

An Examination of the Effects of Sexual Education on American College Students:
Sexual Knowledge, Sexual Behaviors, and Sexual Opinions

A Thesis by

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May, 2016

This thesis meets the standard and scope of quality of Texas A&M University-Corpus Christi
and is hereby approved for the partial fulfillment of the requirements for the degree of

Master of Arts - Graduate Program in Psychology

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Abstract

Roughly 10 million new cases of sexually transmitted infections occur in individuals aged 15 to 24 every year in the United States, and over 300,000 babies are born to women 15 to 19 years old annually (CDC 2011; CDC, 2013). Finding ways to combat these negative health outcomes has been a challenge for decades. One feasible solution to the problem may be sex education. The United States has three frequent modes of teaching public school students about sex including abstinence only, abstinence plus, and comprehensive sex education, with the primary focus being the health outcomes associated with sexual activity (Carroll, 2009; Gilbert, 2010; Schalet et al., 2014). Universities often offer courses in human sexuality that tend to focus on a wide array of topics and implement a more holistic view of sexuality (Hock, 2012). This study tested the effects that different types of sex education may have on college students' level of sexual knowledge, health, behaviors, and opinions. Results indicated that AOE, AOEP, and CSE programs did not have a significant effect on the outcome variables. However, students who had taken human sexuality in college had significantly higher levels of sexual knowledge, reported healthier sexual behaviors, and held more positive views toward sexual topics. These findings suggest that we may need to revise the way we educate teens and young adults about sexuality.

An Examination of the Effects of Sexual Education on American College Students:
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According to the CDC's (2013) fact sheet concerning incidence, prevalence, and cost of sexually transmitted infections (STIs), there are an estimated 20 million new cases of STIs occurring every year in the United States. Of those 20 million, about 50% are occurring in individuals that fall within the age range of 15 to 24 years old (CDC, 2013). The CDC also estimates that a total of 110,197,000 Americans have had or currently have an STI. Untreated STIs can have negative long-term health consequences, particularly for women, such as infertility, pelvic inflammatory disease, chronic pelvic pain, and ectopic pregnancies (CDC, 2011; Hickey & Cleland, 2012).

Although teen pregnancy rates in the United States have been on a consistent decline over the past decade, an estimated 305,388 babies are born to women 15 to 19 years of age every year (CDC, 2011). For every 1,000 women aged 15 to 17, 39.5 will become pregnant and give birth to a live baby. Among young women aged 18 to 19, 114.2 pregnancies out of 1,000 women occur each year. Furthermore, out of every 1,000 women aged 20 to 24, 163 will become pregnant and give birth (CDC, 2011; Ventura, Curtin, Abma, & Henshaw, 2012). Late adolescent to early adult parenting has been associated with multiple negative outcomes for the young mother (Jacobs et al., 2016). Negative outcomes often include lower levels of educational achievement and economic status, higher levels of depression and risk taking behaviors, and a higher likelihood of child abuse and cognitive delays.

As illustrated above, American teens and young adults are negatively affected by high rates of teen pregnancy and STIs; in fact, when comparing the United States to other similar industrialized nations, the U.S. has consistently had the highest rates of teen pregnancy and teen

STIs (Darroch, Singh, & Frost, 2001; Ferguson, Vanwesenbeeck, & Knijn, 2008; Schwarz, 2007). Researchers have become increasingly interested in studying the possible factors that may be playing a role in these negative health outcomes. One viable factor may be the type of sex education that America's youth has received within the public education system. There are many different types of sex education programs that are offered at different levels of schooling, some of which may be more effective in teaching America's youth about sexual health, knowledge, and behaviors than others.

A Brief History of Sex Education in the United States

Programs that focused specifically on sexuality education began in the late 1980s with the goal of combating the extremely high rates of teen pregnancy and STIs occurring in the nation at that time (Carroll, 2009). President Reagan introduced a bill called the Adolescent Family Life Act (AFLA) that aimed to promote abstinence from sexual activities. At that time, federal funding was allotted only to religious and charitable organizations that taught abstaining from sexual activities as the only method to avoid unwanted pregnancy and STIs (Carroll, 2009). In 1996 President Clinton signed a bill entitled Title V Funding Abstinence-Only Until Marriage Program, also known as the welfare reform law, which argued that high teen pregnancy rates could be combated by minimizing welfare recipients. Title V's exclusive purpose was to promote the importance of abstaining from sexual activities outside of marriage at any age with specific guidelines to reinforce that agenda; for example, the institutions that opted to receive Title V Funding were instructed to exclude any information pertaining to the use of contraception and safe-sex practices (Carroll, 2009).

Originally, Abstinence Only Education Programs (AOE) were authorized to receive federal funding for five years (1998-2002), but these programs have been extended and continue

to be funded to date (SIECUS, 2010). In 2009, President Obama introduced the first federally funded program that emphasized a more comprehensive approach to sex education while still teaching that abstinence is the best method to avoid unwanted pregnancy and STIs (SIECUS, 2011). In 2010, President Obama signed a bill to allocate funds for the Personal Responsibility Education Program (PREP). PREP covers evidence-based topics including a “substantial emphasis” on abstinence, teen pregnancy prevention, contraception, STI awareness, healthy relationship training, adolescent development, and healthy life skills (SIECUS, 2011).

Sexual Risk-Avoidance Education/Abstinence Only and Abstinence Plus Education

Sexual Risk-Avoidance Education, formally known as Abstinence Only Education (AOE) and Abstinence Only Education Plus (AOEP) programs, currently receive the second highest amount of federal funding in the United States each year (Grossu & Sprigg, 2014; SIECUS, 2014). The term “Sexual Risk-Avoidance Education programs” is now the more commonly used term replacing ‘Abstinence Only Education,’ but for the purpose of this study these programs will be referred to as Abstinence Only Education programs. In order to receive federal funding for AOE programs, teachers are directed to inform students of the social, psychological, socio-economical, and health risks associated with premarital sexual activity of any kind by emphasizing that abstaining from all sexual activity outside of marriage is the only way to avoid negative outcomes such as teen pregnancy, STIs, and other sexual health risks. Sex education programs that follow an AOE format must omit any information regarding the LGBTQ community and masturbation while emphasizing that condoms and other forms of contraception cannot provide complete protection from STIs and pregnancy (Carroll, 2009; Grossu & Sprigg, 2014).

Abstinence Only Education Plus (AOEP) programs are very similar to AOE programs with the main difference being the inclusion of education on the different types of contraception available and the effectiveness of those methods in preventing STIs and pregnancy. Although AOEP programs include information on safer sex practices if the student decides to engage in sexual activities, they mainly focus on abstinence until marriage or until the student feels ready for sexual activity (Carroll, 2009; Walcott, Chenneville, & Tarquini, 2011).

Comprehensive Sex Education

As of 2010, Comprehensive Sex Education (CSE) programs currently receive the highest amount of federal funding and are the most widely practiced form of sex education programs in the United States (SIECUS, 2014). CSE programs include medically accurate, evidence-based interventions at an age-appropriate level (Hock, 2012). In contrast to AOE, CSE posits that sex education should focus on the healthy aspects of sexuality through the exploration of interpersonal and communication skill building in order to help teens explore their own goals and values (Gilbert, 2010; SIECUS, 2008). These programs teach abstinence as the best method to avoid unwanted pregnancies and STIs, while also discussing topics pertaining to correct condom usage and other forms of contraception.

The programs have been found to vary a great deal in the content that they include, but the overall goal is to educate teens on the health benefits gained from using contraception and STI barrier methods and how to negotiate the use of these methods with their sexual partners (Hock, 2012; Walcott et al., 2011). The Sexuality Information and Education Council of the United States (SIECUS) developed a blueprint that each CSE program should follow. First, CSE programs should offer accurate information pertaining to sexuality including, but not limited to, human reproduction, growth, sexual anatomy, and masturbation (Schwarz, 2007). Also the

programs should give the opportunity for young people to ask questions and explore their sexual attitudes comfortably and without judgment. They should teach sexual relationship and interpersonal skills such as assertiveness and how to have a satisfying relationship. Lastly, the programs should teach students how to responsibly and correctly use contraception of all kinds in order to avoid STIs and unwanted pregnancy.

A Comparison of Programs: AOE Versus CSE

The debate concerning which type of sex education is most effective in reducing sexual risk taking behavior has lasted for decades. Although an overwhelming amount of evidence points out the ineffectiveness of AOE programs, a few studies have found that AOE programs may actually be effective in teaching students to abstain from sexual activities for a certain amount of time (Denny & Young, 2006). Denny and Young (2006) performed an 18-month longitudinal study comparing elementary, middle, and high school students who received AOE versus a comparison group of students who received health education including a module on sex education. Results indicated that students who were provided AOE expressed greater knowledge of sexual topics, less participation in sexual activities, and a greater intent to abstain from sexual activities.

Despite these findings, overall, research on the effectiveness of AOE indicates that the programs do not lower the number of teens who choose to have sex nor do they lower the age of first intercourse in comparison to CSE programs (Schwarz, 2007; Stanger-Hall & Hall, 2011; Trenholm et al., 2008). Furthermore, Trenholm et al. (2008) found that students who participated in AOE programs had significantly lower levels of STI knowledge in comparison to students who participated in CSE programs. This may be due to the fact that 90% of AOE programs have been found to use medically inaccurate information concerning the effectiveness of

contraception and condom use, HIV transmission, and abortion risks (Schwarz, 2007). The same external review of AOE in America also found that over 80% of the programs taught students false and misleading information about reproductive health. In addition, studies have found that AOE programs often reinforce sexual gender stereotypes by placing a strong emphasis on young girls' moral need to say no because 'boys will be boys' and will always push for more (Santelli et al., 2006; Schwarz, 2007). Furthermore, AOE programs have also been found to negatively affect the lesbian, gay, bisexual, transgender, and questioning (LGBTQ) community due to the programs framing of sexual activity and marriage as only occurring in heterosexual relationships (Santelli et al., 2006).

In contrast, the majority of research on the effectiveness of CSE has demonstrated the positive effects these programs may have on adolescent sexual health (Kirby, 2008; Kohler, Manhart, & Lafferty, 2008). Specifically, Kohler et al. (2008) found that youth aged 15-19 who participated in CSE programs were 50% less likely to experience unplanned teenage pregnancy in comparison to those who were educated using AOE programs. Moreover, Kirby (2008) studied 48 comprehensive sex education programs and found that 40% of the programs delayed first-time sexual intercourse initiation, increased contraception use, reduced the number of overall sexual partners, and 60% of the programs significantly reduced unprotected sex.

Although CSE would appear to be the more effective way to educate adolescents on sexual topics, critics argue that CSE, as well as AOE, have focused exclusively on sexual health outcomes while neglecting other important aspects of sexuality (Gilbert, 2010; Schalet et al., 2014). By only emphasizing abstinence and contraception, both approaches to sex education neglect key information concerning other topics of sexuality such as sexual development, gender, gender stereotypes and bias, and sexual orientation, just to name a few (Schalet et al., 2014).

Furthermore, these programs fail to include other topics that are particularly important and applicable to adolescents and young adults such as interpersonal relationships, sexual feelings, gender identity, and positive sexual/non-sexual relationship formation.

Human Sexuality College Course/ College Intervention

Another approach to sex education, which may help to fill in the gaps left by AOE, AOEP, and CSE programs, are college level human sexuality courses. College human sexuality courses and workshops provide a more inclusive and holistic teaching model. College sexuality classes often focus on enriching self-knowledge by reinforcing that we as humans are sexual beings. In addition, these courses acknowledge that sex is more than just a physical act, and can result in a large array of emotional and personal experiences. Students develop their own personal morals and values through discovering who they are as a sexual being while learning about responsible and healthy sexual choices based on scientific research. Furthermore, these classes do not shy away from the importance of sexual activities within interpersonal romantic relationships. They instead focus on enhancing the sexual fulfillment of students through education on communication and different sexual techniques (Hock, 2012).

The effects of sex education interventions in college have been measured to assess if these young adults benefit from receiving information pertaining to sexuality within this model of teaching. Research that tests pre and post-college sex education intervention programs indicate that students do learn a significant amount of new information concerning contraceptive use, STIs, and correct condom use (Moore & Smith, 2012). Similarly, college students who were enrolled in a freshmen class that focused on sexual health were more likely to use contraception including condoms versus students who did not take the class (Turner et. al., 1994). Another study found that sexual health resources such as clinics, education, and classes based on

sexuality were positively correlated with high condom usage and lower numbers of unplanned pregnancies at American universities (Eisenberg et al., 2013).

In addition to the obvious health benefits associated with human sexuality courses taught in a college format, studies have also found psychological and interpersonal benefits associated with these classes. For instance, Rutledge, Siebert, Chonody, & Killian (2011) found that students who took a human sexuality course reported higher relational satisfaction due to increased feelings of comfort with discussing sexual topics with individuals who were close to them. Also, previous research indicates that human sexuality courses in college may result in more accepting attitudes towards other individuals sexual behavior and their own (Pettijohn & Dunlap, 2010).

Henry (2013) assessed the effects of dyadic participation in human sexuality courses in order to better understand the specific benefits that romantic couples may gain through joint enrollment. Results indicated that the human sexuality course helped both partners relationship feel more sexually comfortable overall while lowering their feelings of shame, guilt and fear concerning their sexuality. Participants also reported significant behavioral changes such as more comfort in exploring their sexuality and healthier sexual behaviors. These students also felt that the class gave them the tools needed to discuss their own sexual desires and needs with their partners.

Sexual Knowledge

As illustrated above, the human sexuality course intervention model on college campuses have had profoundly positive results, but how knowledgeable are American college students in general? Weinstein, Walsh, and Ward (2008) performed a study that focused on assessing college students' level of sexual knowledge, including contraception, reproductive health, STIs,

HIV/AIDS, and condom use. Three hundred and forty seven undergraduate college students participated in their study, and the results found that the average overall score of sexual health and knowledge was only 64%. The highest scoring categories were HIV/AIDS knowledge and STI knowledge in general. Another very important finding from this study was that sexual health knowledge in women was positively correlated with sexual communication and confidence.

A similar study of 1,004 undergraduate students revealed that a majority of the participants failed the contraceptive knowledge test, the pregnancy knowledge test, and the STI knowledge test (Toews & Yazedjian, 2012). Eighty-two percent of students incorrectly answered questions regarding the likelihood of a woman who is not on birth control or who is on birth control to become pregnant. Seventy-nine percent of the participants gave incorrect responses regarding how birth control pills work, and knowledge of STIs was very low. In addition, many studies have found that young adults have, on average, a very limited amount of knowledge in regard to contraception and STIs (Kaiser Family Foundation, 2003; Kaye, Suellentrop, & Sloup, 2009). These findings could explain the high levels of STIs and pregnancies occurring in the young adult population of the United States.

Testing college students' knowledge of sexual health is easier to do than testing the general population of young adults, but it is not a comprehensive approach to the problem. Young adults are not required to attend college in the same way that they are required to attend at least some amount of secondary education. This limitation might suggest that although a college sexuality education intervention is important, it may be more beneficial to the entire population if required comprehensive sexuality education interventions were offered at all levels of education.

Another important limitation to the studies mentioned above is that although a majority of them found gender differences in regard to sexual knowledge, behavior, and attitudes, none of them offered evidence-based reasoning for these findings. These findings are another reason why implementing a comprehensive sexuality education intervention at all levels of education (primary, secondary, and higher) may be a useful way in providing both male and female students with the necessary sexuality information.

Taken together, the findings suggest a general deficit in America's young adult population in terms of sexual knowledge. It should come as no surprise that this deficit in American college students' knowledge concerning sexuality comes with consequences for their sexual behavior and their sexual health.

Sexual Behaviors and Health

Wyatt and Oswalk (2014) analyzed the sexual behaviors of college students through a self-report survey completed by 433 in-coming freshmen. The survey specifically focused on sexual health behaviors including the number of sexual partners for anal, oral, and vaginal sex within the last 12 months. The survey also asked about the frequency of the behaviors and the use of contraceptives. Lastly, the survey asked questions about how often the students were getting tested for STIs.

The results found that the respondents were mainly heterosexual, white females but there were a few respondents who identified with the LGBTQ community. The range of reported sexual partners was zero to 37 people within the last 12 months, with 50% of the participants reporting engaging in oral and vaginal sex in the last 30 days. Ninety-three percent of the participants reported never engaging in anal sex. Of the 50% of participants who reported engaging in oral and vaginal sex only, only 8.9% used a condom while engaging in oral sex, and

50% reported using a condom while engaging in vaginal sex. Approximately 5% of participants who reported engaging in vaginal sex also reported that they or their partner had become pregnant within the last 12 months. Only 20% of the participants reported using birth control pills as a way of preventing pregnancy, and 13% reported using the “pull out” method in order to avoid unwanted pregnancy.

Gullette and Lyons (2006) also analyzed the sexual behaviors among American college students and found similar results. The researchers asked questions concerning the frequency of condom use, alcohol use, and HIV risk behaviors of 159 undergraduate college students. Twenty-nine percent of students surveyed reported that they never use a condom during sexual intercourse, and only 40% of the participants reported using a condom every time they engaged in vaginal sex. The researchers also found that students who drank alcohol were more likely to engage in unplanned sexual activities with casual sexual partners, and 38% indicated a range of two to five sexual partners in the previous six months. In sum, these studies suggest that college students engage in a fairly high level of behavior that raises their risk of STIs and pregnancy.

Only 10% of participants reported a previous STI diagnosis in Gullette & Lyons’ (2006) study, suggesting that participants may not have been as truthful concerning questions of previously diagnosed STIs. These researchers did not indicate if this low level was also due to lower levels of STI screening in general. Similarly, in Wyatt and Oswalk’s (2014) study, only 6% of the participants reported contracting an STI, and the reports of STI testing were also very low. The researchers warn that the low levels of STI testing and STI diagnosis coupled with the high levels of sexual activity and the low levels of condom use could be related. The researchers claimed that low STI cases may have been related to the high number of respondents that indicated that they had not previously received an STI screening.

Wyatt and Oswalk (2014) suggest that research needs to assess whether or not bringing more sexual health resources to college campuses can help curb the high numbers of unprotected sex. Interestingly, Eisenberg et al. (2014) found a positive correlation between resources for the LGBTQ community on campus and heterosexual condom use. They argue that the presence of LGBTQ resources in general act as a beacon for positive sexual health behaviors in general. In addition, Eisenberg et al. (2014) suggested that college campuses with more sexual health resources may help this problem by adding sexual health centers, contraceptive and condom use programs, and sexual health awareness classes.

Sexual Opinions: Erotophobic Versus Erotophilic Attitudes

There are many reasons why the addition of sexual health centers, access to contraception, and sexual health awareness classes may benefit college students. However, an important aspect to consider is the tone in which the topic of sexuality has been previously experienced prior to college enrollment. Fisher, Byrne, White, and Kelley (1977) developed The Sexual Opinion Survey (SOS) in order to better understand learned responses to sexual topics. The SOS assesses sexual comfort levels on a continuum from erotophobia (a negative attitude toward sexual topics) to erotophilia (a positive attitude toward sexual topics; Fisher et al., 1988). It has been suggested that these attitudes are learned through the way that sexual information is presented to individuals and the way in which the individual was socialized or punished for the display of sexual behaviors at a young age (Wright & Cullen, 2001). For example, if an individual was socialized to feel shameful or fearful about his or her sexuality, then that individual may display erotophobic attitudes toward all topics pertaining to human sexuality.

Previous research has found that erotophobic versus erotophilic tendencies may predict significant differences in sexual behaviors and attitudes (Fisher et al., 1988; Herbenick, Reece, &

Hollub, 2009; Wright & Cullen, 2001). For instance, individuals who process sexual information in an erotophobic way tend to report high levels of sexual avoidant behaviors while underestimating the likelihood of engaging in future sexual activities (Fisher et al., 1988). Furthermore, erotophobic individuals are less likely to seek medical attention for sexual health such as regular STI testing and annual gynecological visits. Subsequently, these individuals are less likely to use contraception in order to avoid unwanted pregnancies and STIs (Fisher et al., 1988).

Fisher et al. (1988) described five implicit steps that are taken in order to avoid unwanted pregnancies and STIs. First, an individual must learn about sexual activities and available options for contraception, then they must anticipate sexual intercourse, gain contraception, talk about the use of contraception with their sexual partner, and consistently use that method of contraception. The likelihood of achieving all of these steps increases if an individual displays more erotophilic attitudes. Specifically, increased levels of sexual knowledge, parental acceptance of childhood sexuality, and acknowledgement of potential future sexual encounters led to advanced overall comfort with sexual topics. Overall comfort with sexual topics predicted consistent use of contraception and more frequent communication concerning sexuality with partners (Fisher, Byrne, & White, 1983). In contrast, erotophobia has been associated with discomfort in learning and discussing sexual topics, which may lead to negative sexual and psychological health outcomes (Fisher et al., 1988).

College level human sexuality classes may influence students' levels of erotophobia-erotophilia. Wright and Cullen (2002) studied possible changes in erotophobic-erotophilic attitudes before and after participants were enrolled in a college level human sexuality course. Results indicated that erotophobia was significantly lower post-intervention. The research also

found a significant reduction in homophobic attitudes. Although the research found that participants experienced a reduction in erotophobic affect, it was unclear if this led to an increase in behavioral changes such as higher use of contraception or more comfort in discussing sexual topics.

A particularly significant finding of erotophobic-erotophilic research indicates the importance of acknowledging the potential for future sexual encounters at a young age. This finding may suggest that framing adolescent and young adult sexuality as something to be avoided until marriage may actually be hindering their ability to plan a healthy approach to sexuality in the future. Sexual activity in adolescence and early adulthood is a behavior that the majority of individuals do not avoid, with nearly 48% of American teenagers aged 17 years old engaging in sexual intercourse, 61% by 18 years of age, and 71% by 19 years of age (Kost & Henshaw, 2014). Therefore, sex education programs may be more beneficial to young people if they acknowledge the likelihood of sexual behavior in a positive way to foster more erotophilic attitudes and behaviors. To the researcher's knowledge, there has been no research analyzing how AOE, AOEP, and CSE programs influence erotophobic-erotophilic attitudes to date.

The Current Study

The state of Texas has a higher proportion of teens that are infected with HIV/AIDS and other STIs compared to the United States average (SIECUS, 2013). In addition, the teen pregnancy and birth rates in the state of Texas are higher than the national average with 73 teen pregnancies per 1,000 teens aged 15-19 years old versus 57 per 1,000 teen pregnancies nationwide (SIECUS, 2013). These trends make Texas a particularly relevant area in which to study the potential effects of sex education on these negative health outcomes.

This study aims to examine whether the types of human sexuality education (AOE, CSE, college sexuality course) Texas A&M University - Corpus Christi students have experienced in the past are related to their current sexual knowledge, health, behaviors, and attitudes. We hypothesize that individuals who have received college level sex education will score higher on sexual knowledge and health while also reporting safer sexual behaviors. We also hypothesize that these students will feel more comfortable discussing topics pertaining to sexuality and will express more erotophilic characteristics in comparison to those students who have received the other forms of sex education. Lastly, we hypothesize that prior experience with AOE, AOEP, and CSE programs in elementary, middle, and high school will not have a significant effect on college students' current level of sexual knowledge, behaviors, health, and comfort.

Method

Participants

Participants were enrolled college students at Texas A&M University - Corpus Christi. A total of 291 students participated (69 males, 192 females; *M* age = 19.78, age range = 18-55 years). The majority of the participants were Hispanic (41%) or Caucasian (33%). Also, 83% of the participants were heterosexual, 7% were bisexual, and 4% were same sex oriented.

Procedure

This study used a survey research design. Participants were recruited through in-class announcements and Blackboard postings made by professors within the psychology, communication, and business departments. Students participated in this study on a volunteer basis in small groups (approximately 10-30 students per group) in a designated classroom on the Texas A&M University - Corpus Christi campus. First, the students were asked to read and sign a consent form informing them of the sensitive nature of this study, and only after signing the

consent form were they allowed complete the survey. The researcher instructed the participants to complete each section of the survey as honestly and accurately as possible and reassured the participants that anonymity would be strictly enforced. Furthermore, barriers separated participants, ensuring each student's privacy while completing the survey. The survey took between 15 and 30 minutes to complete.

Measures

Socio-demographic and sexual history. Participants were asked to report personal socio-demographic information (e.g., gender, age, year in college, race/ethnicity, time since last sex education course, and sexual orientation). Participants also answered questions pertaining to their sexual history (e.g., relationship status, if they had a primary sexual partner).

Sex education programs. Participants were asked to indicate which type of sex education they had previously experienced from a list that described the most common types of sex education offered in the U.S. (e.g., abstinence only/abstinence plus, comprehensive, college course, parents, and/or none; Advocates for Youth, 2015; Baugh & Camp, 2014). The participants were advised to read the descriptions carefully and pick the type of education that best fit their experience at each of the following grade levels: elementary school, middle school, high school, and college.

Sexual knowledge. First, participants were asked to report how knowledgeable they felt about sexual health topics compared to their peers on a scale from "not at all knowledgeable" to "much more knowledgeable." Next, participants' level of sexual knowledge was assessed using 23 multiple-choice questions that included questions concerning STIs, contraception, pregnancy, and abortion (e.g., What is the failure rate of correctly used condoms?, What is untreated chlamydia correlated with?, Where does fertilization of the egg by the sperm occur?; Volck et

al., 2013; Weinstein et al., 2008). Each question was scored “1” for a correct response and “0” for an incorrect response. The scores were summed to create a sexual knowledge index ($\alpha = .43$), with higher overall scores indicating greater levels of sexual knowledge.

Sexual behavior. The next section elicited information to measure each participant’s sexual health and sexual behaviors. Specifically, participants were asked about the types of sexual activities they had participated in, contraception use, prior STI testing and diagnosis (e.g., Did you use a condom at last oral sex encounter?, Did you use a condom at last vaginal sex encounter?, Have you ever been tested for STIs?; Buhi, Marhefka, & Hoban, 2010; Crosby et al., 2013; Ege, Akin, Can & Ariöz, 2011; Eisenberg et al., 2013; Gullette & Lyons, 2006;; Milhausen et al., 2013). These items were grouped into the following indices:

Sexual partner history. Participants were asked questions pertaining to the number of sexual partners they had throughout their lifetime. Response options were numerically ordered beginning with none, one to two partners, three to five partners, six to eight partners, eight to ten partners, and more than ten. Participants were also asked how many sexual partners they had within the last 12 months. Similarly, response options were numerically ordered beginning with none, one to two, three to four, five to six, and more than six. The responses for these two items were reverse-coded and then summed to create a sexual history index ($\alpha = .73$), with higher scores indicating healthier sexual behaviors (i.e., fewer sexual partners).

Sexually transmitted infection history. Four STI history questions focused on participants’ prior STI testing history, diagnoses, and knowledge of partners’ STI history (e.g., Have you ever been tested for an STI?, Have you ever been diagnosed with an STI?, I know my partner does not have an STI, I know that I do not have an STI). Healthier sexual choices indicating prior STI testing, lack of STI diagnoses, and awareness of partners’ STI history

received a “1” and more unhealthy choices and behaviors received a “0.” The scores of each participant were summed to create a sexually transmitted infection history index ($\alpha = .51$), with higher scores indicating greater sexual health.

Condom use at last sexual interaction. Participants were asked to indicate whether they used a condom at last oral, vaginal, and anal sex interaction. Responses indicating condom use received a “1” and lack of condom use received a “0.” Participants’ scores on these three items were summed to create a condom use index ($\alpha = .52$), with higher scores indicating healthier sexual behaviors.

Sexual communication. Four sexual communication questions focused on the student’s attitude toward sexual health communication (e.g., How frequently do you discuss sexual topics with your partner? How comfortable do you feel communicating with your partner about contraception?). Participants rated each item on a scale from 7 (*very*) to 1 (*not at all*). The scores of each participant were summed to create a sexual communication index ($\alpha = .87$), with higher scores indicating greater sexual communication.

Sexual opinion survey. Participants were asked to complete the Sexual Opinion Survey (White et al., 1977) to indicate how comfortable they felt with sexual topics (e.g., viewing sexually explicit material, attitude toward sexual discussion with partner, and attitude toward learning about sexual topics). For each of the 25 items, participants rated their comfort level on a 7-point scale from *very comfortable* to *very uncomfortable*. Response means were used to create a sexual opinion index ($\alpha = .86$) with higher values indicating greater comfort (erotophilia) and lower scores indicating greater discomfort (erotophobia).

Results

Descriptive Results

Table 1 presents the means, standard deviations, and ranges for the key study variables: sexual knowledge, behavior, communication, and sexual opinion survey. Furthermore, results indicated no significant difference between male and female participants on any of the outcome variables.

Sex education. The majority of participants attended high school in Texas (91%). The amount of time since last sex education course/lesson varied, with 24% reporting that it had been five or more years, 22% reported less than one year, and 20% reported that they had never experienced a sex education course. Most participants (51%) indicated that they had not experienced a sex education course in elementary school, and 24% reported abstinence only education in elementary school. The most common types of sex education in middle school were abstinence only education (29%) and abstinence plus (26%). The most reported type of sex education in high school was comprehensive sex education with 40% of respondents reporting this option. Lastly, the most common type of sex education in college was ‘none’ (78%), and only 15% of participants had taken a sex education course in college.

Sexual knowledge. More than half of the participants rated that they felt “a little more knowledgeable” than their peers concerning sexual knowledge (55%). Furthermore, 24% of participants rated that they felt “a little less knowledgeable,” and 18% rated that they felt “much more knowledgeable.” The average sample score for this question was 2.88 ($SD = .72$).

The highest score on the sexual knowledge portion of the survey was a 74% (17 out of 23 items answered correctly), and the lowest score was an eight percent (two out of 23 answered correctly). The average score on the sexual knowledge questionnaire was 39% (nine out of 23 items answered correctly; $M = 9.85$, $SD = 2.59$), indicating that participants’ level of sexual knowledge was fairly low.

Sexual behavior. Twenty two percent of the participants in this sample reported that they had not yet engaged in sexual intercourse. The majority of the participants were single (53%) and did not have a primary sexual partner (51%); 33% of participants were in a relationship. Participants who had not had sexual intercourse ($n = 65$) were omitted from the following analyses: sexual history, STI history, condom use, and sexual communication.

Sexual partner history. The average participant who had previously engaged in sexual intercourse reported having three to five sexual partners within their lifetime ($M = 4.25$, $SD = 1.57$). Furthermore, 57% reported having one to two sexual partners within the past 12 months. Overall the sexual history index received a mean score of 7.59 (out of 10; $SD = 1.88$).

Sexually transmitted infection history. The STI history index had a mean score of 2.20 (out of three; $SD = 1.08$). Over half of the participants reported that they had never been tested for an STI (59%), and 90% reported that they had never been *diagnosed* with an STI. The majority of participants reported they knew that their current sexual partner did not have an STI (71%) and that they themselves did not have an STI (80%).

Condom use at last sexual interaction. Condoms were the most frequently reported mode of contraception (28%); however, a total of 26% of participants indicated that they were not currently using any form of contraception ($M = 3.51$, $SD = 2.640$). Thirty-one percent of participants used a condom at the last oral sex interaction, 68% reported using a condom at last vaginal sex interaction, and 85% reported using a condom at last anal sex interaction. The overall condom index received a mean score of 1.54 (out of three; $SD = .87$).

Sexual communication. The sexual communication questions had a total of 28 points possible, with the highest score at 28 points and the lowest score at four points. The mean score

was 21.20 ($SD = 6.43$), indicating that participants' tended to report a fairly high level of comfort concerning sexual communication.

Sexual opinion survey. Overall, participants scored moderately on levels of comfort, indicating that participants slightly leaned toward the erotophilic (vs. erotophobic) end of the comfort spectrum ($M = 4.24$, $SD = .94$).

Correlational Statistics

Correlational analyses (Pearson's r) were conducted to examine the associations between the six primary variables: sexual knowledge, sexual partner history, STI history, condom use, sexual communication, and sexual opinions (see Table 1). Knowledge scores were negatively correlated with sexual partner history scores ($r = -.27$, $p < .001$) and condom use ($r = -.22$, $p < .001$), indicating that people with greater knowledge tended to have more sexual partners and were less likely to use condoms. Knowledge scores were positively correlated with STI history ($r = .20$, $p < .003$), sexual communication ($r = .20$, $p < .001$), and sexual opinions ($r = .27$, $p < .001$), suggesting that participants with higher knowledge scores had a higher likelihood of STI testing/diagnosis, elevated comfort in discussing sexual topics, and more erotophilic attitudes. Furthermore, sexual partner history was negatively correlated with STI history ($r = -.32$, $p < .001$), sexual communication ($r = -.25$, $p < .001$), and sexual opinions ($r = -.32$, $p < .001$), indicating that participants who reported lower numbers of sexual partners overall and within the past 12 months tended to be less likely to be tested for or diagnosed with STIs, displayed lower levels of comfort with sexual communication, and held more erotophobic attitudes.

However, sexual partner history was positively correlated with condom use ($r = .51$, $p < .001$), indicating that those who reported higher numbers of sexual partners overall and within the past 12 months tended to use condoms more frequently. STI history was negatively

correlated with condom use ($r = -.24, p < .001$), suggesting that participants who had been tested for or diagnosed with STIs were less likely to use condoms. In contrast, STI history was positively correlated to sexual communication ($r = .29, p < .001$), indicating that participants who had been tested for or diagnosed with STIs tended to also display more comfort in discussing sexual topics. Condom use was negatively correlated with both sexual communication ($r = -.24, p < .001$) and sexual opinions ($r = -.27, p < .001$), suggesting that participants who used condoms more often were less comfortable with sexual communication and held more erotophobic attitudes. Lastly, communication concerning sexual topics was positively correlated with sexual opinions ($r = .37, p < .001$), indicating that participants who were more comfortable with sexual communication also displayed more erotophilic attitudes.

Analysis of Variance/Independent Samples t-test for Sex Education

A series of between-subjects one-way analysis of variance (ANOVA) was conducted to compare the effect of the main types of sex education (AOE, AOEP, CSE) in elementary, middle, and high school grade levels on each of the outcome variables: sexual knowledge, sexual partner history, STI history, condom use, sexual communication, and sexual opinions. Results showed there was no significant effect of type of sex education in elementary school, middle school, or high school on any of the outcome variables. When time since last sex education course was accounted by including only those who had taken a course less than two years ago, results indicated that no type of sex education in high school (AOE, AOEP, CSE) had a significant effect on any of the dependent variables.

Independent samples t-tests were conducted to compare the outcome variables (sexual knowledge, sexual partner history, STI history, condom use, sexual communication, and sexual opinions) for participants who had taken a sex education course in college to those who had not.

Students who had taken a college course in human sexuality ($M = 3.20, SD = .59$) rated that they felt more knowledgeable about sexual health topics in comparison to those who had not ($M = 2.79, SD = .70$); $t(267) = 3.68, p < .001$. Results also indicated sexual knowledge scores were significantly higher for those who had taken sex education in college ($M = 11.32, SD = 3.18$) compared to those who had not ($M = 9.55, SD = 2.42$); $t(268) = 4.18, p < .001$. Scores on the sexual partner history index were significantly lower for those who had taken sex education in college ($M = 3.60, SD = 1.10$) versus those who had not ($M = 4.28, SD = 1.07$); $t(265) = 3.82, p < .001$.

Significantly higher SOS scores, suggesting more erotophilic attitudes, were found for those who had taken sex education in college ($M = 4.71, SD = .83$) compared to those who had not ($M = 4.16, SD = .93$); $t(252) = 3.59, p < .001$. There were significantly higher scores on the sexual communication index for those who had taken sex education in college ($M = 3.60, SD = 1.10$) versus those who had not ($M = 4.28, SD = 1.07$); $t(261) = 3.45, p < .001$. Lastly, STI history index scores were significant higher for those who had taken sex education in college ($M = .82, SD = .28$) in comparison to those who had not ($M = .64, SD = .31$); $t(251) = 3.35, p < .001$. Participants who had taken a human sexuality course ($M = .77, SD = .42$) reported significantly higher levels of STI testing in comparison to those who had not ($M = .35, SD = .49$); $t(265) = 5.42, p < .001$. Results also indicated that participants who had taken human sexuality ($M = .23, SD = .42$) significantly reported higher levels of STI diagnoses than participants who had not ($M = .08, SD = .27$); $t(269) = 2.99, p < .003$. Furthermore, results indicated that sex education in college did not have a significant effect on condom usage.

Discussion

Significant Findings

This study investigated the relationships between types of human sexuality courses and college students' sexual knowledge, behaviors, health, and opinions. Specifically, I hypothesized that individuals who took a human sexuality course in college would have more sexual knowledge, display healthier sexual behaviors, feel more comfortable with discussing sexual topics, and hold more erotophilic attitudes in comparison to students who had not taken human sexuality education in college. I hypothesized that prior experience with AOE, AOEP, and CSE programs in elementary, middle, and high school would not have a significant effect on college students' current level of sexual knowledge, behaviors, health, and comfort.

Results of this survey study indicated that the majority of the participants had very low sexual knowledge with a mean score of 39% on the sexual knowledge index. This finding supports previous research that suggests a deficit in college level sexual knowledge (Kaiser Family Foundation, 2003; Kaye et al., 2009; Weinstein et al., 2008; Toews & Yazedijian, 2012). Although sexual knowledge scores were fairly low in this study, consistent with previous research, students who took human sexuality education in college displayed significantly higher levels of sexual knowledge in comparison to those who had not taken a human sexuality course (Moore & Smith, 2012). Additionally, the students who had taken human sexuality perceived that they were more knowledgeable concerning sexual health in comparison to their peers. Furthermore, results indicated that higher sexual knowledge scores were related to a greater likelihood for STI testing. Moore and Smith (2012) found that students who were enrolled in a human sexuality course were shocked by the large amount of new STI cases that are diagnosed each year. This shocking realization may cause students to become more proactive in getting tested for STIs.

Higher sexual knowledge scores were also related to higher comfort levels with discussing sexual topics with partners and more erotophilic attitudes. These findings support previous research on sexual opinions, which demonstrated that individuals with higher levels of sexual knowledge tend to feel more comfort with sexual topics, display higher levels of healthy sexual behaviors, and partake in more frequent sexual communication with partners (Fisher et al., 1983). These findings suggest that the sexual knowledge students gain from human sexuality classes in college may be important to the development of their sexual attitudes and sexual health.

Almost identical to previous studies, levels of STI testing and diagnoses were low in the current study (Gullette & Lyons, 2006; Wyatt & Oswalk, 2014). Specifically, 48% of participants had not previously been tested for an STI, and only 13% indicated that they had been diagnosed with an STI. The participants who took human sexuality in college scored significantly higher on the STI index in comparison to those who had not taken a human sexuality course, indicating that these students were more likely to get tested for (and diagnosed with) STIs. It should be noted that although a diagnosis of an STI may indicate somewhat unhealthy sexual behaviors, it is to be expected due to the elevated rates of STI testing within the human sexuality group. Thus, the difference in STI diagnoses between students who have and have not taken a college sexuality course is likely due to differences in STI testing more so than differences in unhealthy sexual behavior.

Interestingly, although only a little more than half of the participants had been tested for an STI, 78% indicated that they knew they did not have an STI. Furthermore, 75% of participants indicated that they knew their current sexual partner did not have an STI. The latter finding may be explained by the relationship between healthier STI indices and elevated levels of

sexual communication with partners. Specifically, those with higher likelihood for STI testing and higher levels of STI diagnosis displayed more comfort in discussing sexual topics with their partner. However, this does not explain the high levels of participants who were sure that they themselves did not have an STI when only 52% reported previously being tested. This finding becomes even more unclear when considering the positive relationship between STI history and sexual knowledge. It is possible that these individuals may assume that they are STI-free based on lack of symptom presentation or they may engage in lower levels of risky sexual behaviors.

Overall, elevated levels of comfort with sexual communication and more erotophilic attitudes were significantly related to one another. This relationship suggests that those who hold more erotophilic attitudes also feel more comfortable communicating with their sexual partners about sexual topics. Students who had taken human sexuality, compared to those who had not, were significantly more comfortable discussing sexual topics with their partners and also displayed significantly higher levels of erotophilic attitudes. Although the students in this study were not tested prior to the human sexuality course, this finding is consistent with Wright and Cullen's (2002) research, which indicated lower levels of erotophobia post-human sexuality course.

Unexpected Significant Findings

Some findings from this study were somewhat unexpected. For instance, individuals who had taken human sexuality had significantly higher numbers of sexual partners versus those who had not taken any sex education course in college. This may be somewhat surprising because students who have taken human sexuality have greater sexual knowledge, and the number of sexual partners one has is a known risk factor for STIs; thus, one might expect these students to be more aware of that risk factor, and to have lower levels of sexual partners. However, I believe

the difference in sexual partner history between the two groups is due to the greater sexual communication and erotophilic attitudes among the students who have taken human sexuality. It is possible that those students have had more sexual partners because they feel more comfortable with sexual activities.

Furthermore, higher knowledge scores were associated with lower levels of consistent condom use. This relationship is somewhat difficult to understand and is different from previous research on this topic, which found the opposite relationship to exist (Eisenberg et al., 2013; Turner et al., 1994). However, Weinstein et al. (2008) found that more knowledge did not lead to consistent condom use, suggesting that the relationship between sexual knowledge and sexual health behaviors is somewhat difficult to determine. Lower levels of consistent condom use were also related to higher scores on the STI history index, suggesting that participants who reported less frequent use of condoms were more likely to get tested for STIs. Although unexpected, this finding is logical because individuals who do not frequently use condoms may realize that they are at an elevated risk for STIs and therefore partake in more routine STI screenings and are more likely to be diagnosed with an STI.

Another unexpected finding indicated that as participants' use of condoms increased, the less likely they were to communicate with their sexual partners and the more likely they were to report erotophobic attitudes. This finding may be a result of sex education prior to college. Many sex education courses in elementary, middle, and high school (AOE, AOEP, CSE) focus almost exclusively on sexual health rather than students' sexuality as a whole (Schalet et al., 2014). This model of teaching may create a disconnect between sexual health and sexuality, causing individuals to display higher levels of sexual health, such as frequent condom use, while completely avoiding the other aspects of human sexuality, such as communication with sexual

partners. Most sex education programs prior to human sexuality in college have been found to have a somewhat negative approach to sex and sexual topics (Ferguson et al., 2008). As illustrated above, AOE and AOEP programs focus almost exclusively on abstaining from sexual activities until marriage. Abstaining from sexual activities is the most effective way to avoid the unwanted consequences of those activities, however, this mode of teaching may lead to more fearful or avoidant (erotophobic) attitudes towards sexuality.

Limitations

Limitations of the design of the current study must be considered when interpreting the results. Because of the survey design of the study, I am unable to draw direct causal conclusions from this data. I would like to assume that taking a sex education course in college improves sexual knowledge, behaviors, health, and attitudes, but it is possible that the students who already possessed positive attitudes and good sexual health were more likely to choose to take a human sexuality course.

In addition, the current study did not test the outcome variables before and after students had taken human sexuality in college. A pre-test/post-test design with a control group would provide more conclusive evidence concerning the effectiveness of college human sexuality classes. Also, the study relied entirely on self-reported data. The overall sexual behavior indices (including sexual partner history, STI history, condom use, and comfort) were probably most affected by this design. Participants may have felt uncomfortable truthfully answering questions pertaining to their sexual health regardless of assurance of complete confidentiality.

Furthermore, low reliability levels for STI history and condom use ($\alpha = .51$ and $\alpha = .52$, respectively) may have affected the significance of those two scales. It should be noted that 48% of participants indicated that they had never been tested for an STI, yet 78% reported that they

knew that they did not have an STI. The difference in responses to these two questions, which were analyzed within the same index, may have affected the alpha level. Low reliability scores on the condom use index may have been due to participants' relatively higher rates of condom use for vaginal and anal intercourse but lower rates for oral intercourse. It is possible that the addition of more questions pertaining to these subjects may have yielded more significant and/or different results. For instance, more questions concerning participant intent for future STI testing, assessing why participants had not been tested for STIs, and more questions concerning condom/contraception use. The sexual knowledge index also had a relatively low reliability levels ($\alpha = .43$). The 23 multiple-choice questions included on the sexual knowledge index inquired information pertaining to STIs, contraception, pregnancy, and abortion that were all analyzed on one scale in order to assess overall participant knowledge. Reliability scores may have increased if the sexual knowledge index was broken up into similar question categories.

Other limitations include the number of participants who had actually taken a human sexuality course in college ($n = 44$). Comparing numerically similar groups (college sexed versus none) may have yielded more significant results and stronger correlations. Although the amount of time since last sex education course was controlled for in the analysis of class effectiveness on the outcome variables, it would have been more beneficial to survey the students while they were currently enrolled in those pre-college courses. Lastly, having participants report the type of sex education course that they had experienced in elementary, middle, and high school using the provided definitions may have caused some confusion and misinformation. The participants may have forgotten the specific details that are important characteristics in differentiating between types of sex education or they may not accurately remember the type of sex education that they had.

Conclusion

The current study's results add to the literature pertaining to the effects of different types of sex education programs in America. Overall, students who had taken human sexuality in college reported the most beneficial outcomes concerning their sexual knowledge, certain sexual health aspects, and their sexual opinions. These students were found to be more knowledgeable about sexual topics, reported higher amounts of STI testing, communicated sexual topics more frequently with their partner, and displayed higher levels of erotophilia in comparison to students who had not taken human sexuality in college.

This study also revealed that AOE, AOEP, and CSE during earlier grade levels (elementary, middle, and high school) did not have any significant effect on students' sexual knowledge, health, behaviors, or sexual opinions in college. Although previous research has demonstrated the effectiveness of those programs in primary and secondary school, it is possible that the benefits from those programs are relatively short-lived and will no longer be apparent once the student reaches college. However, findings indicate that the deficit in the outcome variables based on these types of sex education cannot be fully attributed to amount of time since last sex education course. When only including students who had taken AOE, AOEP, or CSE within the past two years, none of those programs had any significant effect on students' current level of sexual knowledge, health, behaviors, or attitudes. This finding could provide more evidence to support the need for a more inclusive and holistic approach to human sexuality at a younger age.

Future research that uses an experimental or pre-test/post-test design may address some of the limitations of this study. For instance, research could analyze high school students' level of sexual knowledge, health, behavior, and opinions to see if those variable levels change after

completing a sex education class that presents the information in a college human sexuality course format. In this study, the mean age for students who had taken a human sexuality course was 22.51, but most individuals enter college around age 18. Therefore, future research should attempt to establish the benefits that may be associated with requiring all incoming first year college students to take a course in human sexuality. This may help those students make more positive choices concerning their sexuality early on.

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Table 1

Correlations and Descriptive Statistics

	1	2	3	4	5	6
1 Sexual Knowledge	-	-.27***	.20**	-.22***	.20***	.27***
2 Sexual Partner History		-	-.32***	.51***	-.25***	-.32***
3 STI History			-	-.24***	.29***	.16**
4 Condom Use				-	-.24**	-.27***
5 Sexual Communication					-	.37***
6 Sexual Opinions						-
<i>M</i>	9.86	7.59	2.21	1.54	21.20	4.24
<i>SD</i>	2.60	1.88	1.08	.87	6.43	.94
Range	2-17	1-5	0-4	0-3	4-28	1.72-6.68

Note. *** $p \leq .001$, ** $p \leq .01$, * $p \leq .05$.

Appendix A: Survey**General Questions**

Please circle/Fill in all that apply

- 1. Male, Female, Other**
- 2. Age _____**
- 3. Grade Level**
 - a. Freshman
 - b. Sophomore
 - c. Junior
 - d. Senior
 - e. Graduate Student
- 4. Ethnicity (Circle all that apply)**
 - a. White
 - b. Hispanic
 - c. Black
 - d. Asian
 - e. American Indian
 - f. Arab/Middle Eastern
 - g. Other _____
- 5. In what state did you attend high school?**
 - a. Texas
 - b. Other _____
- 6. Amount of time since last human sexuality lesson/ class/sex education course**
 - a. Less than or equal to 1 year ago
 - b. 2 years ago
 - c. 3 years ago
 - d. 4 years ago
 - e. More than 5 years ago
 - f. I have never taken a sex education course
- 7. Sexual Orientation (Who are you sexually attracted to)**
 - a. Heterosexual
 - b. Same Sex Orientation
 - c. Bisexual
 - d. Asexual
 - e. Would rather not say
 - f. Other

Defining Sex Education Experiences

Please **carefully** read over the following descriptions of different sex education experiences, and then answer questions #1-4 below

A. **Abstinence Only Education**

- Promotes abstinence from sexual activities until marriage
- Teaches that abstinence is the only way to avoid unplanned pregnancy and sexually transmitted infections
- Discusses the failure rates of contraceptive methods
- Cites psychological harm, sexually transmitted diseases, and HIV as the main reasons to remain abstinent from sex

B. **Abstinence Plus Education**

- Promotes abstinence from sexual activities
- Teaches that abstinence and contraception use are two ways to avoid unplanned pregnancy and sexually transmitted infections
- Teaches about the different forms and use of contraception methods available to students
- Promotes reducing the number of sexual partners in order to avoid HIV/AIDS and other sexually transmitted infections
- Teaches students how to reject and/or negotiate sexual activities with partners

C. **Comprehensive Sex Education: Community and/or School**

- Promotes abstinence from sexual activities
- Teaches that abstinence and contraception use are two ways to avoid unplanned pregnancy and sexually transmitted infections
- Teaches proper use of different types of contraception
- Teaches interpersonal and communication skills in the context of sexual relationships
- Helps students to explore their own values and goals
- Discusses how alcohol and drug use can effect decision making

D. **College Level Sex Education Course: (TAMUCC: PSYC 3374: Human Sexuality)**

- Teaches sexual anatomy, physiology of human sexual response
- Teaches about love, relationships, and sexual communication
- Teaches types of contraception and how they work
- Discusses sexual behaviors, sexual problems, sexual aggression
- Teaches about sexually transmitted infections, conception, pregnancy, and birth
- Discusses sexual orientation, gender, and sexual diversity

E. **Parental Education:**

- Did not participate in a school-based sex education program but received information from my parent(s)/legal guardian on topics such as (Please check all that apply) **See next page**

Parental Education Continued (Check all that apply)

- Abstinence until marriage__
- Abstinence in general__

- STIs__
- Pregnancy prevention such as condoms and birth control pills__
- Intimate relationships__
- Sexual health (doctors exams, self-examinations etc.)__

F. **None**

G. **Other** _____

Please use the definitions listed above and circle the one that best applies to each question listed below

1. My sex education experience in **Elementary School** could best be described as
 - a. Abstinence only
 - b. Abstinence Plus
 - c. Comprehensive
 - d. College Level Course
 - e. Parents
 - f. None
 - g. Other (please describe) _____

2. My sex education experience in **Middle School** could best be described as
 - a. Abstinence only
 - b. Abstinence Plus
 - c. Comprehensive
 - d. College Level Course
 - e. Parents
 - f. None
 - g. Other (please describe) _____

3. My sex education experience in **High School** could best be described as
 - a. Abstinence only
 - b. Abstinence Plus
 - c. Comprehensive
 - d. College Level Course
 - e. Parents
 - f. None
 - g. Other (please describe) _____

4. My sex education experience in **College** could best be described as
 - a. Abstinence only
 - b. Abstinence Plus
 - c. Comprehensive
 - d. College Level Course
 - e. Parents
 - f. None
 - g. Other (please describe) _____

Sexual Knowledge Questions

- 1. How knowledgeable do you feel about sexual health compared to your peers**
 - a. Not at all knowledgeable
 - b. A little less knowledgeable
 - c. A little more knowledgeable
 - d. Much more knowledgeable

- 2. Fertilization of the egg by the sperm occurs in the woman's**
 - a. Uterus
 - b. Fallopian Tube
 - c. Vagina
 - d. Ovaries

- 3. If a woman has taken oral contraceptives (birth control pill) for two or more years and then stops she will experience**
 - a. A lower chance of getting pregnant
 - b. A higher chance of getting pregnant
 - c. Same chance of becoming pregnant as a woman not taking oral contraceptives
 - d. A hard time getting pregnant

- 4. In terms of preventing pregnancy, antibiotics**
 - a. Cause birth control pills to be less effective
 - b. Make birth control pills more effective
 - c. Cause birth control pills to be less effective if taken for a long period of time
 - d. Do not interact with the effectiveness of birth control pills

- 5. Oral Contraceptives taken daily**
 - a. Need to be take for at least a week before effective in preventing pregnancy
 - b. Work immediately after taking in preventing pregnancy
 - c. Need to taken a couple of days to be effective
 - d. Must be taken for one full month before effective

- 6. Oral Contraceptives may**
 - a. Increase a woman's sex drive
 - b. Decrease a woman's sex drive
 - c. Keep a woman's sex drive normal
 - d. Cause extreme increases in sex drive

- 7. What is the failure rate of oral contraceptives when used correctly**
 - a. Less than 1%
 - b. 5%
 - c. 10%
 - d. 15%

- 8. What is the failure rate of condoms when used correctly**
 - a. 1%-5%
 - b. 5%-10%
 - c. 10%-15%
 - d. 15%-20%

9. It is a good idea/safe to use

- a. Spermicidal Lubricant with a condom
- b. Hand lotion with a condom
- c. Petroleum jelly with a condom
- d. All of the above

10. What is the failure rate of “the pull out method” (withdrawing the penis from the vagina before ejaculating) when used correctly

- a. 7%
- b. 20%
- c. 4%
- d. 45%

11. If your symptoms of a sexually transmitted infection (STI) go away without treatment

- a. The STI has run its course
- b. You probably don't have an STI
- c. You may still have an STI
- d. You can't spread the STI

12. Which STI is most common in America

- a. Chlamydia
- b. Gonorrhea
- c. HPV (human papilloma virus)
- d. HIV/AIDS

13. Untreated Chlamydia is correlated with

- a. Infertility
- b. Higher sex drive
- c. Insanity
- d. No future problems

14. Gonorrhea is usually detected through

- a. A blood test
- b. Swabbing the infected area
- c. Visual examination
- d. A saliva test

15. What type of condom protects against HIV/AIDS most effectively?

- a. Sheep Skin
- b. Latex
- c. It does not matter, both are equally effective
- d. Condoms do not protect against HIV/AIDS

16. You can get HIV/AIDS

- a. In both heterosexual and non-heterosexual relationships
- b. Only if you're in a non-heterosexual relationship
- c. Only if your partner has experienced a non-heterosexual relationship
- d. Only if you have multiple sexual partners

17. You can contract HIV/AIDS through

- a. Saliva
- b. Blood
- c. Vomit
- d. All of the above

18. What percentage of young adult (age 18-24) women in the USA has an STI (sexually transmitted infection)

- a. 5%
- b. 15%
- c. 25%
- d. 35%

19. What is a Pap smear

- a. An exam where the doctor only performs a pelvic exam with a speculum
- b. A test for cancer or pre-cancerous cells of the cervix
- c. A test for chlamydia or gonorrhea
- d. A test for yeast

20. Abortion may cause

- a. Infertility
- b. Psychosis
- c. Cancer
- d. None of the above

21. STIs can be contracted through

- a. Vaginal sex
- b. Anal sex
- c. Oral sex
- d. All of the above

22. Intrauterine Devices (IUD: used to prevent unwanted pregnancy) have been proven to cause

- a. Infertility
- b. Infections
- c. Cancer
- d. None of the above

23. The emergency contraception pill ("morning after pill") is effective in preventing pregnancy up to __ days after unprotected vaginal intercourse

- a. 5 days
- b. 1 day
- c. 3 days
- d. 7 days

Sexual Behavior/Health Questions**1. What age were you at first sexual intercourse?**

_____ I have not had sexual intercourse

- 2. Current relationship status:**
 - a. Single (Not in a relationship)
 - b. In a relationship
 - c. Married
 - d. Divorced / Separated
 - e. Domestic Partnership (Cohabiting/Living with partner)
 - f. In a committed relationship

- 3. Do you currently have a primary sexual partner?**
 - a. Yes
 - b. No

- 4. How many sexual partners have you had throughout your life?**
 - a. None
 - b. 1-2
 - c. 3-5
 - d. 6-8
 - e. 8-10
 - f. More than 10

- 5. How many sexual partners have you had within the past year?**
 - a. None
 - b. 1-2
 - c. 3-4
 - d. 5-6
 - e. More than 6

- 6. Have you ever had oral sex?**
 - a. Yes
 - b. No

- 7. Have you ever had vaginal sex?**
 - a. Yes
 - b. No

- 8. Have you ever had anal sex?**
 - a. Yes
 - b. No

- 9. Have you ever been *tested* for sexually transmitted infections (STIs)?**
 - a. Yes
 - b. No

- 10. Have you ever been *diagnosed* with an STI?**
 - a. Yes
 - b. No

- 11. I know my partner does not have an STI**
 - a. True
 - b. False

Very Not at all
23. How comfortable do you feel communicating with partner(s) about sexual activities?
 (10)
 1 2 3 4 5 6 7
 Very Not at all

24. How comfortable do you feel communicating with partner(s) about STIs? (10)
 1 2 3 4 5 6 7
 Very Not at all

Sexual Opinion Survey Questions

Respond to each item as honestly as you can. There are no right or wrong answers and your answers will be kept completely confidential

1) I think it would be entertaining to look at erotica (sexually explicit books, movies, etc.)
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

2) Erotica (sexually explicit books, movies, ect.) is obviously filthy and people should not describe is as anything else
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

3) Swimming in the nude with a member of the opposite sex would be an exciting experience
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

4) Masturbation can be an exciting experience
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

5) If people thought I was interested in oral sex I would be embarrassed
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

6) Engaging in group sex is an entertaining idea
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

7) I personally find that thinking about engaging in sexual intercourse is arousing
 1 2 3 4 5 6 7
 Strongly Strongly
 Agree Disagree

8) Seeing an erotic (sexually explicit) movie would be sexually arousing to me

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

9) Thoughts that I may have homosexual tendencies would not worry me at all

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

10) The idea of my being attracted to a member of the same sex is not depressing

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

11) Almost all pornographic material is nauseating

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

12) It would be emotionally upsetting to me to see someone exposing themselves in public

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

13) Watching a stripper of the opposite sex would not be very exciting

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

14) I would not enjoy seeing an erotic (sexually explicit) movie

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

15) When I think about seeing pictures showing someone of the same sex as myself masturbating, it nauseates me

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

16) The thought of engaging in unusual sexual practices is highly arousing

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

17) Manipulating my genitals would probably be an arousing experience

1	2	3	4	5	6	7
Strongly						Strongly

Agree

Disagree

18) I do not enjoy day dreaming about sexual matters

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

19) I am not curious about explicit erotica (sexually explicit books, movies, etc.)

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

20) The thought of having long term sexual relations with more than one sex partner is not disgusting to me

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

21) I think it is important to get tested for sexually transmitted infections annually

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

22) I enjoy learning about sexual topics

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

23) I feel comfortable discussing sexual topics with my peers

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

24) I feel comfortable discussing sexual topics with my parents

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

25) I feel comfortable discussing sexual topics with my partner

1	2	3	4	5	6	7
Strongly						Strongly
Agree						Disagree

