Influence of Sex Education Methods on Sexual Behaviors of Students

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**Abstract**

*With rates of teenage pregnancy increasing throughout the United States, there is a concern regarding the type of sexual education taught to students in school. As one of the most developed countries in the world, questions arise on whether or not the United States in promoting the appropriate type of sexual education to its youth population. The aim of this study is to provide insight into the relationship that exists among sex education methods and positive attitudes regarding safe sex of college students. This study examined different methods of sex education (abstinence-only, comprehensive, faith-based) and sought to answer whether the type of sex education taught in schools has an effect on students’ attitudes about engaging in safe sexual behavior. We hypothesize that the type of education administered to students is a factor in their sexual decisions and that a comprehensive sex education program is most effective. We executed an online survey consisting of 22 multiple-choice questions to graduate students from California State University, San Bernardino. Questions covered demographics, type and timing of sex education, methods of information delivery, effectiveness of education given and likeliness of engaging in safe sexual behaviors. We found that participants that received a comprehensive sex education were more likely to practice safe sex compared to participants that had abstinence-only education, talks with parents, friends, and/or biology/health class sex education. In addition, 67% of participants reported that they would like to see both comprehensive and abstinence-based sex education taught in schools.*

**Introduction**

**Statement of the Problem**

With rates of teenage pregnancy increasing throughout the United States, there is a concern regarding the type of sexual education taught to young adults in school. When comparing the United States to other countries around the world, the United States has the highest teen pregnancy rate, sexually transmitted diseases (STD’s), and birth rates (Kohler, Manhart, & Lafferty, 2007). As one of the most developed countries in the world, questions arise on whether or not the United States is promoting the appropriate type of sexual education to its youth population. According to Kohler, Manhart, and Lafferty (2007), the United States has designed several federally funded sex education programs to be taught in schools, however, they are all required to lean towards an abstinence-only education. An abstinence only education consists of teaching students to abstain from participating in sexual activity outside of marriage which will result in STD prevention as well as prevention of unplanned pregnancies (Kohler, Manhart, & Lafferty, 2007). Another type of sexual education used in the United States is a comprehensive sexual education. Comprehensive sexual education consists of abstaining from sex as well, but also promotes engaging in safe sex (Kohler, Manhart, & Lafferty, 2007). Previous studies have shown that a comprehensive sex education program is more likely to reduce risks of pregnancy (Kohler, Manhart, Lafferty, 2007).

The purpose of this study is to investigate how sexual education influences safe sexual practices. Given that abstinence-only programs are widely used and required in the United States, there seems to be a fault in the system because pregnancy and birth rates have not gone down as a result of the incorporation of this type of education. It may be plausible that

abstinence-only programs do not result in safe sexual activity and that a comprehensive program is more likely to reduce the likelihood that young adults will engage in unsafe sexual activities.

**Review of Related Literature**

Several studies have focused on what type of sex education is most beneficial to learning. The United States has funded abstinence-only education for years, but there are many questions regarding whether this policy is effective. Research conducted by Stanger-Hall and Hall (2011) focused on an evaluation of the current sex-education approach in the United States and sought to identify the most effective educational approach to reduce the current high teen pregnancy rates seen throughout the U.S. Stanger-Hall and Hall (2011) questioned whether or not promoting abstinence-only education in schools has an effect in preventing teen pregnancy. After collecting data from national reports of pregnancy, birth and abortion rates and from the Sexuality Information and Educational Council of the US (SIECUS) website from all 50 states, researchers found that the level of abstinence education was positively correlated with both teen pregnancy and teen birthrates, indicating that abstinence education in the U.S. does not cause abstinent behavior (Stanger-Hall & Hall, 2011). Also, the authors concluded that there were other factors besides abstinence-only education that were correlated with teen pregnancy rates. They found that richer states that tend to have a higher proportion of white teens in their populations tended to emphasize abstinence less, and therefore tended to have lower teen pregnancy and birth rates when compared to poorer states. They also found that States that taught comprehensive sex and/or HIV education and covered abstinence along with contraception and condom use tended to have the lowest teen pregnancy rates (Stanger-Hall & Hall, 2011).

 A study conducted by Kohler, Manhart, and Lafferty (2008) sought to find out whether comprehensive sex education or abstinence-only sex education had an effect on teen pregnancy, specifically, whether students would engage in sexual activities sooner when taught using comprehensive sex-education rather than those that were taught abstinence-only. Researchers collected data from 1150 adolescent female and 1121 adolescent males who responded to a National Survey of Family Growth (NSFG) which included basic demographics such as knowledge, attitudes and beliefs regarding family planning issues, as well as self-reported sexual behavior and previous diagnoses of STDs. They found that abstinence-only education was not significantly associated with an adolescent ever engaging in vaginal intercourse and comprehensive sex education was marginally associated with reduced reports of engaging in vaginal intercourse (Kohler, Manhart, & Lafferty, 2008). Also, adolescents who reported having received comprehensive sex education were significantly less likely to report a teen pregnancy compared with those who received no sex education at all. Researchers also concluded that abstinence-only programs had no significant effect in delaying the initiation of sexual activity or in reducing the risk for teen pregnancy or STDs. In contrast, comprehensive sex education programs were significantly associated with reduced risk of teen pregnancy (Kohler, Manhart, & Lafferty, 2008).

 Not only is the type of sex education given to individuals important to look at, but so is the timing of when that education is given. A study conducted by Somers and Surmann (2005) measured the relationship between sources and timing of sex education and its effects on adolescent behavior and attitudes. Bringing in the variable of timing in introduction of sex education expands the body of research that already exists. Researchers analyzed data collected from surveys from 672 students that went to either a suburban high school or one of two urban high schools. These surveys helped researchers evaluate students’ sources of sex education, timing of sex education, sexual attitudes and personal sexual values, as well as sexual behavior. Results from the data found that when teens reported learning more about the reproductive system from their peers, the clarity of their personal sexual values was lower. In turn, when adolescents learned about sexual intercourse and the importance of utilizing birth control from adults, the clarity of their personal sexual values were higher (Somers & Surmann, 2005). Additionally, there were significant findings regarding female adolescents. Somers and Surmann (2005) found that the more sex education (related to intercourse and oral sex) that females were provided with, the less frequently they engaged in sexual behavior, and the more education females received regarding the reproductive system, the clearer their personal sexual values. They also found that the sooner females learn about marriage and love, their sexual behavior was less frequent. The authors concluded that the timing of sex education was related to the frequency of sexual activity. The later adolescents learned about sex from any source and the less they learned from the school was predictive of increased frequency of sexual activity (Somers & Surmann, 2005). Since the literature has suggested that adolescents are educated about sex after they have already engaged in it, Somers and Surmann (2005) believe that adopting a preventative approach would be beneficial and also suggest that education should be incorporated into the curricula before high school.

 A study by Walcott, Chenneville and Taruini (2011) focused on the relationship between perceptions of previous sex education and the current knowledge, attitudes, and sexual behaviors among college students and looked at the types of sex education given (abstinence-only or comprehensive sex education). Participants included 1,878 undergraduate students that attended two large universities in the southeast United States and ages ranged from 18-25 years old. These participants completed an online survey consisting of four sections: (1) demographic data (i.e. age, sex, race/ethnicity, primary language spoken in home and religious affiliation), (2) type of sex education given, including primary theme, amount, quality, location-source and depth of the previous sex education lessons, (3) knowledge assessment of HIV/AIDS, and (4) current sexual attitudes and current sexual behavior. Results found numerous interesting items. The majority of participants (97%) reported receiving sex education within the K-12 school setting; 39% reported that they received formal sex education in elementary school and 50% in middle school. Eight percent of the sample reported that they first received their sex education in high school. Also, 68% of participants reported receiving comprehensive sex education based on the definitions provided in the survey, compared to 29% who reported receiving abstinence-only as the primary theme of their school sex education. Only 3% of the sample reported no history of formal sex education (Walcott, Chenneville, & Tarquini, 2011). Results also revealed that those who reported receiving comprehensive sex education had significantly higher HIV knowledge scores and had more positive attitudes toward safer sex practices than those who were given abstinence-only education. Also, of those participants who reported having sex with a nonsteady partner in the past year, females were more likely to use condoms with nonsteady partners and sex education that included instruction on specific negotiation skills and how to handle peer pressure predicted more consistent condom use with nonsteady partners. Furthermore, compared with those who reported inconsistently using condoms, participants who reported always using condoms with nonsteady partners also reported significantly greater norms toward safer sex, more positive attitudes about safer sex, had a greater intention to try to practice safer sex and had greater expectations to practice safer sex (Walcott, Chenneville, & Tarquini, 2011). Walcott, Chenneville and Tarquini (2011) concluded that although the majority of the participants received some version of school-based sex education, most also reported that it was sporadic and embedded within larger themed courses, such as health or physical education and implies that simply providing information about STIs and safer sex choices is not enough; practitioners delivering safer sex messages must also battle negative attitudes and low expectations or self-efficacy for safer sex behaviors (Walcott, Chenneville, & Tarquini, 2011).

 Religion also has an impact on the type of sex education taught to students and students’ beliefs. Freedman-Doan, Fortunator, Henshaw and Titus (2011) investigated the impact that religious beliefs influence sexual behavior and education and looked types of faith-based sex education programs present in mainstream denominational churches. The researchers were interested in gaining insight as to how these programs are delivered, the reasoning behind having faith-based sex education at the church, the intended goals of the program, the age at which youth received instruction, the topics covered and the perceived youth response. Researchers found that in regards to what program was used, mainline protestant churches were more likely to use formal/annual instruction, and evangelical protestant churches were more likely to use formal/comprehensive programs. For the 65 congregations involved in the study, researchers found that 54.4% had a program for both high school and middle school students, 25% reported a high school only program, 1% had a middle school only program, <1% had a program for elementary students and <1% had a program for teens through young adult up to age 20 (Freedman-Doan, Fortunato, Henshaw, & Titus, 2011). They also found that 77% of churches require parents to be involved in the interaction process of delivering sex education to the students. Premarital sex and promiscuous sexual behavior was of concern at most religious groups, as well as the possibility of young obtaining misinformation about sexual health from partners, peers and the media. In regards to goals of the programs, most program goals were to teach purity and abstinence to youth. They concluded that leaders who viewed health and practical decision making as a goal tended to hold a more liberal interpretation of scripture than those who did not mention this goal. In terms of topics being covered, a greater percentage of evangelical leaders emphasized the importance of morality/spirituality than others. Results were more skewed by respondents regarding whether or not to teach about birth control. Also, youth receiving sex education programs responded positively to instruction, but there was no correlation to how the education provided affected actual behavior.

**Assumptions**

Throughout conducting research, some assumptions were made. First of all, when our experiment was designed, it was assumed there would be an equal amount of females and males taking the survey. Our results indicate that the majority of participants were female (88% female participants, Table 1).  Another assumption made was that all students received sex education at one point or another. Though it is not likely, it might be possible that some students did not receive any form of sex education, whether at school, home or elsewhere. Another assumption being made is that utilizing graduate students in the Counseling and Guidance Program at Cal State San Bernardino will yield a diverse and accurate representation of the larger population. Originally we had assumed our sample population size would be comprised of first year undergraduate students.

**Research Question and Foreshadowed Problems**

In conducting our study, the goal was to determine which method of sex education is most effective in influencing attitudes about practicing safe sex. Specifically, the research question we are attempting to answer is as follows; does the type of sex education used in schools effect students’ attitudes about engaging in safe sexual behavior? Through research, we hope to uncover if one method of sex education is more effective than another, as well as the likelihood one will engage in safe sexual practices after the education is received. We hypothesize that the type of education administered to students is a factor in their sexual decisions and that a comprehensive sex education program is most effective. It is our belief that when students are well informed of their options, they will make better decisions in regard to their sexual health. Our hypothesis supports the paradigm on this issue. Prior research shows that comprehensive sex education programs are more effective in evoking positive attitudes about safe sex over other abstinence only programs.

Although our research question is straight forward, we are aware of possible problems that may arise. Our main concern is obtaining a sample size that is diverse and large enough for analysis. We are looking for trends in the way research participants responded to survey questions that can be generalized to draw appropriate conclusions. We want to gain a sample representative of respondents from all backgrounds (social, economic, religious) so we have a wide range of data to analyze. A sample size that is too small or contains similar respondents in terms of background would not be able to provide us with enough relevant information to achieve those results. We are also concerned with the accuracy of the data collected. We are aware that the topic of sex education and practice is sensitive and somewhat awkward to discuss. Our hope is that participants will be truthful in responding to survey questions asked.

**Definition of Related Terms**

For this study the following definitions apply:

1. Sex Education: instruction on issues relating to [human sexuality](http://en.wikipedia.org/wiki/Human_sexuality), including human [sexual anatomy](http://en.wikipedia.org/wiki/Sex_organ), [sexual reproduction](http://en.wikipedia.org/wiki/Sexual_reproduction), [sexual activity](http://en.wikipedia.org/wiki/Human_sexual_activity), [reproductive health](http://en.wikipedia.org/wiki/Reproductive_health), emotional relations, [reproductive rights](http://en.wikipedia.org/wiki/Reproductive_rights) and responsibilities, [sexual abstinence](http://en.wikipedia.org/wiki/Sexual_abstinence), and [birth control](http://en.wikipedia.org/wiki/Birth_control)

2. Comprehensive Sex Education: teaches abstinence from sex, use of contraceptives, and education about sexually transmitted diseases.

3. Abstinence Only Sex Education: teaches abstinence from sex until marriage and excludes any other form of sexual and reproductive health information. Does not provide education regarding proper use of contraceptives.

4. Abstinence + Sex Education: Teaches sexual abstinence as the most effective means of HIV prevention, but also taught condom use and partner reduction

5. Faith Based Sex Education: The relationship between sex education and religion

6. Sexual behavior: the manner in which humans experience and express their [sexuality](https://en.wikipedia.org/wiki/Human_sexuality). Sexual activity may also include conduct and activities that are intended to arouse the sexual interest of another, such as strategies to find or attract partners ([courtship](https://en.wikipedia.org/wiki/Courtship) and [display](https://en.wikipedia.org/wiki/Display_%28zoology%29) behavior), and personal interactions between individuals, such as [foreplay](https://en.wikipedia.org/wiki/Foreplay). Sexual activity may follow sexual arousal.

7. Sexual health: Sexual health is a state of physical, emotional, mental and social well being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence.

8. Sexually Transmitted Diseases (STD): any of the various diseases or infections (as syphilis, gonorrhea, chlamydia, and genital herpes) that are usually transmitted by direct sexual contact and that include some (as hepatitis B and AIDS) that may be contracted by other than sexual encounters.

**Significance of Proposed Study**

Our proposed study regarding the effectiveness of sex education methods utilized in schools has various social implications. America has one of the highest rates of teenage pregnancies among developed nations. According to Planned Parenthood, this year alone nearly 750,000 teenagers will become pregnant and half of the young people who are sexually active will contract a Sexually Transmitted Disease by the age of 25 (Planned Parenthood). These alarming statistics suggest that a disconnect exists between sex education methods taught in schools and the actions/attitudes of adolescents regarding safe sex. Finding a way to curtail this phenomenon is of the utmost importance because the health of our youth is at risk. Demonstrating the crucial role that sex education plays in influencing positive attitudes about safe sex can pave the way for comprehensive sex education programs across the nation. Establishing a correlation between education methods and attitudes can encourage federal funding for alternatives to abstinence only sex education programs. The increase in Sexually Transmitted Diseases and Sexually Transmitted Infections coupled with the alarming number of projected teenage pregnancies suggests the importance of this kind of study. It is important to equip students with the necessary tools and education to make sound and appropriate decisions regarding their sex life. The aim of this study is to provide insight into the relationship that exists among sex education methods and positive attitudes regarding safe sex of college students.

**Methodology**

**Subjects**

The population utilized in our study comprised of college students at California State University San Bernardino. Specifically, we enlisted the participation of graduate students of the Counseling and Guidance Masters Program to form our sample. Selection was random and participation was voluntary. Surveys were given to 60 members of the graduate program and 24 of those given were completed and analyzed. 21 respondents were female, and 3 respondents were male. Demographics of respondents were analyzed in terms of marital status, religion, and ethnicity.

**Instrumentation and Data Collection**

During our time together as a group, we decided it would be easiest if we used a survey for our data collection. This gave us access to a larger population, therefore increasing the accuracy of our results. We originally contemplated the idea of using a paper survey, which would be distributed to students on campus. We then decided it would be beneficial to use an online survey instead of a paper survey. It is monetarily less expensive to use an online survey than to use a paper survey. Also, this gave students the chance to take the survey wherever they chose and at whatever time they felt was most convenient. We were especially careful of this since discussing ones sexual history can be a touchy and private subject. We originally wanted to use first year undergraduate students as our sample population because they would be more likely to remember their sexual education. This ended up not working out due to communication limitations and misunderstandings regarding our IRB. Thus, we contacted the program coordinator of the Counseling and Guidance program at Cal State San Bernardino and she agreed to send a mass email to all of the first year students in the cohort.

We used the program Qualtrics to make our survey.  Using this program was beneficial, as it allowed us to view data in the form of raw numbers, percentages, tables and graphs. The drawback of using this instrument is it may not capture details that may be important in answering our research question. The survey consisted of 22 questions, all multiple choice. Students, on average took on average 3 minutes to complete it. The questions were created by our group as a whole. The survey was given with clear instructions as to how each question was to be answered.

Figure 1:

**Data Treatment Procedures**

Twenty-four current students in the masters of counseling and guidance cohort class of 2017 completed identical surveys that were reviewed for analysis. Analysis was based on the type of sexual education they received and how satisfied they were with the knowledge they attained. The survey was provided on qualtricx.com. Students were able to log onto the site at any time to take the survey. None of the participant’s personal information was released. Data was then recorded from each survey based on the answers given. All of the information recorded from each participant was then analyzed and interpreted.

The statistical procedure we used for our study was a simple correlation. We measured the relationship between the type of sexual education received and sexual practice. Because our study was based on drawing conclusions of which sexual education method was most effective, we used deductive reasoning.

The advantage of doing an online survey was it made the results easier to read and understand because all of the data was recorded and graphed based on how many participants chose each answer. Although the survey was easier to disburse online, there were also disadvantages of conducting out the survey this way. When conducting a survey there is a possible chance that the participants will not respond truthfully. Therefore, this can cause misinterpretation of findings in our study because the answers are not credible. Another disadvantage is that posting an online survey does not always mean the participant that is supposed to be taking the survey is really the participant completing the survey. Conducting a random survey also puts our study at a disadvantage because we were not able to retrieve a specific amount of participants.

**Presentation of Findings**

Table 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| # | Answer |

|  |  |
| --- | --- |
|  |  |

 | Response | % |
| 1 | Male |

|  |  |
| --- | --- |
|  |  |

 | 3 | 13% |
| 2 | Female |

|  |  |
| --- | --- |
|  |  |

 | 21 | 88% |
|  | Total |  | 24 | 100% |

Table 2. Type of sex education received

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| # | Answer |

|  |  |
| --- | --- |
|  |  |

 | Response | % |
| 1 | Comprehensive (detailed information about STIs and contraception) |

|  |  |
| --- | --- |
|  |  |

 | 16 | 67% |
| 2 | Abstinence (education on values and refusal skills) |

|  |  |
| --- | --- |
|  |  |

 | 6 | 25% |
| 3 | Talk with parents |

|  |  |
| --- | --- |
|  |  |

 | 7 | 29% |
| 4 | Talking with Friends |

|  |  |
| --- | --- |
|  |  |

 | 6 | 25% |
| 5 | None |

|  |  |
| --- | --- |
|  |  |

 | 1 | 4% |
| 6 | Other |

|  |  |
| --- | --- |
|  |  |

 | 4 | 17% |

|  |
| --- |
| Other |
| Simply biology information about the sex organs in Anatomy. And STI information in Health. |
| We watched a video only |
| Health class |
| Biology |

The results for this experiment were significant. Table 2 shows responses to the

question, “what type of sex education program they received”. Of the 24 participants 67% received a comprehensive sex education and 25% of participants received an abstinence sex education. From the 67% of participants that reported receiving a comprehensive education we looked into their responses in order to see their attitudes. Four participants answered receiving a different kind of sex education. They were able to write their answers and they reported receiving sex education by simply biology information about the sex organs in Anatomy and STI information in Health, another participant put they only watched a video, two other participants reported receiving their sex education in health and biology class.

Table 3 Likelihood to engage in safe sexual practices

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| # | Answer |

|  |  |
| --- | --- |
|  |  |

 | Response | % |
| 1 | Very Unlikely |

|  |  |
| --- | --- |
|  |  |

 | 0 | 0% |
| 2 | Unlikely |

|  |  |
| --- | --- |
|  |  |

 | 1 | 6% |
| 3 | Undecided |

|  |  |
| --- | --- |
|  |  |

 | 3 | 19% |
| 4 | Likely |

|  |  |
| --- | --- |
|  |  |

 | 8 | 50% |
| 5 | Very Likely |

|  |  |
| --- | --- |
|  |  |

 | 4 | 25% |
|  | Total |  | 16 | 100% |

Table 3 shows the likelihood of the 67% of participants that received the comprehensive sex education to engage in safe sex. 75% of participants either answered they would be likely or very likely to engage in safe sex. This reflected what past research has reported. Although we saw significance in other areas we were not surprised to see that comprehensive sex education did not have an affect on whether or not to engage in sex shown in table 4. Comprehensive sex education has been reported to increase safer sex practices but have no effect on the timing of first sexual activity. Of participants who received a comprehensive sex education, 82% reported that they would be likely and very likely use protection when engaging in sexual practices.

Table 4 Impact of sex education on whether or not to engage in sex

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| # | Answer |

|  |  |
| --- | --- |
|  |  |

 | Response | % |
| 1 | Very Ineffective |

|  |  |
| --- | --- |
|  |  |

 | 2 | 13% |
| 2 | Ineffective |

|  |  |
| --- | --- |
|  |  |

 | 0 | 0% |
| 3 | Neither Effective nor Ineffective |

|  |  |
| --- | --- |
|  |  |

 | 8 | 50% |
| 4 | Effective |

|  |  |
| --- | --- |
|  |  |

 | 6 | 38% |
| 5 | Very Effective |

|  |  |
| --- | --- |
|  |  |

 | 0 | 0% |
|  | Total |  | 16 | 100% |

Table 5 Likelihood of using protection when engaging in sexual practices

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| # | Answer |

|  |  |
| --- | --- |
|  |  |

 | Response | % |
| 1 | Very Unlikely |

|  |  |
| --- | --- |
|  |  |

 | 1 | 6% |
| 2 | Unlikely |

|  |  |
| --- | --- |
|  |  |

 | 0 | 0% |
| 3 | Undecided |

|  |  |
| --- | --- |
|  |  |

 | 2 | 13% |
| 4 | Likely |

|  |  |
| --- | --- |
|  |  |

 | 6 | 38% |
| 5 | Very Likely |

|  |  |
| --- | --- |
|  |  |

 | 7 | 44% |
|  | Total |  | 16 | 100% |

**Limitations of the Design**

Although this study strived to present reliable and accurate information, some limitations were present. Our initial research question had to be modified because we encountered a problem while attempting to distribute online surveys to a class comprised mainly of freshmen. The professor of the course declined our request because we did not have approval from the Institutional Review Board. This hurdle forced us to re-write our proposed question regarding attitudes of college freshmen in practicing safe sex. Rather than focusing on college freshmen, we decided to survey graduate students in the Counseling and Guidance program. Since our sample size was targeted toward one specific group of students, it is increasingly difficult to generalize our results across diverse populations. Approximately 54 % of the participants identified as Hispanic, 29% as Caucasian, 8% as Asian, 4% as African American, and 4% Native American. Gender was an added factor that limited our results. More than 85% of those surveyed were female. The lack of male participants constricted our understanding of the effectiveness of programs on both sexes. Careless responding was an additional limitation in our study. The response times of participants ranged from one to sixteen minutes with the average being three minutes. The wide discrepancy among response times suggests that some of those surveyed were imprudent in responding to the 22 questions. This potentially skewed our results because some participants neglected to take the time to assess the questions and provide accurate responses.

**Conclusion**

In conclusion, this study was done to observe the influence of sex education on behaviors of students, specifically students in a graduate program. Our study produced findings similar to those found in the prior research we reviewed. Thus, our study was able to further validate the body of knowledge already in existence. From our data we were able to generalize that participants who received a comprehensive method of education were more likely to practice safe sex in comparison to the participants that had received abstinence only, talk with parents, friends, biology and health class sex education. We were surprised to learn that participants who reported having a comprehensive sex education also reported not having access to contraceptive methods, such as condoms. We understand distributing condoms in a school classroom may not be appropriate, however informing students of where they could get contraceptives would be ideal in case they ever needed access to them. What we found interesting was that all the participants reported that their sex education program had no influence on the timing of first sexual activity with a partner. This is interesting to note because comprehensive sex education doesn’t teach students to wait for sex till marriage like abstinence only education does. At the end of the survey participants were asked what sex education program would they prefer be taught in schools. 67% of participants reported that they would like to see a combination of comprehensive and abstinence only sex education in the classroom.

Generalizing the effectiveness of comprehensive and abstinence only sex education programs on student attitudes and behaviors could be helpful when trying to decide which program would be most beneficial when taught in public schools. We believe that observing the affects of all types of sex education programs would help educators decide which program is most beneficial in eliciting a positive affect on students and their sexual behaviors. Educating students on sex and the different forms of contraceptives could decrease the number of teen pregnancies and the number of students with sexually transmitted infections (STIs) in the United States.

**Recommendations for Further Research**

To improve data collection in the evaluation of the effect of sex education programs in the future, researchers should focus on obtaining a larger and more diverse population size. The population focus should be younger in age. Doing so would improve overall recollection of sex education methods and material. This might suggest utilizing a sample population comprised of high school students. Although this would involve gaining parent permission, making this change may elicit more accurate data. Another suggestion would be to change the research design to a mixed method in which both qualitative and quantitative elements were used. For example, future researchers could distribute a survey using a Likert Scale and conduct interviews or a focus group to obtain responses to open ended questions. This would allow researchers to better grasp the attitudes to and effectiveness of different types of sex education methods. Researchers might also consider making the survey longer and adding some open ended questions in order to give participants a chance to better explain their point of view

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**Appendix**

**Appendix I: Survey Questions**

1) What is your gender?

Male

Female

2) What is your race?

White/Caucasian

African American

Hispanic

Asian

Native American

Pacific Islander

Other

3) What is your current status?

Single, never married

Married without children

Married with children

Divorced

Separated

Widowed

Living w/ partner

4) What religion do you affiliate yourself most with?

Catholic

Christian

Protestant

Orthodox

Muslim

Not affiliated with a religion

Rather not answer

other

5) What is your class rank?

Freshmen

Sophomore

Junior

Senior

Graduate

6) What kind of high school did you attend?

Public

Private

Religious

Charter

Other

7) When did you receive sex education?

Elementary

Middle School

High School

Never received sex education

8) What type of sex education did you receive?

Comprehensive (detailed information about STIs and contraception)

Abstinence (education on values and refusal skills)

Talk with parents

Talking with Friends

None

Other

9) What method was used to deliver the information?

Speaker

PowerPoint

Video

Book

Lecture

10) How valuable was your sex education program in increasing knowledge?

Very Poor

Poor

Fair

Good

Very Good

11) Based on your sex education program, how likely were you to engage in safe sexual practices?

Very Unlikely

Unlikely

Undecided

Likely

Very Likely

12) How did your sex education program impact your decision regarding whether or not to engage in sex?

Very Ineffective

Ineffective

Neither Effective nor Ineffective

Effective

Very Effective

13) How did your sex education program impact your decision to use contraceptive methods?

Very Ineffective

Ineffective

Neither Effective nor Ineffective

Effective

Very Effective

14) Did your sex education include a discussion of how to properly use condoms or other forms of contraception?

Yes

No

15) Did your sex education program include distribution of or access to condoms or other forms of contraception?

Yes

No

16) How likely are you to use protection when engaging in sexual practices?

Very Unlikely

Unlikely

Undecided

Likely

Very Likely

17) Do you believe practicing safe sex is important?

Not at all Important

Very Unimportant

Neither Important nor Unimportant

Very Important

Extremely Important

18) Do your religious views affect your decision on when to engage in sex?

Yes

No

19) When did you first engage in sexual practices?

Before High school

High School

College

Never have engaged in sex

Rather not answer

20) During this encounter did you use protection?

Yes

No

Never have engaged in sex

21) What influenced your decision?

Access

Prior education

Fear of pregnancy or STIs

Religious beliefs

22) What sex education program would you prefer be taught in schools?

Abstinence

Comprehensive

Both

None