, and risk perception.^{2, 10}

The college-aged group accounts for 25% of the sexually active population, but represents almost half of all STI cases.¹¹ Chlamydia and gonorrhea rates are the highest

among adolescents and young adults.¹⁰ Additionally, Human Papillomavirus (HPV) is estimated to be the most common STI.¹¹ Sexually transmitted infections not only place college students' health at risk, but they also place a strain on the economy. In 2006, the monetary resources directly spent on STIs were an estimated \$14.7 billion.¹²

Along with STIs, unplanned pregnancies are often an issue for sexually active young adults attending college. One consequence of an unplanned pregnancy for a student might be withdrawing from the college or university. In the U.S., an estimated 41.9 per 1,000 adolescents, aged 15-19, became pregnant in 2006.¹³ However, 18 and 19 year-olds have a much higher rate of births at 73 per 1,000,¹³ which is the typical age for college freshmen.

At some point in life the majority of the population will be involved in a sexual relationship. In fact, almost half of the individuals aged 15-19 years old have participated in sexual intercourse at least once.¹⁴ This means at least 50% of students entering a college campus are sexually experienced. Therefore, assessing college students' attitudes about sexual health issues can provide information to predict a behavioral outcome in an individual's future.¹⁵

Assumptions

For this study, it was assumed that participants have a variety of attitudes, perceptions, and experiences associated with sexual health issues that should be measured. Another assumption was all participants understood the definitions provided at the beginning of the survey, as well as the directions to complete the survey. One final

assumption was all participants responded honestly to the survey thus providing accurate responses.

Delimitations and Limitations

The study was delimited to undergraduate students at Texas State University. Participants were enrolled in a section of University Seminar 1100 during the Fall 2009 semester. The instructor of each respective section agreed to have the survey distributed during a designated class period.

Limitations in this study included no randomization; all subjects participated voluntarily and were enrolled in a section of University Seminar 1100. Further, the survey relied on self-reported data from the participants. Self-reporting may result in skewed and unverifiable data. The surveys were completed in the classroom, and obtaining inaccurate responses was possible because participants might be fearful of others observing their responses. Finally, the researcher limited the survey to 55 items, which excluded possible variables of interest (i.e. assessing sexual behaviors of participants).

Key Terms

1. **Birth Control**: includes birth control pills or patch, male condom, female condom, NuvaRing, hormone shots (Depo-Provera), intrauterine device (IUD), spermicide, sponge, diaphragm, cervical cap, emergency contraceptive (Plan B), Implanon, and/or withdrawal.

2. Dental Dam: stretchable square of latex used as a barrier for safer sex during oral stimulation of the clitoris and vulva or oral stimulation of the anus.
3. Principal Investigator: person conducting the study.
4. Risky Sexual Behaviors: sexual behaviors placing an individual at risk for sexually transmitted infections, including HIV, and/or pregnancy. Risky sexual behaviors include sex (i.e. oral, anal, or vaginal) with multiple partners, sex without a barrier including condoms or dental dams, and/or sex without the use of a form of birth control.
5. Sealed Container: cardboard box sealed with tape that contains an opening for participants to return their envelopes containing the survey and Scantron.
6. Sex: any physical contact (i.e. oral, anal, vaginal, etc.) with the genitals of another person.
7. Sexual Health Issues Handout: supplied with the survey, Scantron, and passive consent form. The handout provides four different local resources for participants to obtain additional information and services about sexual health issues.
8. Sexually Transmitted Infection (STI): an infection that is spread from one person to another through sexual contact and is commonly known as sexually transmitted disease (STD). Examples include, but are not limited to, HIV, gonorrhea, Chlamydia, and Human Papillomavirus (HPV).
9. Survey: instrument containing 55 items assessing the attitudes, perceptions, and experiences of Texas State students associated with sexual health issues.
10. The Network: a peer education organization that promotes health and wellness for the Texas State community.

11. Trained Survey Administrators: graduate students in the Health Education program at Texas State who received training from the principal investigator on protocol for administering the survey to participants in University Seminar courses.

12. University Seminar (US 1100) course: course required by Texas State to assist new students in meeting their transitional needs. The course promotes contemplation about the value of a university education and assists students in developing skills for life-long learning.

CHAPTER II

LITERATURE REVIEW

Introduction

There are various health issues in the university and college student population, specifically pertaining to sexual health. With sexually transmitted infections (STI), teen pregnancy, and unintended pregnancies as contemporary public health concerns, there is a need to study and assess the different factors influencing risky and healthy sexual behaviors of college students. Review of sexuality education in the United States is important to assess federal funding for the Kindergarten-12 educational setting,¹⁶ characteristics of effective sexuality education programs,¹⁷ public support for sexuality education in the Kindergarten-12 education setting,¹⁸⁻²⁰ and sexuality education in the college and university setting. Additionally, sexually transmitted infection rates, unintended pregnancy and abortion rates, and consistent and correct use of contraceptives are assessed to understand the risky sexual behaviors of university and college students.⁴⁻

¹⁰ Lastly, university and college students' knowledge, attitudes, and perceptions regarding sexual health issues are important because of the influence these factors have on the constructs of the Health Belief Model (HBM). Data collected from assessing an individual's attitudes regarding sexual health may predict future behavioral outcomes.¹⁵

History and Background of Sexuality Education in the United States

In 1979, the U.S. Department of Health, Education, and Welfare of the Centers for Disease Control and Prevention (CDC) conducted an exhaustive study focused on sexuality education in the United States.²¹ Two goals developed as a result of this study included enforcement of positive sexuality and decreased unplanned pregnancies.²²

Throughout the 1980s, states examined and reconsidered sexuality education plans due to the AIDS epidemic and elevated rates of teen pregnancy.²³ Currently, there are several methods used to educate students about human sexuality and the two most common are abstinence-only-until-marriage (AOUM) sexuality education and comprehensive sexuality education. The difference between AOUM and comprehensive sexuality education lies in the curricula content, political definition, policies, and philosophy.

According to the federal definition of AOUM sexuality education, found in the 1996 Social Security Act under Section 501, these educational programs must include:

- A. A purpose to teach the social, psychological, and health benefits of sexual abstinence
- B. Teaching abstinence as the expected behavior for unmarried adolescents
- C. Instructing sexual abstinence as the only method to prevent pregnancy, STIs, and additional health issues
- D. Teaching that a mutually monogamous sexual relationship within a marriage is the expected standard of sexual relationships
- E. Educate that premarital sexual activity could lead to psychological and physical consequences
- F. Instruct that childbirth outside of marriage could have repercussions for the child, the child's parents, and the community
- G. Teaching methods to decline sexual advances and the role substances play in increasing vulnerability

H. Educating about autonomy before participating in sexual activity¹⁶

On the other hand, comprehensive sexuality education provides developmentally, culturally, and age appropriate information based on human development, relationships, personal skills, sexual behavior, sexual health, and society and culture.²⁴ Additionally, comprehensive sexuality education encourages abstinence as the healthiest choice but promotes always using condoms and other forms of contraception for young people who are engaging in sexual behaviors.¹⁷

Sexuality Education in the Kindergarten through 12th Grade

During the early 1990s, guidelines developed by the Sexuality Information and Education Council of the United States (SIECUS) promoted the importance of providing adolescents and young adults with information and skills to protect themselves from unintended pregnancies and STIs.²⁴ Furthermore, teachers during this time period tended to provide more instruction about birth control methods, abortion, and sexual orientation.²⁵ In 1991, the SIECUS Task Force created the *Guidelines for Comprehensive Sexuality Education: Kindergarten-12 Grade*, representing the first national framework for comprehensive sexuality education and assisting educators to evaluate and develop new programs. The *Guidelines for Comprehensive Sexuality Education: Kindergarten-12 Grade* are structured according to the following key concepts: human development, relationships, personal skills, sexual behavior, sexual health, and society and culture.²⁴ However during the late 1990s, teachers in the Kindergarten-12 education setting were more likely to teach about topics such as

abstinence, puberty, STIs, resisting peer pressure to engage in sexual intercourse, and consequences of teenage parenthood.²⁵

Leading up to 2009, the focus of the federal government's response to adolescents' sexual behaviors was AOUM sexuality education. Abstinence-only-until-marriage sexuality education was federally funded through the Adolescent and Family Life Act (AFLA), Welfare Reform Act in 1996 under Section 510, and Special Projects of Regional and National Significance - Community-Based Abstinence Education (SPRANS - CBAE). Table 1 shows the amount each program was funded by year. Programs accepting funds from AFLA, SPRANS, or Section 510 must comply with the eight explicit definitions of AOUM sexuality education. The Adolescent and Family Life Act began the funding of AOUM sexuality education in 1981.²⁶ In recent years the AFLA provided \$167 million in funding to AOUM sexuality education^{26, 27} and in 2009 it increased to \$204 million.²⁸ One of the most important components in AOUM sexuality education was the 1996 Social Security Act, Section 510. It provided \$50 million each year to support AOUM sexuality education for states to instruct public school students about abstinence as the only effective method at preventing pregnancies and sexually transmitted infections.^{18, 26} Additionally, Section 510 created and established the aforementioned eight definitions of abstinence education²⁹ and compelled states to match three dollars for every four dollars the federal government provides.²⁶ In 2001, SPRANS - CBAE was created to directly fund community organizations and faith-based organizations, which are also compelled to provide instruction on the eight definitions of AOUM sexuality education.²⁶ The Department of Health and Human Services (HHS) administered SPRANS-CBAE through the Maternal and Child Health Bureau until 2005.

The funding was transferred to Administration for Children and Families (ACF) at the beginning of 2005 and is now known as Community-Based Abstinence Education (CBAE). In Fiscal Year 2001, funding for SPRANS - CBAE was \$20 million, and in Fiscal Year 2006 funding for CBAE increased to \$113 million. During the 2009 Fiscal Year, the budget for CBAE was reduced by \$14.2 million, for a total of \$99 million of funding.³⁰ Even more recently, The Patient Protection and Affordable Care Act (HR 3590), which is to improve the health care coverage for all Americans, is providing \$250 million to AOUM sexuality education programs. This money will be granted to state programs using AOUM sexuality education over the next five years.³¹

Table 1. Federally Funded Abstinence-Only-Until-Marriage Sexuality Education Programs

Title of Program	Amount Funded	Year
Adolescent and Family Life Act (AFLA)	\$204 million	2009
Welfare Reform Act under Section 510	\$50 million each year	1996
Special Projects of Regional and National Significance - Community-Based Abstinence Education (SPRANS - CBAE)	\$113 million/\$99 million	2006/2009

Numerous studies found empirical evidence suggesting AOUM sexuality education programs do not prevent adolescents from engaging in sexual behaviors, including risky sexual behaviors.^{29, 32-34} One such study collected and analyzed data from 1, 719 adolescents and discovered AOUM sexuality education did not impact youths' decision to postpone sexual intercourse or reduce their risk of pregnancy and STIs.²⁹ A systematic review, including 13 studies and a total of 15,900 participants, suggested

AOUM sexuality education was unsuccessful at HIV prevention, encouraging sexual abstinence, and reducing sexual activity in youth.³² Another seminal study examining the impact of four AOUM sexuality education programs on adolescents' sexual behaviors found none of the programs influenced the rate of sexual abstinence among participants. In addition, the AOUM sexuality education programs did not impact the age of first sexual intercourse, but participants were not more likely to engage in unprotected sexual intercourse than the control group.³⁵

In contrast, some evaluated comprehensive sexuality education programs have had significantly different results. A review of 11 programs providing information about contraceptive methods found all but one did not increase the sexual activity of participants. Furthermore, four evaluated comprehensive sexuality education programs showed a decrease in the incidence of sexual activity in the experimental group compared to the control group.³³ Another study found that providing condoms and information about condoms did not increase the frequency of intercourse or initiation of sex at an earlier age.³⁴ Thus, the behavioral outcomes of using comprehensive sexuality education instruction were a decrease in the frequency of sexual intercourse, no increase in sexual activity associated with receiving information about condoms and contraceptive methods, and no initiation of sexual intercourse at an earlier age.

However, the National Abstinence Education Association's position is that comprehensive sexuality education deemphasizes abstinence and encourages sexuality activity among youth. In addition, they assumed that comprehensive sexuality education programs are not what parents want for their children.³⁶ These statements are based on nuances or distorted use of data to support AOUM sexuality education and discredit

comprehensive sexuality education programs. Thus, the results of the studies showing comprehensive sexuality education can reduce sexual behaviors challenges the misconception that comprehensive sexuality education encourages sexual behaviors.³³

The content and focus of a sexuality education program often influences its effectiveness. One definition of an effective program is one that postpones initiation of sex, decreases number of sex partners, and reduces unprotected (i.e. using no condom or contraceptive) sex. In 2007, Kirby completed a review of sexuality education programs and found 17 characteristics of effective programs. Effective programs' content encompassed behavioral goals, behavioral messages, and teaching strategies. The 17 characteristics are placed into subtopics of creating curriculum, content, and implementation:

1. Involved with multiple people with expertise in theory, research, and sex and STD/HIV education to develop the curriculum
2. Assessed relevant needs and assets of the target group
3. Used a logic model approach that specified the health goals, the types of behavior affecting those goals, the risk and protective factors affecting those types of behaviors, and activities to change those risk and protective factors
4. Designed activities consistent with community values and available resources (e.g., staff time, staff skills, facility space and supplies)
5. Pilot-tested the program
6. Focused on clear health goals - the prevention of STD/HIV, pregnancy, or both
7. Focused narrowly on specific types of behavior leading to these health goals (e.g., abstaining from sex or using condoms or other contraceptives), gave clear messages about these types of behavior, and addresses situations that might lead to them and how to avoid them
8. Addresses sexual psychological risk and protective factors that affect sexual behavior (e.g., knowledge, perceived risk, values, attitudes, perceived norms, and self-efficacy) and changed them

9. Created a safe social environment for young people to participate
10. Included multiple activities to change each of the targeted risk and protective factors
11. Employed instructionally sound teaching methods actively involved participants, helped them personalize the information, and were designed to change the targeted risk and protective factors
12. Employed activities, instructional methods, and behavioral messages that were appropriate to the teens' culture, developmental age, and sexual experience
13. Covered topics in a logical sequence
14. Secured at least minimal support from appropriate authorities, such as department of health, school districts, or community organizations
15. Selected educators with desired characteristics (whenever possible), trained them, and provided monitoring, supervision, and support
16. If needed, implemented activities to recruit and retain teens and overcome barriers to their involvement (e.g., publicized the program, offered food or obtained consent)
17. Implemented virtually all activities with reasonable fidelity¹⁷

Public Support for Sexuality Education

Numerous variables are utilized in the development and selection of a sexuality education program in the Kindergarten-12 education setting. These variables include federal funding,²⁶ effectiveness of programs supported by empirical evidence,³³ and public support.¹⁸⁻²⁰

Support for sexuality education in schools has existed for decades and continues to grow. However, controversy is centered around the topics that will be taught in the classrooms. Some groups want AOUM sexuality education taught while others believe accurate information about contraceptives and condoms should be provided to youth.³⁷ Studies have examined parental support, key stakeholders in educational policy,

regarding sexuality education .¹⁸⁻²⁰ According to one randomized study, 89% of parents in California favored comprehensive sexuality education while 11% preferred AOUM sexuality education .¹⁹ Other studies completed in other geographical areas of the country have shown similar findings regarding parental support of comprehensive sexuality education.^{18, 20}

Another study assessed the public's view, U.S. adults ages 18-83 years, regarding sexuality education. This study examined the overall opinions, political ideology, and attendance at religious services associated with views of sexuality education. A majority of adults supported instruction about abstinence and additional prevention methods, while only one in ten respondents opposed comprehensive sexuality education . In addition, 68% favored education demonstrating how to correctly use condoms. Support for comprehensive sexuality education varied according to political beliefs. Seventy percent of self-identified conservatives favored comprehensive sexuality education, while 86.4% of moderates and 91.6% of liberals reported the same. Those opposed to education about condom use were 37.5% of conservatives, 13.4% of moderates, and 9.1% of liberals. Support for comprehensive sexuality education based on religious service attendance varied from 60% who reported attending a service more than once a week, to 87% who reported never attending a service. The common response from participants was they felt AOUM sexuality education programs were ineffective and over 80% responded abstinence in combination with other techniques would be effective.²⁶

Sexuality education in public schools is often a volatile political issue. However, studies have found that the general public's opinion is not consistent with AOUM sexuality education policies. Thus, there is a discrepancy between empirical evidence and

public support versus policy. According to research assessing public opinion of sexuality education, adults support impartial, unbiased approaches versus AOUM sexuality education.²⁶ In addition, AOUM sexuality education obtained lowest level of support from parents and the lay public.^{18-20, 26} Therefore, the federal government's stance maintaining AOUM sexuality education through monetary support is inconsistent with the public and scientific view in favor of more comprehensive approaches to sexuality education.²⁶ Recently, the Fiscal Year 2010 Department of Health and Human Services budget supports state, community and faith-based programs to reduce teen pregnancy by using evidence-based programs that stress the importance of abstinence while teaching using medically-accurate and age-appropriate information.³⁸ Regardless of the evidence supporting comprehensive sexuality education programs, numerous states and local school districts have mandated limitations on the information provided to school-aged youth about contraceptive methods and condoms.³⁷

Sexuality Education in the College Setting

Sexuality education can also be found in the college or university setting. Often, sexuality courses in the university setting have been offered across disciplines usually including health education, sociology, and psychology. In general, the goals of sexuality education courses are to offer information, enable students to become comfortable with discussing sexual health, and facilitate good decision-making skills. Research has shown the Kindergarten-12 education setting only focuses on pregnancy and STI prevention, mainly through abstinence-only education; however, this trend appears not to be expanding to higher education. Another aspect of sexuality education often ignored in the

Kindergarten-12 educational system is the concept that pleasure is a normal part of human growth and development, which is an essential component of developing healthy relationships and positive sexuality. Current research suggests the concept of pleasure is practical and essential to the benefits of an undergraduate level sexuality course.²¹

Due to the trends seen in the scope and sequence of sexuality education in most Kindergarten-12 educational settings, instructors of undergraduate level sexuality courses should be aware students may lack knowledge in sexual health .²¹ One study examining sexuality education in Texas public schools found most students in Texas secondary schools were not provided with information about human sexuality except with the promotion of abstinence. In addition, sexuality education materials included factual errors and distortions about condoms and STIs, and used shaming and fear-based instruction to teach sexuality education . Furthermore, Texas public schools often promoted stereotypes and biases regarding gender and sexual orientation, and some schools integrated religious instruction and Bible study into sexuality education programs.³⁹

On the other hand, college students often receive sexual health information from classes, residence halls, student organizations, student health centers, university newspapers, pamphlets provided on campus, and socializing with friends. One study showed 45% of college students reported they were provided no information at the higher learning institution about prevention of HIV/AIDS and only 26% of students received this information from college classes or on-campus housing programs. This study linked students' sexuality education obtained on a college campus with their perceptions and knowledge of STIs and behavioral risks.² Other components of sexuality, rather than

exclusively pregnancy and STI prevention, should be taught during sexuality education programs and in sexuality courses in the university and college setting to facilitate positive and healthy attitudes regarding sexuality.²¹

College Students' Sexual Behaviors

University and college enrollment has increased by 26% from 14.5 million students in 1997 to 18.2 million in 2007.⁴⁰ With more individuals continuing on to higher education after high school graduation, there is a need to provide more attention and services to address college students' health. Nearly 71% of females and 65% of males aged 18-19 years stated they have had intercourse.³ Therefore, more than two-thirds of students entering a university or college campus have had at least one sexual experience. For young adults aged 18-24 years, 80% reported having sexual intercourse and 66% had engaged in oral intercourse.⁴¹ Numerous public health issues arise from adolescents and young adults engaging in sexual activity including preventing increasing rates of sexually transmitted infections, unintended pregnancies, abortions, and inconsistent and incorrect use of contraceptives.⁴⁻¹⁰

Sexually Transmitted Infection Rates among Young People

A major public health concern are the rates of STIs among young people, because those who are most at risk for contracting a STI are adolescents and young adults aged 15-24.³ While the 15-24 year-old age group only makes up 25% of the sexually active population, individuals aged 15-24 account for 48% of the diagnosed STI cases.¹¹ Possible reasons for these risks include behavioral, biological, and cultural

characteristics. In addition, individuals in this age group encounter numerous obstacles in receiving screening and treatment for STIs including lack of money or insurance, limited access to transportation, services created for adults, and apprehension about confidentiality.¹⁰

To quantify disease control and prevention efforts in preventing STIs among the adolescent and young adult population, there must be accurate examination of the incidence and prevalence of STIs.¹¹ Only ten percent of young adults reported having tested positive for a STI, which is far below the estimated frequency of STIs among adolescents and young adults.⁴¹ The federal government provides funding to control programs for Chlamydia, gonorrhea, and syphilis.³ The two most reported STIs to the CDC are Chlamydia and gonorrhea, especially in females aged 15-24 years.¹⁰ Chlamydia has the highest incidence reported for adolescents and young adults.³ Individuals aged 15-24 accounted for 74% of the reported cases of Chlamydia.¹¹ Chlamydia is the predominate STI for females aged 15-19, having the highest rates followed by females 20-24.¹⁰ In 2006, females aged 15-24 reported 578,155 cases, and males reported 151,855 cases of Chlamydia in the United States.³ The second most common STI reported was gonorrhea, which is more frequent among females.^{3, 10} Overall, the prevalence of Chlamydia and gonorrhea were higher among people between the ages of 18 and 19 years old.³ Syphilis is the least reported of the three with 532 female cases and 1,415 males cases reported.³

Human Papillomavirus (HPV) is the most common STI with an estimated 44.8% of women aged 20-24 infected with the virus.⁴² A projected 7.5 million females 14-24 years-old in the U.S. are infected with HPV,⁴² which is an increase from the previous

estimation of 4.6 million infections occurring in 2000.¹¹ This is a projected number because of the barriers to surveillance and diagnosis of STIs including few or no recognizable symptoms, underreporting, or misreporting.¹¹

The incidence of HIV disease in the United States became stable during the 1990s; however, individuals are still being infected. Sexual intercourse is estimated to be the transmission mode for 75% of new cases. An estimated 30,000 cases of HIV were contracted during sexual intercourse, and of those cases, approximately half were acquired by individuals aged 15-24.¹¹ According to the Centers for Disease Control and Prevention, 1,496 people in 38 areas within the age group of 15-24 were diagnosed with HIV in 2006.³

Genital Herpes Simplex Virus data are not available through case reporting. Prevalence is based on estimates of medical visits occurring in physicians' offices.¹⁰ Herpes Simplex Virus 2 has been shown to be more prevalent in older adults. However, estimates suggest 14-19 year-olds account for 1.6% of all Herpes Simplex Virus 2 and 20-20 year-olds account for 10.6% of the cases.⁴³

Unintended Pregnancy and Abortion Rates among Young People

In addition to STIs, unintended pregnancies and abortions are also public health concerns for young people. The choice of when to have children is a vital component of reproductive and sexual health.⁴ According to the CDC, unintended pregnancy is defined as a pregnancy that is untimely or unwelcome when conceived.⁴⁴ In order to understand fertility and prevention of unintended pregnancies, health professionals must understand this key concept.⁷

Women aged 18-24 years have the highest rate of unwanted pregnancies, and ten percent of females in this age group conceive unintentionally.⁴ An estimated five percent of American females have an unintended pregnancy in a given year, and females 18-24 years-old have an above-average rate for unintended pregnancies.⁴ Young adults who participate in regular sexual intercourse and do not use any contraceptive method will have an 85% chance of pregnancy within a year, and almost 60% of these individuals underestimate the possibility of conception.⁴⁵ During an unintended pregnancy there is an increased risk for morbidity and a possibility the female may engage in health behaviors that could have adverse effects. For example, women with unintended pregnancies may participate in risky health behaviors, such as postponing prenatal care.⁴⁴

Accurate data about legal abortion rates and services are needed to measure the frequency of unwanted pregnancies.⁶ These data can assist in examining the trends in the frequency and characteristics of females receiving abortion services which policymakers and program developers can use to direct and assess efforts to prevent unintended pregnancies.⁴⁶ According to the CDC, the definition of a legal induced abortion is "a procedure performed by a licensed physician or by an appropriately licensed advanced practice clinician acting under the supervision of a licensed physician that is intended to terminate a suspected or known intrauterine pregnancy and produce a nonviable fetus at any gestational age."⁴⁶

Unintended pregnancies are common with an estimated 20% of pregnancies ending in abortions in the U.S. However, the total percentage of abortions has decreased by eight percent from 2000 to 2005.⁶ Females 19 years and younger account for 17% of abortions while 20-24 year-olds received 33% of abortions in 2005, meaning women 24

years and younger accounted for one-half of all abortions in the U.S. In addition, individuals most likely to obtain services for an abortion include unmarried, white females, under the age of 25.⁴⁶

Consistent and Correct Contraceptive Use Rates among Young People

To decrease the rates of STIs and unintended pregnancies, sexually active individuals must use appropriate methods of contraceptives consistently and correctly.^{47,}

⁴⁸ For nearly half of unintended pregnancies that occur, contraceptive methods were used during the time of conception.⁴ Birth control pills are the most commonly used contraceptive (40%), followed by condoms (38.2%), and withdrawal (15.1%) (American College Health Association, 2009).⁴⁹

Male condoms are the only method of birth control that also reduces the risk of STIs, including HIV.⁴⁸ One study assessed condom use of university students and found 83.1% had engaged in unprotected sex at anytime during the past, with females having a higher rate of unprotected sex than males. This study also showed more than one-third of sexually active students did not use a condom at all in the last three months.⁵⁰ Another study reported 58.1% of university students were using condoms consistently with a new sex partner.⁵¹ The American College Health Association assessed the reported condom use of last intercourse at: 53.5% of participants used a condom during vaginal intercourse, 27.7% during anal intercourse, and 4% for oral intercourse.⁴⁹ An important concept to remember is condom use rates fluctuate from study to study, meaning different populations have differing behaviors. However, many of the studies describe inconsistent condom use for all sexually active populations.⁵²

Various obstacles contribute to the reasons for not using condoms in the young adult population. Reasons can be attributed to availability, reduction in pleasure, loss of erection, and lack of comfort with the condoms.^{8, 9, 51, 53} One study assessed college students' condom use errors and found almost half of participants did not have a condom when needed. In addition, the study showed 52% of participants engaged in incomplete condom use, meaning the condom was applied after sexual intercourse had begun or the condom was removed before sexual intercourse had ended.⁸ Explanations for incomplete condom use were examined and found to be lost erection when applying condom or loss of erection during sex with a condom.⁵³ Another review of college students' condom use discovered almost three-fourths of the subjects felt sexual pleasure was reduced when using a condom and 42.2% of students had a low perceived susceptibility of contracting HIV.⁵¹ Female respondents reported condoms also caused irritation, and some males have expressed discomfort with the fit of the condom.⁹

Another reason for inconsistent condom use may be inaccurate information and misrepresentations about condoms and STIs. One study examining Texas public school sexuality education programs suggested schools in Texas regularly included factual errors and distortions regarding condoms and STIs. Nearly 41% of school districts in Texas were found to have factual error in their respective sexuality education materials. When students are provided with false information about pregnancy and STI prevention methods, there may be reduced motivation to use these prevention measures.³⁹

Most of the research regarding contraception examines the use of male condoms. A few studies were completed focusing on accurate and consistent use of female

condoms, diaphragms, and other contraceptives; however, these data are dated and limited in unmarried young adults.⁵²

College Students' Knowledge, Attitudes, and Perceptions Regarding Sexual Health

According to the Henry J. Kaiser Family Foundation , adolescents and young adults reported sexual health issues, such as HIV, STIs, and pregnancy, are the main concerns over any other health issue including health risks of cigarette smoking, depression, or substance use.⁴¹ Though condom use among young people has increased, many young adults are still unaware of the risks regarding unprotected sexual intercourse. There is still more to understand about their knowledge, attitudes, and perceptions associated with sexual health. Additionally, the Health Belief Model has been used to examine and predict future health behaviors, an individual's attitude,¹⁵ perception, and self-efficacy.⁵⁴ These behaviors can include risky sexual behaviors and possibility for becoming infected with HIV.⁵⁴

History of the Health Belief Model

Individual behavior is a key element of group behavior and intrapersonal level behavior change theories. The Health Belief Model (HBM) is an individual behavior change model used to explain an individual's perceptions of a health issue's threat, benefit of evading the threat, and variables influencing the behavior choices.⁵⁴ According to Rosenstock, the Health Belief Model was created in the 1950s by social psychologists working in the United States Public Health Service.⁵⁵

To understand an individual's preventive health behaviors, there are four interdependent constructs: 1) perceived susceptibility to an undesirable health outcome; 2) perceived severity of undesirable outcome and associated repercussions; 3) perceived benefits of engaging in a specific preventive behavior to avert the undesirable health outcome; and 4) perceived barriers or “price” of applying or engaging in the specific health behavior.⁵⁵ The combination of perceived susceptibility and perceived severity is categorized as a perceived threat.⁵⁶ The fifth construct, perceived self-efficacy,⁵⁷ was later introduced into the model.⁵⁸ Perceived self-efficacy is the belief that an individual can handle a situation or complete a certain behavior or task.⁵⁷

Prior to 1978 there was more interest in developing the constructs for the Health Belief Model than validating the measures of the constructs. Without clear constructs, measurements are meaningless. Despite not validating the measures of the concepts, the model confirmed the ability to predict health behaviors. In 1978, Cummings, Jette, & Rosenstock released a study examining the construct validity of the HBM. Their research found the original constructs, perception of susceptibility, severity, barriers, and benefits, could be validly evaluated with survey or interview questions. The study also discovered some instrument methods, such as the seven-point Likert scale and multiple choice, were superior to other methods.⁵⁹

Much of the literature was primarily focused on perceived severity, self-efficacy, and perceived susceptibility or also known as perceived vulnerability. However, studies found that perceived susceptibility may not be a predictive construct regarding condom use.^{60, 61}

Downing-Matibag & Geisinger found college students were oblivious to their vulnerability of contracting STIs. Factors contributing to underestimated vulnerability consists of trusting their sexual partners and receiving insufficient information regarding STIs. An individual must believe the outcome of being infected with a STI is severe to prevent the condition, and many participants reported the worst consequence of sexual intercourse would be an STI infection. While students perceived STIs as an undesirable outcome and perceived the benefit from using condoms would be effective protection , some felt requesting condom use to a sexual partner may decrease the possibility of having sex or reduce pleasure. Therefore, the cost of protection was perceived to be high. Additionally, participants reported a high perception of self-efficacy associated with knowledge and skills to use a condom, but lacked self-efficacy in discussing condoms and STIs with a sexual partner and being prepared for unexpected sexual intercourse.⁶²

In another study, self-efficacy was found to be the most important and only significant predictor for intended condom use to avoid STIs and HIV and intended STI and HIV screening. Perceived susceptibility and perceived severity of STIs and HIV infection were not significant predictors of intended condom use. In addition, perceived susceptibility to HIV was not related to future HIV screening, but perceived severity was related to intended HIV screening. University and college students' belief in their skills in preventing STIs and HIV is a vital component in their intentions to perform a behavior. Overall, the study suggested students who feel confident (self-efficacy) they could engage in healthy sexual behaviors were more likely to use condoms and intend to receive STI and HIV testing in the future.⁶¹

Boone and Lefkowitz studied sexual health issues utilizing the HBM and two predictor variables, perception of social norm and socialization attitudes. Participants' perception of susceptibility to HIV infection was related to condom use in males, but not females. In addition, the results suggested an individual's self-efficacy to use a condom may not predict the actual behavior of condom use. One predictor variable was peer norms, which participants who thought their peers approved of their behavior were more likely to report condom use.⁶⁰

College Students' Knowledge of Sexual Health

Sexually transmitted infections and contraceptives are the main topics presented to university and college students as a part of sexual health programs. However, college students appeared to lack overall knowledge of sexual health issues.⁶³ According to one study, college students who were sexually active tended to be more informed about general sexual health than their peers who had not had sexual intercourse, especially about information about condoms. Additionally, the study examined if current sexual health knowledge was influenced by previous exposure to sexuality education programs. Individuals who had received mainstream reproductive education, defined as education about condoms, birth control pills, and STIs, had more general sexual health knowledge when compared to individuals exposed to abstinence-only sexuality education. Other factors related to sexual health knowledge included self-efficacy regarding utilizing condoms and assertiveness.⁶³

A study assessing sexually transmitted infection knowledge found an estimated 75% of young people believed they knew some information regarding STIs, but many

underestimated their risk for being infected with HIV and/or STIs. Almost all participants knew STIs were passed via sexual contact. Young adults also tended to be unaware of the consequences for untreated STIs.⁴¹ Females were more likely to be familiar with risk, transmission, and long term health implications regarding sexual health.^{41, 63}

In addition to STIs, knowledge associated with other contraceptive methods and pregnancy prevention was examined. Participants reported they lacked information about contraceptive implants (70%), intrauterine devices (67%), diaphragms (62%), and vaginal rings (59%). Only four in ten young adults were aware birth control pills did not increase risk for cancer, and an estimated 60% understood petroleum jelly was not to be used to lubricate latex condoms. Eighty-eight percent of males and 94% of females knew pregnancy could occur when using the withdrawal method. Furthermore, females scored higher on the knowledge regarding emergency contraception.⁴⁵

College Students' Attitudes about Sexual Health

Attitudes held by college students associated with sexual health issues consisted of stigma surrounding STIs, safer sex, and condom usage. Additionally, young adults develop attitudes regarding preventive and contraceptive methods to not only prevent STIs, but also unintended pregnancies.

Various misleading notions and stigma still surround STIs for a large number of young adults.⁴¹ Stigma can be defined as "felt stigma" with the perception of being stigmatized and "enacted stigma" with attitudes or behaviors discriminating against the aberrant people in the community.⁶⁴ Students' attitudes toward STIs suggested HIV had the highest stigma, followed by syphilis, while pubic lice had the lowest. Attitudes

associated with STI stigma were higher among heterosexual males who did not know someone with a STI and had never been tested for a STI.⁶⁵ Almost one in eight young adults felt STIs should only be a concern if an individual is having sexual intercourse with "a lot" of people. Additionally, nearly 20% of young people believe they would know if the person they were dating had a STI.⁴¹

Due to the stigma associated with STIs, an individual might try to prevent contracting one by participating in safer sex. Safer sex is often taught in health courses; however, this term has different definitions for each individual. Furthermore, AOUM sexuality education programs focus only on abstinence from sexual behaviors and 94% of Texas public secondary schools restrict their sexuality education to AOUM.³⁹

Often, the primary concern of adolescents and young adults is pregnancy prevention. When selecting a contraceptive or prevention method, 95% of young adults reported the contraceptive's effectiveness at preventing pregnancy was important and 86% selected methods based on its efficacy to prevent transmission of HIV and STIs. Eighty nine percent of young people aged 15-24 years reported sex with a condom was safer sex, while 71% thought sex with other birth control methods was safer sex. Oral sex was consider safer sex by 37% of participants, and over one fifth of young people believed withdrawal was safer sex, although neither of these methods protect against transmission of STIs. These attitudes regarding safer sex were consistent between the different age groups, implying attitudes and views concerning protection and contraceptive methods are formed in adolescence and are carried to adulthood.⁴¹

Attitudes regarding condom use vary, but young people tended to report positive attitudes about condoms. Three fourths of 18-24 year olds agreed the risk was not worth

having sexual intercourse without a condom; nevertheless, over a quarter felt purchasing condoms was embarrassing. If a sexual partner proposed using a condom, 47% of young people felt the partner was suspicious about their sexual history, while 44% of participants were worried about the partner's sexual history. However, 94% believed a partner is responsible if requesting to use a condom.⁴¹ An assessment of issues with condoms found over 60% of young adults believe condoms often break,⁴¹ and nearly 42% of young adults reported condoms reduce their experience of sexual intercourse.⁴⁵

One study assessed the attitudes of female college students regarding contraceptive use. Findings consisted of reasons why some sexually active women were not using a contraceptive method (i.e. concerned about side effects, health concerns, and opposed to contraception), and consistent contraceptive users had more positive attitudes toward contraceptives than irregular users or nonusers. Therefore, positive attitudes about contraception can improve contraceptive use.⁶⁶

College Students' Perceptions about Sexual Health

Perceptions regarding sexual health can be associated with knowledge and personal beliefs about risky and healthy sexual behaviors and STIs. Furthermore, the way an individual understands the concept of sexual behaviors and sexual activity also influences one's perceptions.²

One study found undergraduate students lacked risk perception and knowledge about STIs. This study reported 36.1% of undergraduates had been screened by a physician or nurse practitioner for STIs and 20% of participants had been tested for HIV/AIDS. In addition, nearly one-half of participants strongly disagreed they were "not

at risk for being infected with a STI" even though they had engaged in sexual intercourse; however, students did perceive STIs as an "important topic" with 79% strongly agreeing. Though students perceived STIs to be an important issue, their perception of risk was low thereby presenting evidence of a sense of invulnerability to contracting a STI.^{2, 67}

An individual requesting health care is likely to be influenced by his/her perception of risk.⁶⁸ For example, one might seek medical care if they believe they are infected with a STI versus an individual who does not perceive he/she is at risk. Sexually transmitted infections often are asymptomatic, or do not create visible symptoms, thus decreasing risk perception. According to one study, 80% of young adults had not been screened for Chlamydia or gonorrhea during the year prior to completing the survey and 86% did not perceive themselves at risk for an infection, even when they participated in risky sexual behaviors. Moreover, the majority of young adults who tested positive for Chlamydia or gonorrhea did not perceive their risk.⁶⁹

Young adults had erroneous views about condoms which could possibly influence use of condoms. Almost 20% of young adults perceived condoms to be ineffective at preventing STIs. In addition, there are misperceptions about oral contraceptive methods. Thirty percent of adolescents and young adults were uninformed or perceived the birth control pill would prevent transmission of STIs and HIV.⁴¹ In a different study, almost 90% of participants reported perceiving knowing "everything" or "a lot" about condoms and 65% of respondents reported the same about birth control pills.⁴⁵ With the different contraceptive options, about one-half of young adults did not research or request information about contraceptives. Young people perceive they know an adequate amount of information or have no use for the information.⁴⁵

Sexual health knowledge can influence perceptions,² and perceptions about sexual health can influence behaviors.⁶⁸ In addition, assessment of attitudes can assist in the prediction of an individual's potential behaviors.¹⁵

Summary

Numerous, factors such as federal funding, empirical evidence, characteristics of effective programs, and public support are significant factors in selecting abstinence-only sexuality education or comprehensive sexuality education for students in the kindergarten-12 education setting. Furthermore, students who choose to pursue higher education may receive sexuality education as an undergraduate. University and college students' sexual behaviors, STI rates, unintended pregnancy and abortion rates, and consistent and correct contraceptive use suggest university and college students are engaging in sexual behaviors placing them at risk for various sexual health problems.

Due to the interrelationship between the many factors affecting behavior change, in addition to the intricacy of the Health Belief Model, understanding college students' knowledge, attitudes, and perceptions regarding sexual health issues will assist in examining the needs of college students. Furthermore, understanding these components can help guide university and college sexuality education programs and undergraduate level sexuality education courses.

CHAPTER III

METHODOLOGY

Introduction

The purpose of this study was to assess the attitudes, perceptions, and experiences of college students at Texas State University-San Marcos. The study was reviewed and approved by the Institutional Review Board - Human Subjects in Research at Texas State University-San Marcos (Appendix A).

Instrumentation

This study utilized a survey instrument design. An instrument was developed and tested to assess the attitudes, perceptions, and experiences of college students associated with sexual health issues. A group of experts examined the items for content validity. A pilot study to evaluate the survey for content, reliability, and time necessary for completion was conducted with three Health Education courses at Texas State University-San Marcos during the Summer of 2009, with a total of 53 students completing the survey.

The survey instrument was created by the principal investigator, Brittany Rosen, David Wiley, Ph. D., Professor of Health Education at Texas State, and Julie Eckert, M.Ed. Health Education Coordinator at the Alcohol and Drug Resource Center at Texas State. Numerous items from the survey were adapted from a questionnaire developed by

The Henry J. Kaiser Family Foundation entitled "Sex Smarts." The instrument included four sections assessing different components regarding sexual health issues. These sections included demographic information, attitudinal items about sexual health issues, sexual experience items, and perception items about sexual health issues.

The survey instrument was paper-based containing 55 items. A Likert scale was utilized to measure 18 of the 24 attitudinal items, while the other six attitudinal items were measured using a four-point rating scale. All four sexual experience items were dichotomous. Thirteen perception items were assessed with a three-point rating scale. As the survey text was read by the individual participants they applied their answers on a Scantron form. The survey went through numerous revisions by the principal investigator, Chair of the Thesis Committee, and the Texas State Health Education Coordinator at the Alcohol and Drug Resource Center. Revisions included removal and addition of items, rewording of items, and organizing items in the four different sections. After the survey was developed, it was submitted to the following professionals for additional feedback: the Texas State Health Education Coordinator at the Student Health Center, the Human Sexuality Educator at Community Health Services in San Marcos, the Texas State Director of Testing, Research-Support, and Evaluation Center, and other Thesis Committee members. When the instrument's preliminary review was completed, the instrument was submitted to pilot participants. Following the pilot, the survey was edited for clarity, readability, and appropriate response options for participants. The final copy of the survey instrument can be found in Appendix B.

Subjects

This study surveyed students enrolled in University Seminar (US 1100) courses at Texas State University-San Marcos during the Fall of 2009. University Seminar courses are required by Texas State University to assist new students in meeting their transitional needs. The course promotes contemplation about the value of a university education and assists students in developing skills for life-long learning. The University Seminar 1100 course was selected because of the sample of participants provided a range of individuals, with various majors, who were typically first-year college students. The US 1100 students provided a cohort with insight into the attitudes, perceptions, and experiences of the general first-year student population at Texas State University-San Marcos.

Variables

This study did not include an intervention, thus there were no independent variables to identify. However, the study was conducted to measure attitudes, perceptions, and experiences of college students regarding sexual health issues, making the dependent variables the attitudes, perceptions, and experiences of the sample population.

Procedures

Instructors who requested *The Network* to present about sexual health topics during a class meeting were informed of the study and asked to allow their respective class(es) to participate in the study. *The Network* is a peer education organization promoting health and wellness for the Texas State community. Involvement in this

project by the individual instructors and participants was completely voluntary. If the instructor agreed to allow his/her class to participate in the study, the principal investigator scheduled the study to occur at least one week prior to *The Network's* presentation. Additionally, four US 1100 instructors working in the Department of Health and Human Performance at Texas State University-San Marcos were recruited to allow their individual class(es) to participate in the study. Thus, there were a total of six US 1100 sections that participated in this study that did not request for *The Network* to present.

The principal investigator or one of the trained survey administrators distributed the survey during the scheduled date and recruited participants from the class. The students were provided with a passive consent form presenting the students with the opportunity to participate or not participate in the research project. By completing the survey and returning it to the trained survey administrator, students provided their consent to participate in the study.

The principal investigator submitted all documents to the Institutional Review Board-Texas State University-San Marcos for approval. Certificate of Approval from the Institutional Review Board-Texas State University-San Marcos was received on August 6, 2009 and the application number was 2009P5368. A complete timeline can be found in Appendix C.

Consent Form

Each participant was provided a passive consent form with the survey (Appendix D). The passive consent form contained the principal investigator's and Texas State

University-San Marcos Institutional Review Board's respective contact information. The passive consent form did not require participants to sign the form to provide consent. Instead, participants who submitted their responses and returned the survey to the sealed container were providing their consent. This was done to ensure the anonymity of all participants in the study.

Sexual Health Issues Handout

Participants were provided a handout listing four local resources where participants could receive more information about sexual health issues. These resources included Texas State Counseling Center, Texas State Student Health Center, Hays County Health Department, and Family Planning Center (Appendix E). These resources offered multiple services associated with sexual health issues including counseling, STI screening and treatment, emergency contraception, and various birth control methods. The handout was provided to the participants to minimize any possible psychological risks due to the sensitive nature of the survey and to provide resources to students.

Survey Administrator Selection and Training

The principal investigator trained students from the Health Education Division from the Department of Health and Human Performance at Texas State to administer the survey. Of the two survey administrators, one was a graduate student and the other was an upper-level undergraduate student, both majoring in Health Education.

The principal investigator conducted a training session for survey administrators. The training session included a review of the following: the overall protocol for the study

including the importance of anonymity in this study, importance of using envelopes and a sealed container to collect data, instructions about delivering data to the principal investigator, discussion about questions or concerns a participant may have, and practicing administration of the survey.

Pilot Protocol

Pilot surveys were completed to assess the reliability and content validity of the instrument, required time to complete the survey, and protocol for administering the survey. The pilot surveys were distributed during class meetings in three different health education courses in the Department of Health and Human Performance at Texas State. There were a total of 53 participants who completed the pilot survey. The principal investigator was the survey administrator for all pilot surveys and contacted instructors of the respective health education courses to receive permission to administer the pilot survey during a class meeting.

The principal investigator distributed individual envelopes to each student that contained a passive consent form, sexual health issues handout, the survey, and a Scantron. After each student had an envelope, they were instructed to open it. The students were informed they were allowed to keep the consent form and the sexual health issues handout. The principal investigator read the passive consent form aloud to the students to ensure students understood all data being collected were anonymous. By responding to the items and returning the pilot survey to the principal investigator, students gave their consent to participate in the pilot study. During the reading of the passive consent form, the principal investigator emphasized the data being collected were

anonymous and no identifiable information should be written on the survey, Scantron, or envelope.

After the passive consent form was read, the principal investigator provided instructions about the process of returning the survey. Participants were instructed to place the survey and Scantron in the envelope and place the envelope into the sealed container. The envelope and sealed container were utilized to ensure privacy due to the sensitive nature of the survey's topic. The survey required an estimated ten minutes to complete. After all participants completed and returned the survey to the sealed container, the principal investigator collected the sealed container and delivered the sealed container to her office, where the data were immediately stored in a locked filing cabinet until the entered into an SPSS data file.

Data Collection Protocol

Data collection was scheduled during the Fall 2009 semester with permission from individual US 1100 instructors. Data collection protocol was similar to the protocol used to distribute pilot surveys. The principal investigator or a trained survey administrator distributed individual envelopes to each student. When all students received an envelope, the principal investigator or trained survey administrator instructed the student to open the envelope. The envelope contained a passive consent form, sexual health issues handout, the survey, and a Scantron. The principal investigator or trained survey administrator read the passive consent form aloud to the students to ensure students understood the data being collected were anonymous and voluntary. The principal investigator or trained survey administrator also read the directions and four

definitions placed at the beginning of the survey to ensure students understood the location of the definitions if participants needed a reference point. The principal investigator, or trained survey administrator, continued to inform the students after they completed the survey to place the survey and Scantron in the envelope and return the envelope to the sealed container. The principal investigator or trained survey administrator returned the sealed container to the principal investigator's office and the data were stored in a locked filing cabinet immediately. Scantrons remained in a locked cabinet until December 2009 and were removed for data entry and analysis. Once the data were entered, the Scantrons were shredded in January 2010.

Analysis of Data

After all Scantrons were collected, were provided to the Testing, Research Support & Evaluation Center at Texas State and entered into a SPSS data file. Data were reported using descriptive and inferential statistics with SPSS. Specifically, correlations, t-tests, multiple regression, and cross tabulation analyses were calculated. Findings from this study can be found in Chapter IV of the thesis report.

Timeline

Appendix C.

CHAPTER IV

RESULTS

Introduction

Relationships among students' self-efficacy levels regarding sexual health issues, concerns about contracting sexually transmitted infections (STI), perceptions of partners' emotion regarding prevention, perceptions of influence and responsibility about prevention methods, receiving testing for STIs other than HIV, and receiving testing for HIV specifically were examined in this study. Receiving screening for STIs other than HIV was the dependent variable.

Descriptive statistics were used to assess the distribution and frequencies of responses. Concerns for missing data included the pattern of missing data and how much data were missing. Cross-tabulations were used to compare variables to identify any possible relationships.⁷⁰ Multiple regression analysis was completed to examine which variables were significant predictors of receiving testing for STIs other than HIV.

Sample

The sample was selected from students enrolled in University Seminar (US) 1100 courses at Texas State University-San Marcos. The University Seminar course is required for all freshmen or transfer students with fewer than 30 hours/credits. During the Fall

2009 semester there were 133 sections of the US 1100 course and 3,684 students registered in the classes. The students selected to receive the survey were enrolled in respective classes in which the instructor requested a presentation from a peer education program, *The Network*, about sexual health or were faculty members in the Department of Health and Human Performance teaching a US 1100 course and who were recruited by the principal investigator. The study's sample size was 696 from the final survey and 53 from the pilot study. The pilot surveys were not included in the final survey count. The sample size from the final survey represented 18.8% of the students enrolled in US 1100 during the Fall 2009 semester. A response rate of 92.9% was obtained from the surveys that were used in data analysis.

Missing Data

There were concerns for missing data that included how much data were missing and the pattern of missing data. The missing data were small, at 0.5%, and did not represent a major measurement issue. The items with missing data were coded as missing because they did not greatly affect the final sample size.

In items 33 through 38, the fourth response, "does not apply to me," was recoded as missing data because of the inability to use the response in the data analysis. The recoded data accounted for a total of 15.4% missing data for those six items.

Sample Characteristics

Six hundred sixty three respondents were included in the data analysis. Age was collapsed into five categories: 17 years old and younger, 18 years old, 19 years old, 20

years old, and 21 years old and older. Five hundred thirty (79.9%) of students were 18 years old, while 18 (2.7%) were 17 years and younger, 100 (15.1%) were 19 years old, five (0.8%) were 20 years old, and ten (1.5%) were 21 years and older. There were 263 (39.4%) males and 400 (60.3%) females who completed the survey (See Table 2).

The respondents also identified race/ethnicity. Race/ethnicity was separated into seven different items which were based on the categories used in the U.S. census, thereby allowing respondents to identify if they were more than one race/ethnicity. For example, if a student is Caucasian and Hispanic then he/she would have been able to report both races/ethnicities. More than two-thirds reported Caucasian as their race (67.4%), 29.7% responded as Hispanic, and 7.7% were African-American. In addition, American Indian or Alaska Native was reported by 4.4%, Asian at 2.4%, Native Hawaiian or other Pacific Islander at 1.4%, and 2.3% responded their race/ethnicity was not listed.

Table 2 shows that over 97% (N=649) of students reported their classification as freshmen. Ten (1.5%) participants responded as sophomores, while junior was stated by two (0.3%) respondents and senior was also selected by two (0.3%) students. All but 16 (2.4%) participants graduated from a Texas high school, meaning over 97% (N=649) received a diploma from a Texas high school.

Variable	N	%
Gender		
Male	263	39.7
Female	400	60.3
Current Age		
17 years old and younger	18	2.7
18 years old	530	79.9
19 years old	100	15.1
20 years old	5	0.8
21 years old and older	10	1.5
Race/Ethnicity		
Caucasian/White	447	67.4
African American/Black	51	7.7
Hispanic or Latino/Latina	197	29.7
American Indian or Alaska Native	29	4.4
Asian	16	2.4
Native Hawaiian or Other Pacific Islander	9	1.4
Race/ethnicity not listed	15	2.3
Classification at Texas State University		
Freshman (0-29 hours)	649	97.9
Sophomore (30-59 hours)	10	1.5
Junior (60-89 hours)	2	0.3
Senior (90+ hours)	2	0.3
Graduated from a Texas high school		
Yes	645	97.3
No	16	2.4

Table 3 shows the respondents' primary source of health insurance. Almost 85% of students reported their parent(s)/guardian(s) policy was their primary source of health insurance, 6% of participants had a government policy, personal policy or Texas State University Student Health Insurance Plan was reported by 2% of students, and less than 1% of participants stated their health insurance was an employer policy. Furthermore, 43 respondents (6.5%) conveyed they did not have health insurance at the time of the survey.

Health Insurance	N	%
Parent(s)/Guardian(s) policy	559	84.3
Government policy (i.e. Medicaid, Veterans Affairs)	42	6.3
Personal Policy/ Texas State University Student Health Insurance Plan	14	2.1
Employer policy	5	0.8
None-I have no health insurance at this time	43	6.5

Scales

Scales were created according to reliability. The five scales included self-efficacy levels regarding sexual health issues, concerns about contracting STIs, perceptions of partners' emotions regarding prevention, perceptions of influence and responsibility over prevention methods, and screening behaviors for STIs.

Participants were asked to indicate their self-efficacy level associated with sexual health issues. These issues included communicating with a sexual partner about using condoms, making an appointment to be tested for a STI, discuss various sexual health issues with a medical professional, and asking a sexual partner to receive testing for STIs. Participants also reported their concern about contracting STIs and HIV and perception of partners' emotions regarding prevention of STIs and pregnancy. Students indicated their attitudes and perceptions by selecting one of the following Likert-scaled response options: strongly disagree, disagree, unsure, agree, strongly agree.

Respondents' perceptions of influence and responsibility about prevention methods (i.e. condoms, dental dams, and other forms of birth control) were created into one scale. Participants also reported who they perceived had more *influence* over male condom use, dental dam use, and birth control other than male condoms. They also reported who they perceived had more *responsibility* over male condom use, dental dam

use, and birth control other than male condoms. Students indicated their perceptions by selecting "male," "female," or "both." Another scale was identified dealing with students' screening behaviors for STIs. Students reported if they had been tested for a STI other than HIV by a medical professional and if they had been specifically tested for HIV.

Descriptive Statistics

Tables 4 through 9 offer descriptive statistics for the items in the survey and each scales' designated items. The tables display the frequencies of responses from the sample of students at Texas State University-San Marcos.

Table 4 provides the frequencies for selected items associated with STIs. Forty percent of the respondents disagreed with the statement "I would know if I had an STI, even if I had not been tested," and 92.9% also disagreed with the statement "STIs are annoying, but they do not have any serious health effects." Almost 18% of participants stated they agreed STIs are uncommon for individuals in a long-term exclusive relationship, and 26.1% of respondents were "unsure."

Table 5 presents data showing a majority of respondents believed they had confidence in their respective abilities to communicate in regards to sexual health issues. Ninety-four percent of students felt they had the confidence to talk with a sexual partner about using condoms. Approximately 87% of students responded they "agree" or "strongly agree" that they believed they could discuss their sexual health issues with a medical professional. At least 84% of participants felt they could make an appointment to be screened for a STI. Furthermore, almost 68% of participants agreed they were confident they could ask a sexual partner to be tested for

Table 4. Frequency Distribution for Items Associated with STIs

	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)
I would know if I had an STI, even if I had not been tested	85 (12.8%)	184 (27.8%)	183(27.6%)	127 (19.2%)	76 (11.5%)
STIs are annoying, but they do not have any serious health effects	439 (66.2%)	177 (26.7%)	31 (4.7%)	4 (0.6%)	11 (1.7%)
There is no point in knowing if you have an STI because there is nothing that can be done about it	464 (70%)	162 (24.4%)	28 (4.2%)	4 (0.6%)	4 (0.6%)
Even if I had not been told, I would know if someone I was sexually active with had an STI	236 (35.6%)	264 (39.8%)	125 (18.9%)	24 (3.6%)	14 (2.1%)
Sexually transmitted infections are uncommon for people who are in long-term exclusive relationships (i.e. 6 months or longer).	105 (15.8%)	270 (40.7%)	173 (26.1%)	107 (16.1%)	8 (1.2%)
Unless I have sex with multiple partners, a STI is not something I have to worry about	219 (33.0%)	323 (48.7%)	37 (5.6%)	76 (11.5%)	6 (0.9%)

Table 5. Scale for Students' Self-Efficacy Regarding Sexual Health Issues

	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)
I am confident I could talk to a sexual partner about using condoms.	12 (1.8%)	4 (0.6%)	23 (3.5%)	223 (33.6%)	401 (60.5%)
I am confident I could make an appointment to be tested for a STI.	10 (1.5%)	11 (1.7%)	85 (12.8%)	309 (46.6%)	248 (37.4%)
I am confident I could discuss my sexual health issues with a medical professional.	6 (0.9%)	8 (1.2%)	72 (10.9%)	323 (48.7%)	254 (38.3%)
I am confident I could ask a sexual partner to be tested for one or more STIs.	10 (1.5%)	32 (4.8%)	174 (26.2%)	265 (40.0%)	182 (27.5%)
Cronbach's Alpha=.781					

Table 6. Scale for Students' Concern for Contracting STIs

	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)
In general, I am concerned about becoming infected with Human Immunodeficiency Virus (HIV)	102 (15.4%)	187 (28.2%)	86 (13.0%)	183 (27.6%)	104 (15.7%)
In general, I am concerned about becoming infected with a STI other than HIV .	77 (11.6%)	165 (24.9%)	85 (12.8%)	238 (35.9%)	97 (14.6%)
Cronbach's Alpha=.898					

Table 7. Scale for Students' Perceptions of Partner's Emotion Regarding Prevention

	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)
A sexual partner would think I didn't trust him/her if I wanted to use a condom/dental dam.	331 (49.9%)	243 (36.7%)	68 (10.3%)	14 (2.1%)	6 (0.9%)
A sexual partner would be insulted if I wanted to use a condom/dental dam.	318 (48.0%)	246 (37.1%)	74 (11.2%)	19 (2.9%)	6 (0.9%)
Cronbach's Alpha=.749					

Table 8. Scale of Students' Perception of Influence and Responsibility Over Prevention Methods

	Male N/(%)	Female N/(%)	Both N/(%)
Who has more <u>influence</u> over whether male condoms are used?	112 (16.9%)	141 (21.3%)	340 (51.3%)
Who has more <u>influence</u> over whether dental dams are used?	34 (5.1%)	157 (23.7%)	231 (34.8%)
Who has more <u>influence</u> over whether birth control other than condoms is used?	16 (2.4%)	447 (67.4%)	150 (22.6%)
Who has more <u>responsibility</u> for ensuring male condoms are used?	229 (34.5%)	58 (8.7%)	332 (50.1%)
Who has more <u>responsibility</u> for ensuring dental dams are used?	22 (3.3%)	148 (22.3%)	285 (43.0%)
Who has more <u>responsibility</u> for ensuring birth control other than condoms is used?	8 (1.2%)	413 (62.3%)	201 (30.3%)
Cronbach's Alpha=.741			

one or more STI. However, over one-quarter of participants were unsure of their confidence to complete this task.

General concern of participants for contracting STIs and specifically HIV were assessed (Table 6). Respondents' concern for becoming infected with HIV was evenly divided between disagree and agree. Forty-three percent of respondents "strongly disagree" or "disagree" they were concerned about being infected with HIV, while 43.4% of respondents reported they were concerned about being infected. Fifty percent of students were concerned about becoming infected with a STI other than HIV, and 36.6% responded they were not concerned with being infected with a STI.

Table 7 illustrates one-half of respondents "strongly disagree" with the statement "a sexual partner would think I didn't trust him/her if I wanted to use a condom/dental dam" and nearly 37% of participants disagreed with the statement. Furthermore, 85% of participants disagreed with the statement that "a sexual partner would be insulted if I wanted to use a condom/dental dam," while 11.7% were "unsure".

Perceptions regarding influence and responsibility about protective methods against STIs and pregnancy was measured and is displayed in Table 8. Over one-half of participants responded both genders had an equal *influence* over whether a male condom is used, but 16.9% reported males had more *influence* and 21.3% felt females had more *influence*. In dealing with birth control other than male condoms 22.6% of students responded both genders had equal *influence*, 67.4% stated females had more *influence*, and 2.4% responded males had more *influence*. Fifty percent of respondents stated there was equal *responsibility* for ensuring male condoms are used, while 34.5% replied that using male condoms was the male's *responsibility*, and 8.7% stated using male condoms

was the female's *responsibility*. Thirty percent of students replied there was equal *responsibility* for ensuring birth control other than condoms were used. Nearly 62% of respondents stated a female was *responsible* for making sure birth control other than condoms were used.

Table 9 presents data showing the number of participants who have been screened for STIs other than HIV and HIV specifically. Almost 80% of respondents stated they had not been tested for a STI, while 20.7% had been tested. Only 9.5% of participants responded they had been specifically tested for HIV, while 90.3% had not been tested for HIV.

Cross-tabulations

Cross-tabulations were completed to identify relationships between variables. Race/ethnicity, and gender were compared with other variables. According to the cross-tabulations analysis there was no relationship in the responses between the different races/ethnicities. Gender, however, there appeared to be gender differences in some of the responses.

Table 10 shows 40% of females were worried that if they received testing for STIs their parent(s)/guardian(s) would find out, while only 29% of males were concerned about their parents(s)/guardian(s) finding out. In addition, Table 11 shows 556 respondents reported they were on their parent(s)/guardian(s) insurance plan. Within these respondents, 36% were worried their parent(s)/guardian(s) would find out if they had been tested for STIs, while 48% of students were not worried, and 16% were "unsure."

Cross-tabulations were calculated on religious beliefs impact on choice of birth control or STI prevention by gender. Table 12 demonstrates about 72% of females reported that religious beliefs did not influence their choice of birth control and STI prevention and 70% of males reported the same. In addition, gender and perceptions of *influence* over male condoms and other forms of birth control being used was measured (Table 13 and Table 14). Fifty-nine percent of females perceived there was an equal *influence* of both genders in using male condoms, and 54% of males had the same perception (Table 13). However, *influence* over birth control other than condoms was perceived by 71% of females as the females' influence and 68% of males responded the same (Table 14).

Responsibility over male condoms and other forms of birth control was measured with cross-tabulations by gender. Table 15 demonstrates almost 64% of females perceived using male condoms as a *responsibility* of both genders, but 57% of males perceived the *responsibility* was the males. *Responsibility* over birth control other than male condoms was perceived as primarily the female's responsibility. About 68% of females reported it was the female's responsibility over birth control other than male condoms and 63% of males reported similar perceptions (Table 16). Gender and testing for STIs other than HIV and HIV specifically was assessed. About 26% of the female population had received testing for STIs, while only 12% of males had received testing (Table 17). Testing for HIV was completed by almost 11% of females and 8% of males (Table 18).

Pearson correlations were calculated to assess the linear relationship between gender and perceptions of reasons why college students may not receive testing for STIs

(shown in Table 19). Reasons provided in the survey included too expensive to be tested for STIs, fear of parent(s)/guardian(s) finding out they are having sex, embarrassed about being tested for STIs, students do not think they are at risk for STIs, students do not know they have a STI, and students are not sure where to be tested for STIs. According to Table 19, a correlation analysis was conducted and all variables had significant correlation except gender and "do not think they are at risk for STIs." All but the following variables were significant at the 0.01 level: gender and too expensive to be tested for STIs (Pearson=.087, $p=.025$), gender and students do not think they are risk for contracting STIs (Pearson=.073, $p=.061$), gender and students do not know they have a STI (Pearson=.086, $p=.026$), and gender and students are not sure where to be tested for STIs (Pearson=.078, $p=.046$). However, gender and too expensive to be tested for STIs (Pearson=.087, $p=.025$), gender and students do not know they have a STI (Pearson=.086, $p=.026$), and gender and students are not sure where to be tested for STIs (Pearson=.078, $p=.046$) were significant at the 0.05 level. Lastly, gender and fear of parent(s)/guardian(s) finding out they are having sex (Pearson=.155, $p=.000$) and gender and students being embarrassed about being tested for STIs (Pearson=.109, $p=.005$) were significant at the 0.01 level.

Table 9. Scale for Students Screening for STI Behaviors

	Yes N/(%)	No N/(%)
I have been tested for a STI other than HIV by a medical professional.	137 (20.7%)	525 (79.2%)
I have specifically been tested for HIV.	63 (9.5%)	599 (90.3%)
Cronbach's Alpha =.676		

Table 10. Cross-tabulation Distribution for Gender and Worried about Parent(s)/Guardians Finding Out about STI Testing

	I am worried that if I get tested for STIs my parent(s)/guardian(s) would find out.					Total N/(%)
	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)	
Female	58 (8.7%)	124 (18.7%)	62 (9.4%)	127 (19.2%)	29 (4.4%)	400 (60.3%)
Male	58 (8.7%)	84 (12.7%)	44 (6.6%)	55 (8.3%)	22 (3.3%)	263 (39.7%)
Total	116 (17.5%)	208 (31.4%)	106 (16%)	182 (27.5%)	51 (7.7%)	663 (100%)

Table 11. Cross-tabulation Distribution for Primary Source of Health Insurance and Worried about Parent(s)/Guardian(s) Finding Out about STI Testing

	I am worried that if I get tested for STIs my parent(s)/guardian(s) would find out.					Total N/(%)
	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)	
Parent(s)/Guardian(s) policy	92 (13.9%)	176 (26.5%)	88 (13.3%)	156 (23.5%)	47 (7.1%)	559 (84.3%)
Government policy	10 (1.5%)	16 (2.4%)	6 (0.9%)	7 (1.1%)	3 (0.5%)	42 (6.3%)
Personal/Student Health Insurance plan	2 (0.3%)	6 (0.9%)	1 (0.2%)	5 (0.8%)	0 (0%)	14 (2.1%)
Employer policy	1 (0.2%)	3 (0.5%)	0 (0%)	1 (0.2%)	0 (0%)	5 (0.8%)
None	11 (1.7%)	7 (1.1%)	11 (1.7%)	13 (2%)	1 (0.2%)	43 (6.5%)
Total	116 (17.5%)	208 (31.4%)	106 (16%)	182 (27.5%)	51 (7.7%)	663 (100%)

Table 12. Cross-tabulation Distribution for Gender and Religious Beliefs Impact on Choice of Birth Control and STI Prevention

	Religious beliefs have no impact on choice of birth control or STI prevention					Total N/(%)
	Strongly Disagree N/(%)	Disagree N/(%)	Unsure N/(%)	Agree N/(%)	Strongly Agree N/(%)	
Female	39 (5.9%)	37 (5.6%)	34 (5.1%)	157 (23.7%)	132 (19.9%)	399 (60.3%)
Male	24 (3.6%)	26 (3.9%)	28 (4.2%)	80 (12.1%)	105 (15.9%)	263 (39.7%)
Total	63 (9.5%)	63 (9.5%)	62 (9.4%)	237 (35.8%)	237 (35.8%)	662 (100%)

Table 13. Cross-tabulation Distribution for Gender and Influence Over Male Condom Use

	Influence over male condoms being used			Total N/(%)
	Male N/(%)	Female N/(%)	Both N/(%)	
Female	47 (7.9%)	95 (16%)	208 (35.1%)	350 (59%)
Male	65 (11%)	46 (7.8%)	132 (22.3%)	243 (41%)
Total	112 (18.9%)	141 (23.8%)	340 (57.3%)	593 (100%)

Table 14. Cross-tabulation Distribution for Gender and Influence Over Other Forms of Birth Control

	Influence over birth control (other than condoms) used			Total N/(%)
	Male N/(%)	Female N/(%)	Both N/(%)	
Female	7 (1.1%)	278 (45.4%)	80 (13.1%)	365 (59.5%)
Male	9 (1.5%)	169 (27.6%)	70 (11.4%)	248 (40.5%)
Total	16 (2.6%)	447 (72.9%)	150 (24.5%)	613 (100%)

Table 15. Cross-tabulation Distribution for Gender and Responsibility Over Male Condom Use

	Responsibility over male condoms being used			Total N/(%)
	Male N/(%)	Female N/(%)	Both N/(%)	
Female	85 (13.7%)	48 (7.8%)	235 (38%)	368 (59.5%)
Male	144 (23.3%)	10 (1.6%)	97 (15.7%)	251 (40.5%)
Total	229 (37%)	58 (9.4%)	332 (53.6%)	619 (100%)

Table 16. Cross-tabulation Distribution for Gender and Responsibility Over Other Forms of Birth Control

	Responsibility over birth control (other than condoms) used			Total N/(%)
	Male N/(%)	Female N/(%)	Both N/(%)	
Female	2 (0.3%)	252 (40.5%)	116 (18.6%)	370 (59.5%)
Male	6 (1%)	161 (25.9%)	85 (13.7%)	252 (40.5%)
Total	8 (1.3%)	413 (66.4%)	201 (32.3%)	622 (100%)

Table 17. Cross-tabulation Distribution for Gender and Receiving STI Testing Other than HIV			
	Have been tested for STI (other than HIV) by medical professional		Total N/(%)
	Yes N/(%)	No N/(%)	
Female	105 (15.9%)	295 (44.6%)	400 (60.4%)
Male	32 (4.8%)	230 (34.7%)	262 (39.6%)
Total	137 (20.7%)	525 (79.3%)	662 (100%)

Table 18. Cross-tabulation Distribution for Gender and Receiving Testing Specifically for HIV			
	Have specifically been tested for HIV		Total N/(%)
	Yes N/(%)	No N/(%)	
Female	42 (6.3%)	357 (53.9%)	399 (60.3%)
Male	21 (3.2%)	242 (36.6%)	263 (39.7%)
Total	63 (9.5%)	599 (90.5%)	662 (100%)

Table 19. Pearson's R Correlation of Gender and Reasons Why College Students may not Receive Testing for STIs

		Gender	Too expensive to be tested	Fear of parents/guardians finding out they are having sex	Embarrassed about being tested	Do not think they are at risk	They do not know they have STI	They are not sure where to be tested
Gender	Pearson	1	.087*	.155**	.109**	.073	.086*	.078*
	Sig.		.025	.000	.005	.061	.026	.046
Too expensive to be tested	Pearson	.087*	1	.326**	.302**	.237**	.188**	.145**
	Sig.	.025		.000	.000	.000	.000	.000
Fear of parents/guardians finding out they are having sex	Pearson	.155**	.326**	1	.537**	.275**	.302**	.259**
	Sig.	.000	.000		.000	.000	.000	.000
Embarrassed about being tested	Pearson	.109**	.302**	.537**	1	.375**	.387**	.305**
	Sig.	.005	.00	.000		.000	.000	.000
Do not think they are at risk	Pearson	.073	.237**	.275**	.375**	1	.471**	.284**
	Sig.	.061	.000	.000	.000		.000	.000
They do not know they have STI	Pearson	.086*	.188**	.302**	.387**	.471**	1	.390**
	Sig.	.026	.000	.000	.000	.000		.000
They are not sure where to be tested	Pearson	.078*	.145**	.259**	.305**	.284**	.390**	1
	Sig.	.046	.000	.000	.000	.000	.000	

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

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

Criterion Variable and Predictor Variables

The criterion variable for this study was receiving testing for STIs other than HIV, and the predictor variables consisted of self-efficacy levels regarding sexual health issues, concerns about contracting STIs, perceptions of partners' emotions regarding prevention, perceptions of influence and responsibility over prevention methods, and screening for HIV specifically. The mean, reliability, and standard deviation for the criterion and predictor variables are displayed in Table 20.

Multiple Regression

Multiple regression analysis was completed to assess predictive associations. Students who received testing for STIs other than HIV was the dependent variable. Demographic items, graduation from a Texas high school, primary source of health insurance, in addition to self-efficacy levels regarding sexual health issues, concerns about contracting STIs, perceptions of partner's emotion regarding prevention, perceptions of influence and responsibility over prevention methods, and receiving testing for HIV specifically were the predictor variables. A series of multiple regression models are presented in Table 21 and Table 22. The models estimate the effects of perceived characteristics of individuals and receiving STI screening other than HIV. *Model 1* presents testing for STIs other than HIV as a function of demographic variables. The demographic variables consisted of age, classification in the university, gender, ethnicity/race, graduation from a Texas high school, and main source of health insurance. Self-efficacy levels regarding sexual health issues was added as a predictor in *model 2*. *Models 3 and 4* included concerns about contracting STIs and perceptions of

partner's emotions regarding prevention, respectively. Perceptions of influence and responsibility over prevention methods was included in *model 5* and testing for HIV specifically in *model 6*.

Three of the demographic variables were significant predictors of being tested for STIs in *model 1*. These variables consisted of age [$p=.027$], gender [$p=.000$], and graduation from a Texas high school [$p=.012$]. Self-efficacy levels regarding sexual health issues scale was added in *model 2* and the same demographic variables remained significant in addition to the self-efficacy scale. In *model 3*, concerns about becoming infected with STIs was added as a predictor variable. The same variables were significant as well as concerns about becoming infected with STIs. *Model 4* included perceptions of partner's emotion regarding prevention [$p=.172$]; however, this scale was not significant if students received testing for STIs other than HIV.

In *model 5*, the scale of perceptions of influence and responsibility over prevention methods [$p=.003$] was added to the regression and was a significant predictor of screening for STIs other than HIV. Receiving testing specifically for HIV was included in *model 6*. This characteristic acted as a suppressor variable by eliminating the significance of age [$p=.528$], graduation from a Texas high school [$p=.124$], and concerns about becoming infected with STIs [$p=.232$]. Thus, in *model 6* the significant predictors of receiving testing for STIs other than HIV included gender [$p=.000$], self-efficacy levels regarding sexual health issues [$p=.008$], perceptions of partner's emotions regarding prevention [$p=.028$], perception of influence and responsibility over prevention methods [$p=.017$], and receiving testing for HIV specifically [$p=.000$].

Table 20. Reliability, Means, and Standard Deviations for Criterion and Predictor Variables				
Variables	Reliability	N	Mean	SD
Criterion Variable				
Receiving testing for STI other than HIV	N/A	662	1.79	.405
Predictor Variable				
Self-efficacy and sexual health issues	.781	663	16.7647	2.54069
Concerns about STIs	.898	662	6.1707	2.49893
Partner Emotion regarding Prevention	.749	662	3.3852	1.47638
Influence and responsibility over prevention methods	.741	639	15.6135	3.29327
Screening for HIV specifically	N/A	662	1.9	.294

Predictor	Model 1 Adjusted R ² = .049			Model 2 Adjusted R ² = .066			Model 3 Adjusted R ² = .082		
	B	β	<i>p</i>	B	β	<i>p</i>	B	β	<i>p</i>
Constant	1.674		.000	2.047		.000	2.209		.000
Age	-.068	-.094	.027*	-.069	-.095	.024*	-.069	-.096	.022*
Classification	-.053	-.030	.455	-.045	-.026	.519	-.047	-.027	.501
Gender	.151	.182	.000*	.145	.175	.000*	.163	.196	.000*
Black/African American	.119	.077	.091	.107	.069	.124	.086	.056	.216
White/Caucasian	.082	.094	.117	.081	.094	.115	.089	.102	.082
Hispanic/Latino	.016	.018	.750	.015	.017	.766	.005	.005	.926
Graduated from a Texas high school	-.255	-.097	.012*	-.235	-.089	.021*	-.255	-.097	.011*
Source of health insurance	.007	.018	.652	.007	.019	.633	.009	.023	.553
Self-efficacy and sexual health issues				-.022	-.137	.000*	-.021	-.132	.000*
Concerns about STIs							-.022	-.133	.001*
Partner Emotion regarding prevention									
Influence and responsibility over prevention methods									
Tested for HIV									

* significance at .05

Predictor	Model 4 Adjusted R ² =.083			Model 5 Adjusted R ² = .090			Model 6 Adjusted R ² = .316		
	B	β	<i>p</i>	B	β	<i>p</i>	B	β	<i>p</i>
Constant	2.281		.000	2.061		.000	.580		.051
Age	-.067	-.092	.028*	-.069	-.096	.025*	-.017	-.023	.528
Classification	-.050	-.029	.470	-.051	-.030	.464	-.054	-.031	.373
Gender	.166	.200	.000*	.182	.219	.000*	.142	.171	.000*
Black/African American	.083	.054	.234	.068	.044	.342	.035	.023	.569
White/Caucasian	.090	.103	.080	.083	.095	.113	.042	.048	.355
Hispanic/Latino	.005	.006	.917	.016	.018	.745	-.008	-.008	.864
Graduated from a Texas high school	-.254	-.097	.012*	-.267	-.103	.008*	-.135	-.052	.124
Source of health insurance	.009	.023	.553	.011	.028	.476	.014	.037	.287
Self-efficacy and sexual health issues	-.023	-.143	.000*	-.023	-.143	.000*	-.014	-.091	.008*
Concerns about STIs	-.021	-.130	.001*	-.018	-.111	.005*	-.007	-.041	.232
Partner Emotion regarding prevention	-.015	-.053	.172	-.018	-.063	.111	-.021	-.075	.028*
Influence and responsibility over prevention methods				.014	.116	.003*	.010	.082	.017*
Tested for HIV							.688	.492	.000*

* significance at .05

CHAPTER V

CONCLUSIONS, LIMITATIONS, AND DISCUSSION

Conclusions

One challenge facing college and university students is responsible sexual health. *Healthy Campus 2010*, created by the American College Health Association (ACHA), established responsible sexuality as one of the ten leading health indicators on college and university campuses.¹ College students' physical and psychological health is classified as being primary health concerns in dealing with sexual health according to the ACHA.⁶¹ The Association also suggested college students are in a developmental stage where sexual experimentation often shows trends to increasing risky sexual behavior and increased risk for probable transmission of sexually transmitted infections (STI).⁶¹ With 15-24 year-olds accounting for 50% of all diagnosed STI cases¹¹ and 18-19 year-olds with the highest pregnancy rate,⁷¹ it is important to assess attitudes, perceptions and experiences of college students associated with sexual health issues.

The Health Belief Model (HBM) is defined with several constructs that predict why people will or will not engage in specific actions to prevent conditions or illnesses. These constructs include susceptibility, seriousness, benefits and barriers to a specific behavior, and self-efficacy.⁵⁶ The purpose of this study was to examine the attitudes, perceptions, and experiences of college students regarding sexual health issues. The study also assessed different variables, many associated with the HBM, that were significant in predicting if an individual had received testing for STIs.

Summary of Findings

The typical participant in this study was an 18 year-old, freshman student (79.9%) at Texas State University-San Marcos who graduated from a Texas high school (97.3%). The majority of respondents were Caucasian/White (67.4%) females (60.3%). Hispanic or Latino/Latina accounted for 29.7% of the population and African-American/Black accounted for 7.7%. Over 80% of students' primary source of health insurance was their parent(s)/guardian(s) policy. Government policies (i.e. Medicaid, Veterans Affairs, etc.) were the primary sources of health insurance for 6.3% of students.

Findings from this study indicated participants had high levels of self-efficacy associated with sexual health issues, almost half of students were concerned about becoming infected with a STI or HIV, and many students who were on their parent(s)/guardian(s) insurance plan were concerned about their parent(s)/guardian(s) finding out about them receiving testing for STIs. In addition, more than one-half of participants reported both genders have more influence and responsibility over male condoms being used, and more than two-thirds reported females have more influence and responsibility over birth control (other than male condoms) being used. Furthermore, this study suggested religious beliefs did not appear to have much impact on pregnancy and STI prevention methods.

Limitations

The sexual behaviors of participants were not explored in this study. However, the Youth Risk Behavior Surveillance (YRBS) found that nationally 47.8% of high

school students had engaged in sexual intercourse at least once,⁷² thus this study represents an important contribution to understanding college students' attitudes, perceptions, and experiences about sexual health issues. This study examined Texas State University-San Marcos students enrolled in University Seminar (US) 1100 courses, in which the respective instructor requested a sexual health presentation from *The Network* or were professors in the Department of Health and Human Performance instructing a US 1100 course. Therefore, this study is not representative of the college population, but instead of the freshman college population.

The survey required approximately 20 minutes to complete and was administered during one 50 minute class meeting. In consideration of the instructors' class time, it was crucial to keep the survey concise. Therefore, survey questions were limited and addressed only four of the five constructs from the HBM. These constructs included perceived susceptibility, perceived severity, perceived barriers, and levels of self-efficacy associated with sexual health issues.

Discussion

According to this study, participants had high levels of self-efficacy associated with sexual health issues, but when researching other studies examining sexual health behaviors of other college students there appear to be a number of inconsistencies. Based on the frequencies for students' self-efficacy about discussing condoms with a sexual partner, over 94% of students were confident that could complete that task. However, according to ACHA only 53.5% of sexually active college students reported they used a condom at last time of sexual intercourse.⁴⁹ In addition, STI rates continue to be the

highest in 15-24 year-olds.¹¹ Several reasons for not using condoms consistently may include availability of condoms, condom application, and erection problems.⁷³

Furthermore, there was a disassociation between both components of confidence in making an appointment to be tested for STIs along with discussing sexual health issues with a medical professional and actually receiving testing for STIs. Eighty four percent of students were confident they could make an appointment to receive testing for a STI and 87% were confident they could talk about sexual health issues with a medical professional. However, 79.2% of participants reported they had not been tested for a STI by a medical professional. According to the ACHA, only 28.2% of college students reported having been tested for HIV infection.⁴⁹ Another study suggested 52.5% of students had received testing for a STI and 37.1% had been tested for HIV.⁵⁰ Therefore, if self-efficacy levels are high, there should be more educational interventions focused on communicating with medical professionals about sexual health issues (i.e. testing for STIs) and negotiation skills about sexual health issues with sexual partners (i.e. contraceptive methods and testing for STIs). On the other hand, participants in this study may have had an inflated or false sense of self-efficacy related to their confidence in accessing medical services/advice.

The findings from this study were inconsistent compared to other studies. While this study found 20.8% of participants had received testing for STIs and 9.5% of participants received testing for HIV, another study found higher numbers of students getting tested for STIs, in which 52.5% of students reported being screened for a STI and 37.1% had been screened for HIV. Fifty percent of these participants were between the ages of 18-20 years old,⁵⁰ while this current study's target population was

overwhelmingly young (i.e. 18 year-olds). Thus, as students increase in age and become more sexually active, there is a possibility they would be more likely to receive testing for STIs.

About one-half (51%) of respondents were concerned about contracting a STI, while 43% were concerned specifically about contracting HIV. Thus, data suggest that while students are a little more concerned about becoming infected with a STI, many are concerned about being infected with HIV because the stigma surrounding HIV is high.⁶⁵ Therefore, students' perceived severity of HIV is high, but their perceived susceptibility is actually low.

Additionally, the participants' STI testing behaviors provide more insight into their perceived susceptibility with 20.8% of students reported being tested for a STI and 9.5% being tested for HIV. Another study found that while students were engaging in sexual behaviors without consistent condom use, they reported low STI and HIV testing behaviors. However, HIV testing rates were higher among females.⁵⁰ Accordingly, students' perceived risk of becoming infected with a STI or HIV was low, even if half of the population was concerned about becoming infected. This shows an inconsistency between their actions and attitudes towards STIs. The HBM suggests if an individual perceives they are susceptible to a disease or condition they are likely to take action to prevent the disease or condition.⁵⁶ However, this study shows that while the students are concerned with STIs, actions in preventing and screening for STIs is lacking.

Almost a quarter (23.6%) of female respondents were worried if they received testing for a STI their parent(s)/guardian(s) would find out this information. Males were not as concerned as only 11.6% of males reported concern of parents finding out.

However, of the 84.3% of students that were on parent(s)/guardian(s) health insurance policy, 36.3% reported they were concerned their parent(s)/guardian(s) would find out they received testing for STIs. One study examined adolescent females utilizing reproductive health care services at a clinic and the adolescent's reactions to mandated parental notification for services. Eighteen percent of participants reported they would engage in risky sexual behaviors and five percent would not receive STI screening services if there were a mandate to have parental permission to use the clinic's services. Reasons for not wanting to inform parents the students were utilizing the clinic's services included not wanting to disappoint parents and a desire to be self-sufficient.⁷⁴ Students in this study may be concerned their parent(s)/guardian(s) have access to their medical records at the university. This may lead to students not accessing the sexual health services provided at the student health center. However, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) Privacy and Security Rules have established national standards for the security of protected health information. HIPAA is a privacy rule that applies to all forms of individuals' protected health information including electronic, written, and/or oral.⁷⁵ Entities that must follow HIPAA regulations include most doctors, clinics, hospitals, and pharmacies. Organizations that do not have to follow HIPAA regulations include employers, law enforcement agencies, and many Kindergarten-12 grade school districts.⁷⁶ Thus, there should be more education for students to learn about confidentiality of medical records and different locations to receive confidential sexual health services.

Data show that 57.3% of both males and females perceive both genders as having more influence over male condoms being used, while 72.9% both males and females feel

that females have more influence over other forms of birth control. Thus, these data can be utilized to develop educational programs that teach both genders have influence over STI and pregnancy prevention methods. Males should be held accountable and learn that they also have an influence on other forms of birth control other than male condoms. In addition, clinics should enhance recruitment efforts to increase men to receive reproductive health services because males only accounted for 5% of clients for national family planning programs.⁷⁷

Similar results were found for responsibility over prevention methods. Fifty-three percent of males and females reported both genders are responsible for ensuring male condoms are used. Almost 67% of males and females responded females were responsible for birth control other than male condoms. An important concept to remember is condom use rates fluctuate from study to study; however, many of the studies describe inconsistent condom use for all sexually active populations.⁵² Therefore, while participants felt condom use was both genders' responsibility, there is still a likelihood of inconsistent condom use among all sexually active populations, including college students. Interventions need to focus on equality in communication with partners about using condoms. However, 7.8% of females and 1.6% of males felt it was the responsibility of females to ensure male condoms were being. This provides insight into why females might not be carrying condoms, because the respondents did not feel it was a female's responsibility. One study found that people in Europe expect individuals to take responsibility of for their own sexual health, regardless of gender or age, to make sexually healthy choices and the community also has the responsibility to ensure that everyone has the knowledge and access to services to support healthy behaviors. Also,

most Europeans view one's sexuality as a normal and expected stage of becoming an adult and it is a responsibility to not only protect oneself, but others as well.⁷⁸

Results from this study show religious beliefs did not have an impact on the choice of birth control or STI prevention. Seventy-one percent of students reported their religious beliefs did not impact their choice of prevention methods, while 19% reported religious beliefs did have some impact on their respective choices. These results can be used when developing sexuality education curricula/programs for college students because there may not need to be as much as a consideration on religious beliefs. As an example, a study found a majority of Catholic college students did not believe premarital sex or using birth control (i.e. birth control pills, condoms, etc.) was wrong. Also, the majority of participants did not turn to their church teachings to guide their opinion on these issues, but relied on their own experiences and the culture to educate them.⁷⁹ Therefore, religiosity should not be ignored by health educators, but probably does not play as important a role in today's college population in their opinions about and behaviors related to sexual health.

In this study there were no significant differences in the attitudes, perceptions, and experiences variables between the different ethnicity/race categories. This suggests that risky sexual behaviors should be addressed consistently regardless of ethnicity or race. However, interventions should still be culturally appropriate to achieve the highest levels of efficacy in reducing sexual risk-taking among college populations.

Variables that influenced receiving testing for a STI were also assessed. Gender, self-efficacy levels regarding sexual health issues, perceptions of partner's emotions regarding prevention, perception of influence and responsibility over prevention methods

against STIs and unintended pregnancy, and receiving testing for HIV specifically were significant predictors of receiving testing for STIs. These scales included an array of sexual health attitudes and perceptions, meaning people who reported strong beliefs in these scales were significantly more likely to complete the secondary prevention step of receiving testing for STIs.

According to the literature, college students' range of lifetime sexual partners varies. One study found that participants' sexual partners ranged from 1 to 24, with a median of 2.45 lifetime sexual partners.⁸⁰ Additionally, another study reported a mean of 4.78 lifetime sexual partners for male college students and a mean of 3.28 lifetime sexual partners for female college students.⁸¹ However, because only 53.5% of college students reported using condoms at last time of vaginal intercourse,⁴⁹ college students should be more open to receiving testing for STIs. This current study's target population was 97.9% freshman, thus the number of lifetime sexual partners will increase as students progress in age. Thus, interventions should be designed to focus on the likelihood of number of lifetime sexual partners increasing and decreasing risky sexual behaviors (i.e. using condoms consistently and correctly).

Results showed from this research that nearly 80% of participants did not receive screening for STIs. Another study found 61% of college students had not been tested for STIs. Several reasons for not seeking screening for STIs include perceived negative consequences (i.e. what other people would think), negative personal emotions, absence of STI symptoms, and preferring not to know if one was infected with a STI.⁸² Therefore, with numerous lifetime sexual partners, inconsistent condom use, and lack of screening

for STIs, these predictor variables should be utilized in education efforts to increase the likelihood of STI screening behaviors for college students.

Recommendations for Further Research

Future studies on college and university students' attitudes, perceptions, and experiences associated with sexual health issues should be conducted. . Though research suggested predictive variables for students to receive STI testing and other variables contributing to sexual health (i.e. self-efficacy levels, concerns about becoming infected with STIs, etc.), there are other factors that impact an individual's sexual health. One recommendation for further research is to determine how college students define the term "intimacy" within a sexual relationship. In addition, there should be additional research to understand how college students characterize the term "sex." These definitions could provide insight into certain behaviors and clarify "intimate" behaviors and which behaviors qualify as "sex."

After an extensive review of literature, there was lack of research about males' attitudes and perceptions about responsibility of sexual health issues. Further research should include barriers to taking more responsibility for forms of birth control other than condoms, knowledge about forms of birth control other than condoms, and benefits of taking more responsibility for forms of birth control other than condoms.

While this study assessed the levels of self-efficacy associated with sexual health issues there should be further research examining specific behaviors tied to the self-efficacy questions. For example, assessing self-efficacy about communication and examining the specific behavior of communicating about STI testing, using condoms, and

using other birth control methods with sexual partners. In addition, other research efforts could focus on students' attitudes and perceptions about the benefits of using condoms and other forms of birth control.

Furthermore, more data should be collected regarding collaboration between university health education faculty and student health center staff. Information about consistent messages about sexual health issues and services provided from the health education faculty and student health center should be assessed because of the impact both have on students' health.

This study can also be expanded to other states outside of Texas to additional college and university students. Furthermore, stakeholders' attitudes and perceptions about college and university students' sexual health issues can be assessed. University student health centers' faculty and staff, professors, and health educators' roles could be better understood with further research. While other aspects need to be examined, this present study is important in adding to the knowledge base in understanding university and college students' sexual health needs.

APPENDIX A

IRB APPROVAL DOCUMENT



Institutional Review Board Application

Certificate of Approval

Applicant: Brittany Rosen

Application Number : 2009P5368

Project Title: Sexual Health Inventory: Attitudes, Perceptions, and Experiences of College Students

Date of Approval: 08/17/09 12:07:17

Expiration Date: 08/17/10

A handwritten signature in black ink that reads "M. Blonds".

Assistant Vice President for Research
and Federal Relations

A handwritten signature in black ink that reads "Jon Lane".

Chair, Institutional Review Board

APPENDIX B

FINAL SURVEY INSTRUMENT

Sexual Health Inventory: Attitudes, Perceptions, and Experiences of College Students

Use the following definitions as a reference point when answering the items below:

1) Sexually Transmitted Infection (STI): is an infection that is spread from one person to another through sexual contact and is commonly known as sexually transmitted disease (STD). Examples include HIV, gonorrhea, Chlamydia, and Human Papillomavirus (HPV).

2) Sex: any physical contact (i.e. oral, anal, vaginal, etc.) with the genitals of another person.

3) Birth Control: includes birth control pills or patch, male condom, female condom, NuvaRing, hormone shots (Depo-Provera), intrauterine device (IUD), spermicide, sponge, diaphragm, and/or cervical cap, emergency contraceptive (Plan B), Implanon, withdrawal.

4) Dental Dam: stretchable square of latex used as a barrier for safer sex during oral stimulation of the clitoris and vulva or oral stimulation of the anus.

Demographics: *The following items are to ask about your current demographic information.*

1. How old are you?
 - A. 17 years old and younger
 - B. 18 years old
 - C. 19 years old
 - D. 20 years old
 - E. 21 years old and older

2. What is your classification or hours completed at Texas State University?
 - A. Freshman (0-29 hours)
 - B. Sophomore (30-59 hours)
 - C. Junior (60- 89 hours)
 - D. Senior (90+ hours)

3. What is your sex?
 - A. Female
 - B. Male

Under which race/ethnicity categories do you identify yourself (select all that apply):

4. Are you American Indian or Alaska Native?
 - A. Yes
 - B. No

5. Are you Asian?
 - A. Yes
 - B. No

6. Are you Black or African American?
 - A. Yes
 - B. No

7. Are you Native Hawaiian or Other Pacific Islander?
 - A. Yes
 - B. No

8. Are you White or Caucasian?
 - A. Yes
 - B. No

9. Are you Hispanic or Latino/Latina?
 - A. Yes
 - B. No

10. Are you of another race/ethnicity that is not listed above?
- A. Yes B. No
11. Were you ever a full-time student at another university or college before transferring to Texas State?
- A. Yes B. No
12. How many years did you attend public high school in Texas?
- A. 1 year
- B. 2 years
- C. 3 years
- D. 4 years
- E. I did not attend public high school in Texas
13. Did you graduate from a Texas high school?
- A. Yes B. No
14. What is your **primary** source of health insurance (mark only one)?
- A. Parent(s)/Guardian(s) policy
- B. Government policy (i.e. Medicaid, Veterans Affairs)
- C. Personal policy/Texas State University Student Health Insurance Plan
- D. Employer policy
- E. None - I have no health insurance at this time

Attitudinal Questions: The following items ask about your current attitudes on sexual health issues.

15. I would know if I had an STI, even if I had not been tested.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree

16. STIs are annoying, but they do not have any serious health effects.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
17. There is no point in knowing if I have an STI because there is nothing that can be done about it.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
18. Even if I had **not** been told, I would know if someone I was sexually active with had an STI.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
19. Sexually transmitted infections are **uncommon** for people who are in long-term exclusive relationships (i.e. 6 months or longer).
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
20. Unless I have sex with multiple partners, a STI is **not** something I have to worry about.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
21. It is possible to be intimate with someone without having sex.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
22. I am confident I could talk to a sexual partner about using condoms.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
23. I am confident I could make an appointment to be tested for a STI.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
24. I am confident I could discuss my sexual health issues with a medical professional.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
25. I am confident I could ask a sexual partner to be tested for one or more STIs.
A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree

26. I am worried that if I get tested for STIs my parent(s)/guardian(s) would find out.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
27. In general, I am concerned about becoming infected with Human Immunodeficiency Virus (HIV).
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
28. In general, I am concerned about becoming infected with a STI **other than HIV**.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
29. My religious beliefs have **no** impact on my choice of birth control or STI prevention methods.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
30. A sexual partner would think I didn't trust him/her if I wanted to use a condom/dental dam.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
31. A sexual partner would be insulted if I wanted to use a condom/dental dam.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
32. Sex is **not** fun with condoms/dental dams.
- A. Strongly Disagree B. Disagree C. Unsure D. Agree E. Strongly Agree
33. Who has more **influence** over whether male condoms are used?
- A. Male B. Female C. Equal D. Does not apply to me
34. Who has more **influence** over whether dental dams are used?
- A. Male B. Female C. Equal D. Does not apply to me

35. Who has more **influence** over whether birth control other than condoms is used?
A. Male B. Female C. Equal D. Does not apply to me
36. Who has more **responsibility** for ensuring male condoms are used?
A. Male B. Female C. Equal D. Does not apply to me
37. Who has more **responsibility** for ensuring dental dams are used?
A. Male B. Female C. Equal D. Does not apply to me
38. Who has more **responsibility** for ensuring birth control other than condoms is used?
A. Male B. Female C. Equal D. Does not apply to me
-

Sexual Experience Questions: *The following items ask about sexual experiences.*

39. I have been tested for a STI **other than HIV** by a medical professional.
A. Yes B. No
40. I have **specifically** been tested for HIV.
A. Yes B. No
41. I have been diagnosed with a STI by a medical professional.
A. Yes B. No
42. I have personally been involved in a pregnancy scare (i.e. a missed menstrual period and /or positive home pregnancy test).
A. Yes B. No
-

51. How to talk with a girlfriend/boyfriend/partner about birth control methods.

A. Yes B. No C. Maybe

52. How to talk with a girlfriend/boyfriend/partner about getting tested for STIs.

A. Yes B. No C. Maybe

53. Where to get tested for HIV/AIDS and other STIs.

A. Yes B. No C. Maybe

54. How to talk to a physician or health professional about birth control methods, contraception, and STIs.

A. Yes B. No C. Maybe

55. How to properly use latex barriers (i.e. condoms, dental dams).

A. Yes B. No C. Maybe

Thank you for your participation in this study. Your input will assist in making Texas State University a more knowledgeable, informed, and healthier student body. If you would like to receive a copy of the results, please contact Brittany Rosen at br1100@txstate.edu.

APPENDIX C

TIMELINE

Number	Task	Start	End
1	Develop research questions and statement of purpose	2/2/2009	3/19/2009
2	Creation of an instrument to assess research questions	2/2/2009	6/30/2009
3	Preliminary review of survey content	3/1/2009	8/13/2009
4	Develop passive consent form, sexual health issues handout, and IRB proposal	3/15/2009	6/15/2009
5	IRB certification and approval of study and other research documents	6/15/2009	8/6/2009
6	Pilot testing the instrument's content, duration, and reliability and pilot testing of data collection protocol	8/11/2009	8/12/2009
7	Editing survey and protocol based on pilot test results	8/12/2009	8/14/2009
8	Coordinate with Julie Eckert and Ashlee Dozier to schedule survey administration with cooperating University Seminar (US1100) courses	8/13/2009	8/20/2009
9	Select and provide training for survey administrators	8/14/2009	8/24/2009
10	Thesis proposal presentation	8/27/2009	8/27/2009
11	Recruit and schedule survey administration with cooperating US 1100 instructors	8/17/2009	11/24/2009
12	Collect data from cooperating US 1100 courses	8/26/2009	11/30/2009
13	Provide Scantrons to Testing, Research-Support, and Evaluation Center for data entry into SPSS data file	12/8/2009	12/15/2009
14	Finish Thesis by adding data and completing Chapters IV and V	12/15/2009	3/19/2009
15	Shred Scantrons containing data	1/1/2010	1/1/2010
16	Submit Thesis to Committee	3/19/2010	3/19/2010
17	Thesis defense presentation	4/7/2010	4/7/2010
18	Submit Thesis to Graduate Dean	4/13/2010	4/13/2010
19	Submit Thesis to Alkek Library	5/6/2010	5/6/2010
20	Write article to submit to Journal of American College Health	5/15/2010	8/1/2010

APPENDIX D
CONSENT FORM

IRB Application Number: 2009P536B

Consent Form for Survey Participation

Sexual Health Inventory: Attitudes, Perceptions, and Experiences of College Students Survey

Fall 2009

Dear Texas State University Student:

You have been invited to participate in a research study that will assess the attitudes, perceptions, and experiences regarding sexual health issues of students enrolled at Texas State University-San Marcos. You were selected as a potential subject in the study because of your current enrollment in the University Seminar course. The survey includes 55 items and takes an estimated 10 minutes to complete. This study is important in discovering the beliefs of students about the topics of reproductive and sexual health and will provide important information and data to assist in creating a more knowledgeable, informed, and healthier student body.

This study is being conducted by Brittany Rosen, a graduate student in the Health Education division, as a thesis project. Other individuals involved in the study include Dr. David Wiley and Julie Eckert. Dr. Wiley is a professor of Health Education at Texas State University and Ms. Eckert is the Health Education Coordinator at the Alcohol and Drug Resource Center at Texas State University.

There is little research on these topics at Texas State University and your contribution will be valued in the study of students' attitudes, perceptions, and experiences regarding sexual health issues. Your participation in this study involves answering this survey and returning it to the survey administrator. Your participation is voluntary and you are not obligated to answer any of the items in the survey. The only perceived risk is possible personal discomfort due to the sensitive nature of the questions. However, the benefit from participating in the study is voicing your opinions about sexual health issues. Sample questions from the survey include the following:

***Sample Question 1:** If I wanted to use a condom, a sexual partner would think I didn't trust him/her.*

***Sample Question 2:** I am confident I could talk to a sexual partner about using condoms.*

Please understand that all information provided will be kept anonymous and presented in aggregate form, meaning an individual's responses will not be identifiable. Individuals who will have access to data include Brittany Rosen, Julie Eckert, Dr. David Wiley, and Brittany Rosen's thesis committee members, Kelly Wilson, Ph.D., Assistant Professor of Health Education at Texas State University, and Emilio Carranco, M.D., Director of Texas State University Student Health Center. The data collected from this survey will be stored in the principal investigator's office in a locked filing cabinet until January 2010 when the Scantrons will be shredded. Your decision to participate or not participate will not affect your current or future relationship with Texas State University in any way, including your grade in the University Seminar

course. Please understand you are under no obligation to participate in the study, and may withdraw from the study at any time.

This research study has been reviewed by the Institutional Review Board – Human Subjects in Research, Texas State University. Pertinent questions about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser (512-245-3413 – lasser@txstate.edu), or to Ms. Becky Northcut, Compliance Specialist (512-245-2102).

If at any time you have any questions about this study or require further information, you may contact Brittany Rosen (br1100@txstate.edu) or Dr. David Wiley (davidwiley@txstate.edu). You may also use Ms. Rosen's email address to obtain a copy of this study's results.

By completing and returning this survey you are agreeing to participate in this study. You are free to take this consent form with you to keep the information provided on this form.

Thank you for helping with this study.

Sincerely,

Brittany Rosen
Principal Investigator

APPENDIX E

SEXUAL HEALTH ISSUES HANDOUT

Local Locations to Obtain Additional Information and Services about Sexual Health Issues

Texas State University-San Marcos Counseling Center

Phone: 512-245-2208

Website: <http://www.counseling.txstate.edu/>

Location: LBJSC 5-4.1

Services:

- Individual counseling
- Group counseling
- Couples counseling

Texas State University Student Health Center

General Information: 512-245-2161

Appointments: 512-245-2167

Website: <http://www.healthcenter.txstate.edu/>

Location: 298 Student Center Drive, San Marcos

Services:

- Pregnancy testing & counseling
- Well Woman Exam includes: breast exam, Pap smear, STI screening for Chlamydia and gonorrhea, and birth control counseling and prescription refills
- Testing for the following sexually transmitted infections: Chlamydia, gonorrhea, herpes, HPV, syphilis, and Anonymous and Confidential HIV Antibody Testing
- Selling of condoms from cashier's desk

Hays County Health Department

Phone: 512-393-5520 or 512-393-2024

Location: 401 Broadway Street, San Marcos

Services:

- Family clinic with nurse practitioner
- Women's clinic
- Vaccinations for HPV (Gardasil)

Family Planning

Phone: 512-392-5810

Location: 700 N LBJ Suite 111, San Marcos

Services:

- Student discounts
- Sexually transmitted infection screening
- Emergency contraception
- Well-woman exams
- Affordable birth control

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