

**SEX ED ON CAMPUS: INTEGRATING COMPREHENSIVE SEXUAL HEALTH
EDUCATION INTO FIRST-YEAR SEMINAR CURRICULUM**

by

Michele M. Buzzelli

B.S. Business Administration – Management, Ithaca College, 2011

Submitted to the Graduate Faculty of
the Department of Behavioral and Community Health Sciences
Graduate School of Public Health in partial fulfillment
of the requirements for the degree of
Master of Public Health

University of Pittsburgh

2015

UNIVERSITY OF PITTSBURGH
GRADUATE SCHOOL OF PUBLIC HEALTH

This thesis was presented

by

Michele M. Buzzelli

It was defended on

November 30, 2015

and approved by

Thesis Advisor:

Martha Ann Terry, PhD
Assistant Professor
Behavioral and Community Health Sciences
Graduate School of Public Health
University of Pittsburgh

Committee Member:

Mary E. Hawk, DrPH
Assistant Professor
Behavioral and Community Health Sciences
Graduate School of Public Health
University of Pittsburgh

Committee Member:

Jeannette E. South-Paul, MD
Andrew W. Mathieson Professor, Department Chair
Department of Family Medicine
University of Pittsburgh

Copyright © by Michele M. Buzzelli

2015

**SEX ED ON CAMPUS: INTEGRATING COMPREHENSIVE SEXUAL HEALTH
EDUCATION INTO FIRST-YEAR SEMINAR CURRICULUM**

Michele M. Buzzelli, MPH

University of Pittsburgh, 2015

ABSTRACT

Students enter college and university campuses with staggeringly varied sexual health education backgrounds. This is due, in part, to sub-par sexual health curricula available through public secondary schools across the United States (US), made apparent through, among other things, one of the highest teen pregnancy rates in the developed world. In order to provide students with the education and tools necessary for protecting against sexually transmitted infections and unplanned pregnancies, this thesis proposes an innovative model for integrating comprehensive sexual health education into a first-year seminar course. Rooted in peer education, teaching assistants (TAs) for the first-year seminar serve as educators and mentors for students enrolled in the course. Health center staff will provide administrative support and training for peer TA/educators, and monitor program progress through a two-phase, three year implementation period. Longitudinal monitoring of course enrollee behavior will allow program staff to assess any changes in student sexual health knowledge and behavior after course completion. If implemented, this model has the potential to significantly impact the public health of college and university campuses in the US through an innovative framework for expanded comprehensive sexual health education.

TABLE OF CONTENTS

PREFACE.....	vii
1.0 INTRODUCTION.....	1
2.0 EPIDEMIOLOGICAL ASSESSMENT.....	4
3.0 HIGH SCHOOL SEXUAL HEALTH EDUCATION PROGRAMS	8
4.0 CAMPUS LIFE	15
4.1 EXISTING CAMPUS PROGRAMMING AND RESOURCES.....	19
5.0 PEER EDUCATION	23
5.1 THEORETICAL FOUNDATIONS.....	24
5.2 SUCCESSFUL PROGRAMS.....	25
6.0 PROPOSED MODEL.....	29
6.1 DESIGN AND RATIONALE.....	32
6.2 MODEL ELEMENTS.....	34
6.2.1 Engagement.....	34
6.2.2 Staff Responsibilities	36
6.2.3 Training.....	36
6.2.4 Oversight.....	37
6.2.5 Program Activities	38
6.2.6 Sustainability.....	39
6.3 EVALUATION.....	40
6.3.1 Deliverables	40
6.3.2 Data Collection	46
6.3.3 Tools	48
6.3.4 Reporting Out.....	49
6.4 MODEL BARRIERS AND LIMITATIONS.....	50
7.0 CONCLUSION	52
BIBLIOGRAPHY	57

LIST OF TABLES

Table 1. Suggested Timeline for Program Surveys	47
---	----

PREFACE

The past couple of years have been very challenging for a whole host of reasons. I honestly do not know what I would have done or where I would be without my advisor and confidant, Dr. Martha Terry. Thank you, thank you for listening when I needed to vent and always being the rock and cheerleader in my corner when everything else felt like sheer chaos.

Dr. Hawk, thank you for having faith in my ideas and abilities, and reminding me that it is very possible to find success doing what you love.

Dr. South-Paul, thank you for accepting me into the Maikuru family with open arms. I have learned so much and this has been an experience I will never forget.

To my crazy family, thank you for being completely okay with my less than traditional career trajectory. We may not always see eye-to-eye, but I know that we always have each other's backs. To Gee Gee, thank you for always wanting to hear how school was going and making me realize that I am, in fact, capable of figuring it all out. To Pop, thank you for turning me into a fearlessly opinionated, strong, and independent person. I wish you were here to celebrate this but I know that you have been by my side throughout this entire process.

Most importantly, however, I thank my mom who is not only my best friend and quite possibly the best 11th hour unofficial proofreader on the planet, but also my superhero. Without you, Pittsburgh would not have been possible, and neither would this degree. Thank you for supporting your kid who one day, out of nowhere, decided that all she really wanted to do was

talk about safe sex. You are more of a role model to your family, your students, and everyone you touch than you realize. Thank you for always being there and believing in me, especially when I did not always believe in myself. 143.

1.0 INTRODUCTION

In the United States (US), emphasis is placed on sexual health education for high school students to encourage avoiding unhealthy sexual encounters and delaying subsequent pregnancies for adolescent and other young mothers. With this emphasis, the sexual health of college and university-bound adolescents and young adults is often deemed as a lower priority. However, these students need accurate, relevant, and comprehensive sexual health education. Now is the time to implement evidence-based programs specifically targeting this population.

Having a child at a young age negatively impacts a girl's educational and economic outcomes (Basch, 2011). Because of the cyclical nature of teenage pregnancy, girls who have children at a young age often do not realize they are also impacting the educational, economic, and health outcomes of their children (Basch, 2011; Doğan-Ateş & Carrión-Basham, 2007; Jutte et al., 2010; Meade, Kershaw, & Icovicks, 2008). Young mothers are less likely to finish school, either high school or college, or to continue with educational opportunities, thus further interrupting academic and career trajectories (Basch, 2011).

Beyond possible negative health outcomes resulting from unsafe and ill-informed sexual health practices, studies suggest that individuals face embarrassment and anxiety over the course of their lives as a result of being misinformed or uninformed in those early adolescent years (Ansuini, Fiddler-Woite, & Woite, 1996; Sales et al., 2007). This, however, has yet to impact misinformed parents in the population having comprehensive conversations with their children

about sex, if those conversations happen at all (Ansuini et al., 1996). Neglecting to change this behavior and relegating another generation to the same experiences only further perpetuates the cycle of Americans being poorly educated in the arena of sexual and reproductive health. High school programs are more harmful than helpful, as outlined in later sections, and a majority of parents are reluctant to address the issue. Thus, adolescents and young adults in the US need a safety net, and university-based sexual health education curricula have the potential to be just that.

College campuses are full of adolescent hormones and freedom from parental supervision. These factors, plus ready availability of drugs and alcohol, provide the perfect foundation for sexually transmitted infections (STIs) and unwanted pregnancies (Prince & Bernard, 1998). Data show that STIs are a huge problem on college campuses (Centers for Disease Control and Prevention [CDC], 2014; Kirby & Laris, 2009; Potter, Trussell, & Moreau, 2009). This is due, in part, to a lack of effective secondary school behavioral and sexual health education programs (Kirby, 2008; Kirby & Laris, 2009; Lindau, Tetteh, Kasza, & Gilliam, 2008). If we cannot immediately change state-level legislation regarding sexual health education programs in public schools, then we must equip these young adults with information in another arena. With more and more high school students continuing their studies, campuses provide the ideal locations to disseminate this information.

Becoming pregnant and/or acquiring a STI can impede a female college student's academic and career trajectory (Basch, 2011). This is due to a lack of necessary knowledge and skills exacerbated, in part, by inadequate sexual health education as part of students' secondary education curriculum. This thesis proposes a model for embedding a comprehensive sexual health education program into a first-year seminar course for matriculating college and/or

university students. This program, rooted in peer education, can provide much needed education and support that facilitate safe, healthy sexual experiences that do not interrupt academic achievement. The author will also examine historical policy and program decisions behind why such programs are necessary on college campuses.

This thesis will begin with an epidemiological review of the impacts of pregnancy and sexually transmitted infections on the adolescent and young adult population in the US, followed by an overview of existing sexuality education programs in public secondary schools. This will be followed by a discussion of existing social pressures and cultural norms on sexual health knowledge and behaviors in college and university campus environments. These sections will provide support for why university-based sexual health education programs are needed.

The author will then outline what peer education is and the theoretical foundations that support its success with the college population in the sexual health arena. Examples of successful evidence-based programs will be provided. Finally, the author will propose, in detail, a model through which to integrate a comprehensive sexual health program into existing first-year seminar curriculum, including an evaluation plan for monitoring the program's immediate and long-term impact.

2.0 EPIDEMIOLOGICAL ASSESSMENT

Teen pregnancy is a continually persistent problem in the US, with over 30% of adolescent females becoming pregnant before their 20th birthday (Kirby & Laris, 2009). Although the teen birth rate declined through the early to mid 2000s, rates increased by approximately 3% in 2006. A smaller 1% increase was reported for the following year. Overall teen birth rates for 2006 when the increase was first observed are similar to those recorded in 2001 (Yang & Gaydos, 2010). The rate of teen pregnancy in this country is significantly higher than rates in other developed countries across the globe (Basch, 2011; Hall, Moreau, & Trussell, 2011; Kavanaugh, Williams, & Schwarz, 2011; Kirby & Laris, 2009; Lindau et al., 2008; Meade et al., 2008; Stanger-Hall & Hall, 2011). This has become so much of a national problem that the US Department of Health and Human Services (DHHS) identified reducing adolescent pregnancies as a Healthy People 2020 objective under the document's Family Planning category (US DHHS, 2014).

Outside of concerns about children raising children, adolescent parenthood significantly impacts the educational attainment of both mother and child, as well as the perpetuation of cyclical, cultural reinforcement of the social acceptability of teen child rearing. The children of teen parents are three to four times more likely to become teen parents themselves (Basch, 2011; Doğan-Ateş & Carrión-Basham, 2007; Jutte et al., 2010; Meade et al., 2008), and children born to teen mothers have lower standardized test scores in both math and reading (Sullivan et al.,

2011). Adolescent mothers will attain, on average, two fewer years of education than adolescents who do not become pregnant (Basch, 2011; Kirby & Laris, 2009; Jutte et al., 2010). They also encounter greater difficulties creating developmentally appropriate environments for their children than adult mothers, a characteristic that may be linked to their mother's educational attainment (Sullivan et al., 2011).

Poorer reproductive health outcomes for adolescent females are documented in several studies (Basch, 2011; Doğan-Ateş & Carrión-Basham, 2007; Hall et al., 2011; Hall, Moreau, & Trussell, 2012; Kavanaugh et al. 2011; Lindau et al., 2008; Meade et al., 2008; Stanger-Hall & Hall, 2011), and this is especially true for African American and Hispanic teens versus their non-Hispanic white peers (Dehlendorf, Rodriguez, Levy, Borrero, & Steinauer, 2010; Hoover, Tao, Berman, & Kent, 2010; Kirby & Laris, 2009; Lindau et al., 2008; US DHHS, 2010). According to a recent National Survey of Family Growth, the rate of unintended pregnancies among African American and Hispanic populations is 69% and 54%, respectively, while the teen birth rate among the non-Hispanic white population is 40% (Dehlendorf et al., 2010). These survey findings do not directly address teen pregnancy rates within these populations. However, they may speak to cultural norms rooted in those communities.

Unplanned adolescent pregnancy is not the only potential negative outcome of unsafe sexual encounters. Across the US, adolescents and young adults between the ages of 15 and 24 comprise 25% of the total sexually active population in the country (Kirby & Laris, 2009), but account for 50% of all new cases of STIs (Potter et al., 2009). The most prevalent STIs on college campuses are chlamydia and gonorrhea.

According to the most recent data available from the CDC (2014), rates of chlamydia were 3,291.5 cases per 100,000 among 15-19 year old females and 816.3 per 100,000 among

males in 2012. That same year, rates among 20-24 year old females and males were 369.5 per 100,000 and 1,350.4 per 100,000, respectively. Rates of gonorrhea followed a similar pattern with higher rates among 20-24 year old women and men, with 5785 and 462.8 per 100,000, respectively, than their 15-19 year old counterparts, with 521.1 per 100,000 in females and 239.0 per 100,000 in males (CDC, 2014).

Findings from the spring 2015 American College Health Association's (ACHA) National College Health Assessment II (NCHA II) indicate that within the previous year, 1.4% of students report seeing a health professional for a chlamydia infection, and 0.03% for gonorrhea, out of a group of nearly 75,000 students attending 108 schools across the country. A small percentage of students also receive treatment for genital herpes, genital warts/HPV, and HIV infection. Over 10% of students report receiving treatment for a urinary tract infection. In the same time frame, 0.4% of students say that STIs negatively impact academic performance. Less than 1% of students also experience significant difficulties in school as a result of pregnancy or a partner's pregnancy (ACHA, 2015).

Additionally, findings from the ACHA 2014 Pap and STI Survey using data from the 2013 calendar year indicate that across 150 academic institutions, 4.57% of females and 7.87% of males test positive for chlamydia. The rate of gonorrhea is 1.5% among males and 0.57% among females. Nearly 6% of female students also have positive pregnancy tests (Eastman-Mueller, Zhang, & Roberts; 2015). While these data may appear insignificant, it is important to remember that the majority of women and men who contract chlamydia, gonorrhea, and/or other STIs are asymptomatic. Without the presence of symptoms it is difficult to encourage testing. This often leads to significantly underreported STI rates and innumerable undiagnosed cases (CDC, 2015a; CDC, 2015b).

Left untreated, women with gonorrhea are at an increased risk for developing pelvic inflammatory disease (PID), which can lead to chronic pelvic pain and the development of internal abscesses, generally on the fallopian tubes. In more severe cases, PID can lead to infertility and/or increased risk for ectopic pregnancy (CDC, 2015a). Although rare, men with untreated gonorrhea can experience infertility due to complications with epididymitis (CDC, 2015a), or the inflammation of the tube that stores and carries sperm (Mayo Clinic, 2015). Similar health problems are found in individuals with untreated chlamydia (CDC, 2015b).

Beyond data from the annual ACHA surveys, data specific to the 17-22 year old age bracket relevant to college students is limited. Nevertheless, the above data is the most accurate population-specific STI and pregnancy information that is currently available. The data, however, show that existing secondary school-based sexual health education programs may not be as helpful as intended. As such, we must implement another educational safety net for these young adults.

3.0 HIGH SCHOOL SEXUAL HEALTH EDUCATION PROGRAMS

Across the US, a large number of adolescents receive some form of sexual health education as part of their public school health curriculum. These secondary school-based sexual health education programs can be loosely categorized under two large umbrellas: abstinence-only and comprehensive. As with most broad terms, these categories are often hard to define. While definitions will be offered in this paper, it is important to note that because of variations in individual curricula at the state and/or local level, these descriptions may not be wholly inclusive.

The phrase “abstinence-only education” means different things to different people. Traditionally, abstinence-only education has revolved around giving messages about postponing all sexual activity until marriage. On the other hand, some individuals may perceive abstinence-only to mean refraining from only penile-vaginal heterosexual intercourse (Roberts & Kennedy, 2006). In this case, individuals choosing to participate in other sexual acts such as oral sex, anal sex, and mutual masturbation may still be considered to be virgins and/or practicing abstinence. Abstinence-only educational curricula often involve pleas to morality that are linked to religious beliefs (Santelli et al., 2006). As one example, the fundamental ideology of abstinence-only education is drawn from Christian beliefs that sex should occur only within the confines of a marriage and for procreative purposes, as is the belief of excluding discussions regarding lesbian,

gay, bisexual, transgender, queer (LGBTQ) perspectives. These sexualities and individuals who identify as such are considered sinful under Christian religions (Rasmussen, 2010).

Defining comprehensive sexual health education is just as challenging. At its core, a comprehensive program often stresses abstinence as the best pregnancy and STI prevention strategy but provides adolescents with information regarding STIs, including HIV/AIDS, as well as contraceptive use and effectiveness (Eisenberg, Bernat, Bearinger, & Resnick, 2008). More progressive programs require that education be age appropriate and medically accurate. For example, discussion of different types of sexual activity (e.g. oral versus penile/vaginal sexual intercourse) is appropriate by the early teen years but would be inappropriate for elementary school students, most of whom have not yet reached puberty. More appropriate discussions for younger age groups may include differentiations between acceptable and unacceptable touching. Regarding medical accuracy, discussions about the probability of contracting gonorrhea and the symptoms should be explicitly factual, as should the reported effectiveness of contraceptives. Some programs also include life skills regarding avoiding coercion, healthy decision-making, and family communication and information inclusive of LGBTQ sexual orientations (Guttmacher Institute, 2015). While some programs may additionally include information on healthy relationships this is not a content requirement regularly reviewed by the Guttmacher Institute.

The US has battled the issue of which, if any, type of reproductive health education should be offered in public schools for many decades. In 2007, 21 of 30 states with laws pertaining to abstinence education stressed that the only fundamental sexual health teaching standard was the abstinence-only until marriage curriculum (Stanger-Hall & Hall, 2011). The first time federal funding for both abstinence-only and comprehensive sexual health education

became available was in 2009 (Lamb, 2010; Stanger-Hall & Hall, 2011). In the following year continued and expanded funding, including Title V funding, became available for abstinence-only education, to the tune of a \$250 million re-appropriation (Stanger-Hall & Hall, 2011). The main requirement for obtaining Title V funding is that programs stress that abstinence is expected of all children and adolescents, and is the only way to prevent STIs and unplanned pregnancies (Kohler, Manhart, & Lafferty, 2008).

The availability of federal funding for comprehensive sex education in the late 2000s had little impact on the type of sexual health education available for public high school students in the US; one poll suggests that with a support level of 38% and opposition of 50%, abstinence-only education is the least supported and most opposed sexual health education strategy, yet is continually the most prevalent curriculum across the country (Stanger-Hall & Hall, 2011). Findings from a study conducted in 2011 indicate that of the 48 states included in the analysis, 21 stressed using an abstinence-only curriculum in public schools at the state law and/or policy level, with an additional seven states placing a strong emphasis on abstinence education (Stanger-Hall & Hall, 2011). Additionally, when asked about preferences for school-based sexual health education curricula, 90% of parents of school-aged youth, regardless of gender, race, or religion, favored a comprehensive model that includes stressing abstinence as the best prevention method and also covers additional pregnancy prevention strategies (Eisenberg et al., 2008). This suggests that there is a disconnect between what parents think adolescents should be learning in schools and what is ultimately taught.

The latest *State Policies in Brief: Sex and HIV Education* from the Guttmacher Institute (2015) highlights that less than half of states in the US, including the District of Columbia, mandate the inclusion of sex education in public school curricula at the state level. While over

half of states require that the curriculum be age appropriate, only 26% require that content be medically accurate. Just over one third of states require that contraception information be included in sexual health education programs in public schools, and medical accuracy is mandatory in fewer than 75% of these states. Additionally, parents in 35 states are legally allowed to opt out of sex education classes for their children, for a variety of reasons (Guttmacher Institute, 2015).

Of the 50 states and the District of Columbia, only 13 states require any discussion of sexual orientation. With the growing awareness of LGBTQ issues, these discussions are more important than ever. Of these states, over 30% require that information on sexual orientation be negatively framed (Guttmacher Institute, 2015).

Additionally, less than 30% of states require that the education provided be medically accurate, including but not limited to how STIs spread and progress (Guttmacher Institute, 2015). The teen birth rates in all but one of these states, Utah, are significantly higher than the national average of 26.5 births per 10,000 girls (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2013), suggesting a possible correlation between provision of inadequate sexual health information at the secondary school level and teen pregnancy. Possible explanations for Utah being the outlier in this group may include the impact of Mormonism on sexual behavior.

Hall, Moreau, and Trussell (2012) illuminate the conclusion that while comprehensive programs bolster positive sexual health outcomes for adolescent populations, formal abstinence-only programs either have no benefit or may actually be deleterious to participating youth. Several other studies have produced similar findings (Eisenberg et al., 2008; Kirby, 2008; Kirby & Laris, 2009; Lamb, 2010; Stanger-Hall & Hall, 2011). Mathematica Policy Research, Inc.'s (Mathematica) 2002 interim report of its evaluation of high school abstinence education

programs using Title V funding streams provides a comprehensive view of curricula content, participant perceptions, and interim identifications of effectiveness (Devaney, Johnson, Maynard, & Trenholm, 2002). While another interim report was published in 2005 covering first-year impacts of the four sites being reviewed (Maynard et al., 2005), the final 160-page landmark report was not published until 2007.

Findings from the final publication indicate that in the areas of sexual abstinence, unprotected sex, age at first intercourse, and the distribution of number of sexual partners, differences do not exist between youth in the abstinence education programs and the control groups. The evaluation also identifies that abstinence-only participants, while more likely to correctly identify STIs, are less likely to know and understand STI health consequences. Abstinence-only program participants were also “more likely to report that condoms are never effective at preventing [STIs]” (Trenholm et al., 2007, p. xx). Interestingly, Trenholm et al. (2007) identify peer support as key to adolescents continuing sexual abstinence, but peer networks that shift from middle to high school, an important period when adolescents are becoming more sexually aware and active, present challenges to lasting behavioral change.

The availability of funding for both types of curricula, however, does not guarantee the dissemination of accurate and appropriate information. One study of sexual health educators in Illinois reported that half had fewer than seven years of experience teaching the subject, with close to one third never having received any specialized training (Lindau et al., 2008). While having qualified teachers does not equate to giving accurate and appropriate information, more experienced educators may be more comfortable and able to better address students' questions. Many parents rely on the school curriculum for adequate sexual health information for adolescents but how is that acceptable if schools employ ill-qualified teachers?

Ensuring accuracy of curriculum information is not the only problem. Many adolescents rely on sources of sexual health information apart from what is available to them at school, including the cultural norms and behaviors of older friends and/or family members (Ahrold & Meston, 2010; Dehlendorf et al., 2010; Doğan-Ateş & Carrión-Basham, 2007; Ford & Forthofer, 2010; Houston, Fang, Husman, & Peralta, 2007; Meade et al., 2008; Stanger-Hall & Hall, 2011). This is even more important for minority populations who are less likely to have access to alternative formal channels of accurate health information outside of the public school system (Lamb, 2010). Additionally, adolescents are influenced by anticipated parental reaction to behaviors as well as the information given to them by parents. For instance, in a study examining patterns of access to contraceptive services of over 2,000 adolescent females, findings indicate that “the more adolescents perceived their mother would disapprove of their sexual behavior or use of birth control, the less likely they were to ever have received contraceptive services” (Ford & Forthofer, 2010, p. 360).

When parents have appropriate discussions about reproduction and healthy sexual behavior with their children, these talks often occur too late. One longitudinal study showed that by the time parents sat down to discuss sexual health issues and services with adolescents, 40% were already sexually active (O’Brien et al., 2013). Across the US, by the age of 17, one half of all female adolescents has had sexual intercourse (Ely & Dulmus, 2010), yet seniors in high school are less likely than freshmen and sophomores to use condoms (Basch, 2011; O’Brien et al., 2013).

Some factors influencing adolescent perceptions and use of reproductive health services are societal pressures (Houston et al., 2007; Kreager & Staff, 2009; Meade et al., 2008), cultural and ethnic norms (Doğan-Ateş & Carrión-Basham, 2007; Hoover et al., 2010), and religiosity

(Hoover et al., 2010; Stanger-Hall & Hall, 2011). For instance, in a 2010 study of the impact of religiosity on sexual attitudes of ethnic minority women, the authors found that religion plays a major role in determining openness towards and acceptance of certain sexual behaviors, such as premarital intercourse (Ahrold & Meston, 2010). Additionally, it would be naïve not to underscore the impact of mainstream media on adolescent perceptions (Martens et al., 2006; O'Brien et al., 2013). Nearly 80% of primetime television currently involves content sexual in nature, with a small fraction of that addressing the risks and/or responsibilities associated with sex (O'Brien et al., 2013).

Understanding these and other factors influencing adolescent sexual health behavior at the high school level will provide a more thorough foundation upon which to build evidence-based interventions on a college campus. This cannot be done, however, without first knowing what behaviors and trends are happening at the college level. The author will next examine factors influencing the sexual health and behaviors of college students in campus settings.

4.0 CAMPUS LIFE

College and university campuses are unique microcosms fostering constant growth and change. They exist as part of the larger community in which they are located, be that a city, town, or rural area. Choices made on campus can extend beyond the local community and impact individuals far beyond formal institutional boundaries (Dooris, 2001). The students attending these institutions are the next generation of societal leaders. Successfully reshaping cultural norms towards a healthy and sex-positive view will have ubiquitous effects across many generations (Leslie, Sparling, & Owen, 2001).

The majority of students will become future leaders only if they finish school. College and university students are more likely to remain in school if they feel like part of the campus community and are actively involved. Additionally, students with first semester grade point averages (GPAs) of 2.5 are nearly 50% more likely to withdraw from studies than students with a 3.5 GPA (Murtaugh, Burns, & Schuster, 1999). The program proposed in later sections facilitates the creation of social ties for first-year students so that they feel both academically and socially supported by fellow classmates and the campus community. Together, these factors encourage enrollment retention.

In addition, late adolescence is a period of self-discovery and newly found freedom when individuals can benefit from a more innovative, sex-positive approach (Lamb, 2010). This is a period when adolescents and young adults explore personal independence and begin discovering

not only what they want to be when they grow up, but also who they want to become (Auslander et al., 2007b; Leslie et al., 2001; Roberts & Kennedy, 2006). Adolescents and young adults enter the college and/or university campus with various levels of sexual health education because of their diverse backgrounds. With this in mind, providing all students with an accurate, relevant, and comprehensive sexual health education curriculum is crucial in ensuring that all students have access to the same information and resources.

While campus atmospheres are meccas of creativity and growth, students often participate in risky behavior, including drug and alcohol use, and sexual experiences. At some point between being college-bound in high school and actually being in college, undergraduate freshmen become more frequent users of marijuana and alcohol than former peers who decided to not continue their education (Duncan, Boisjoly, Kremer, Levy, & Eccles, 2005). One possible facilitating factor of this noted by scholars (Banyard et al., 2007; Berkowitz, 2004; Martens et al., 2006; Page, Hammermeister, & Scanlan, 2000) is the overestimation of actual drug and alcohol use of peers in college.

Few studies apply this concept of perceived social norms to sexual behavior of adolescents and young adults. Martens et al. (2006) note that high utilizers, students who engage in risky behavior (e.g. drug use, binge drinking, unsafe sexual encounters) on a regular basis, are more likely to believe that the way they behave is in line with the typical student's behavior. This held true for alcohol, tobacco, marijuana, cocaine, and amphetamine use, as well as oral, vaginal, and anal intercourse and number of sex partners (Martens et al., 2006; Page et al., 2000).

The use of alcohol and other drugs is linked to unsafe sexual interactions, primarily because insistence on condom use decreases when intoxicated. This is true even among individuals who are fully aware of the risks of unprotected sex (Stoner et al., 2008). One

individual characteristic that could mitigate the potentially negative health outcomes of unprotected sex while intoxicated is sexual assertiveness (Auslander, Perfect, Succop, & Rosenthal, 2007a; Ethier et al., 2006; Schry & White, 2013; Stoner et al., 2008), which is individuals having the self-efficacy to clearly and effectively communicate what they want and what they do not want in a sexual environment or interaction.

Sexual assertiveness is particularly important on college campuses because of the pervasive culture of rape and sexual coercion found in these environments (Banyard et al., 2007; Benson & Thomson, 1982; Schry & White, 2013). Over the course of one academic year, between one quarter and one third of female students on any given college campus are sexually assaulted (Schry & White, 2013). While female students are not the only ones violated, uncovering accurate male victimized rates is much more challenging because of cultural norms and pervasive historical gender roles. Additionally, men are much less likely to report any incidences or admit to physical or psychological distress (Banyard et al., 2007).

Sexual assertiveness is linked to partner communication. With sex remaining such a taboo topic in the US, sex partners are less likely to communicate their wants, needs, histories, or non-monogamous behavior. Men are five to seven times more likely than women to withhold this information from partners. Even when communication does occur, adolescents and young adults rarely have these discussions with every partner (Prince & Bernard, 1998).

Why is sex so taboo? Researchers posit many theories for this, including that sex can be “a source of anxiety, shame, and disgust for humans, and is always subject to cultural norms and social regulation” (Goldenberg, Cox, Pyszczynski, Greenburg, & Solomon, 2002, p. 310). Subconsciously, sex may also remind us that humans are not immortal; a fact that, for some, may be anxiety-ridden (Goldenberg et al., 2002). Dating back to the Middle Ages is that attitude that

sex is even more taboo for women because of denial that women are or are capable of being sexual creatures (Goldenberg, Pyszczynski, McCoy, Greenburg, & Solomon, 1999; Goldenberg et al., 2002). Other notable forays into the taboos of sex include the work of Alfred Kinsey (1948; 1953) in the first half of the 20th century with his examinations of male and female sexual behavior. The work of Masters and Johnson, most notably *Human Sexual Response* (1966), met with public outcry.

The social taboo against talking about sex in the US is not the only factor negatively impacting the sex lives of college students. Unsafe sexual intercourse in college often lies at the intersection of a variety of interrelated factors including, but not limited to drug and alcohol use, a misunderstanding of risks, lack of communication, and victimization. College students are also less likely to use condoms, even without being under the influence of alcohol and/or drugs. Among a cohort of self-reported sexually active college students, less than 50% report regular condom usage (Scholly, Katz, Gascoigne, & Holk, 2005). Adolescents and young adults with more partners are also less likely to consistently use condoms (Page et al., 1998).

When asked about condom use during each sexual encounter, less than 7% of college students with five or more partners in the previous calendar year and 10% of students with three or four partners in the same time frame report consistent condom use during 100% of sexual encounters. Of those stating that monogamy was the reason behind their lack of condom usage, nearly 25% had more than one partner during the preceding year (Prince & Bernard, 1998). While these data are now over 15 years old, it is possible that with shifting cultural norms towards greater acceptance of casual sex among the current student population (Eubanks, 2006), who are largely members of the Millennial generation, there have been increases in rates of risky sexual behavior.

The combination of these and other factors has contributed to college-aged females experiencing the highest rate of unintended pregnancies in the US (Miller, 2011). One contraceptive method often available to students through campus health centers is emergency contraception, also known as the morning-after pill or Plan B. Taken as soon as possible up to five days or 120 hours after unprotected sex, emergency contraception prevents a pregnancy from occurring (Ely & Dulmus, 2010; World Health Organization, 2012). It is most effective, however, when used within the first 24 hours (Upadhyia et al., 2012). Nearly 15% of sexually active males and over 19% of sexually active females report using emergency contraception at least once during the 2014-2015 academic school year (ACHA, 2015).

4.1 EXISTING CAMPUS PROGRAMMING AND RESOURCES

Due to limited published data on existing sexual health programs on college campuses, this paper will provide an overview of programs available at five universities across the US, according to school websites: Texas A&M (A&M) located in College Station, Texas; Colorado State University (CSU) located in Fort Collins, CO; Pennsylvania State University, Main Campus (PSU) located in State College, PA; University of California, Berkeley (UC Berkeley) located in Berkeley, CA; and University of Michigan (U of M) located in Ann Arbor, MI. All schools are public, land-grant schools under the 1962 Morrill Act (Association of Public and Land-Grant Universities, n.d.). Additionally, schools were selected as representatives of five regions of the US: A&M – South; CSU – Rocky Mountains; PSU – Northeast; UC Berkeley – West; U of M - Central.

A&M

Information on A&M's Student Health Services website is extremely limited. The only sexual health services clearly identified on the Student Health website are those provided by the Women's Clinic, which include STI screening, cervical cancer screening, healthy lifestyle counseling, and gynecological exams (A&M Student Health Services, 2015). Health Promotion on A&M's campus is located within the Offices of the Dean of Student Life, and the vast majority of initiatives relate to either drug and/or alcohol use. The Sex Project is the only peer health education program and the only initiative on campus focused on sexual health. Information about the organization on the website is limited but contact information for the President of this student-run group is readily available, as is an application for becoming a peer health educator (A&M Offices of the Dean of Student Life, 2015).

CSU

Health Education and Prevention Services at CSU's Health Network cover a myriad of health topics, including mental health, nutrition and physical activity, and tobacco cessation, in addition to alcohol and other drugs, and sexual health. The University has a peer education program called CREWS aimed at encouraging positive health behaviors among students across campus. The specific focus of these peer education workshops, according to the website, is broad and little specific information is provided. Additionally, CSU "coordinates sexual health peer education outreach and is in the process [of] planning and implementing evidence-based sexual health initiatives" (CSU Health Network, 2013). The website offers no other information regarding active sexual health programming on campus.

PSU

Health Promotion and Wellness (HPW), part of PSU's student health center, operates the HealthWorks program, "a peer education/outreach program...that aims to promote health among Penn State students" (PSU Health Services, 2015a). These peer educators cover a variety of topics, and individuals or groups interested in hosting a HealthWorks workshop choose from four categories: alcohol, nutrition, stress, and safer sex. According to available information, the safer sex workshop provides only information on lowering risks for STIs (PSU Health Services, 2015b). Additional information is available for students at the main HPW website, including HIV testing and condom availability on campus, contact information for staff, and office hours and location (PSU Health Services, 2015c).

UC Berkeley

A wealth of information is available for students on UC Berkeley's University Health Services website, including STI prevention, birth control, abstinence, and links to additional online resources recommended by Health Promotion Unit staff (University Health Services at Berkeley, 2015a). A section called Do YOU! also provides testimonials from fellow students regarding how they deal with dating, drinking, and sex in the college atmosphere (University Health Services at Berkeley, 2015b). The campus also has a Health Worker Program, functioning since 1971, for which students volunteer as peer health educators in residence halls for one to two year terms (University Health Services at Berkeley, 2015c). Additionally, the Sexual Health Education Program (SHEP), run out of the University Health Services Tang Center, is made up of a core of trained peer educators promoting sexual health across campus. Students participate

in planned events across campus, workshops, and provide one-on-one peer education appointments at University Health Services (SHEP Talk, 2015).

U of M

Sexual health resources at U of M fall under the purview of University Health Services. U of M University Health Services provides links to a variety of online resources for students with sexual health questions, including partner communication, STIs, pregnancy options, and emergency and other forms of contraception. Contact information for the school's Sexual Health Educator is also readily available to students (U of M University Health Services, 2015a). While the University clearly promotes its Women's Health Clinic (U of M University Health Services, 2015b), information about specific initiatives related to engaging student sexual health programming is unavailable on the school's health services website.

From the above information about all five schools, it is apparent that different schools have different ideas about what sexual health information and programming are necessary for students. The information readily available on UC Berkeley's website is the most comprehensive, with A&M's information being the most difficult to find due to fragmentation of major offices on campus. Availability of programming, however, does not necessarily mean that programs are effective, nor does it mean that advertised programs are regularly implemented across campus. Sparse information available on the school websites leaves many unanswered questions, which is a limitation of this methodology.

5.0 PEER EDUCATION

Peer education programs are successful in the sexual health education arena (Cupples, Zukoski, & Dierwechter, 2010; Kim & Free, 2008; Mahat, Scoloveno, De Leon, & Frenkel, 2008). However, much of the existing research on effective programs either focuses on secondary school students or community-based interventions geared towards adolescents and young adults between the ages of 15 and 24. The majority of research reviewed addressing sexual health, peer education, and college students date from the 1980s, 1990s, and the early 2000s, with a majority addressing HIV/AIDS.

Peer education is one of 13 sources of health information recognized by the American College Health Association (White et al., 2009). Using this method in the delivery of sexual health information to college students is not only more effective because adolescents and young adults are more likely to listen to peers with whom they can relate, but campuses can also save money while reaching a broad student audience (Ergene, Çok, Tümer, & Ünal, 2005; Mahat et al., 2008; Sawyer & Pinciaro, 1997; White, Park, Israel, & Cordero, 2009; Zapka & Mazur, 1977). Many authors also note that while benefits of such programs on campuses are extensive, peer educators themselves often reap the most benefit, including invaluable leadership skills, increased self-esteem, and improved self-efficacy to change cultural norms and influence peer behavior (Cupples et al., 2010; Sawyer & Pinciaro, 1997; Zapka & Mazur, 1977).

5.1 THEORETICAL FOUNDATIONS

Authors have noted that peer education programs are often rooted in the constructs of the social cognitive theory (Bandura, 1986). Social cognitive theory, which includes the concepts of self-efficacy, behavioral modeling, and observational learning, suggests that individuals adopt behaviors of those surrounding them. Behavioral modeling occurs whether realized or not, requiring models to be not only accurate but also socially appropriate. The theory also suggests that if a multitude of behaviors is presented, individuals will not always gravitate towards patterning behavior after the most appropriate option. Those models with an interesting and captivating presentation and that are attractive in terms of potential benefits to the individual are more likely to be adopted (Bandura, 2004).

This is especially true among the college-aged population which, because of changing hormones and societal pressures to “fit in,” is more likely to adopt behaviors and respect the opinions of peers rather than those of adults. Several studies suggest that self-efficacy and observational learning play large roles in the effectiveness of sexual health education programs (Bandura, 2004; Cupples et al., 2010; Kim & Free, 2008; Mahat et al., 2008). Guided by social cognitive theory constructs, the proposed program assumes that both offering comprehensive educational curriculum and reinforcing peer mentoring foster an environment for self-efficacy and, in turn, behavioral modeling (Bandura, 2004).

Also of importance with the college-aged population is the social norms theory, suggesting that factors influencing individual behavior include misperceptions of what peers believe and how they act. Some incorrect perceptions are overestimations of actual behavior and lead individuals, for example, to engage more frequently in sexual activities, binge drinking, and drug usage. Scholars in this arena suggest that the best method of combating gross

misperceptions of peer behavior is providing accurate data on actual normative behavior of the group through the use of social norms marketing (Berkowitz, 2004).

Finally, the social network theory suggests that information and disease are transmitted throughout a network of people in a specific manner based on social interaction patterns. Networks often have greater intragroup communication than intergroup communication, meaning that connections are stronger within groups than across them. Factors influencing the speed of information transmission are social or network position and individual attributes (Krause, Croft, & James, 2007). The social network theory is key for college- and university-based programs because the campus environment is a large social network made up of several smaller, more distinct networks, such as various departments, sports teams, and extracurricular membership groups.

5.2 SUCCESSFUL PROGRAMS

A large portion of existing research on sexual health peer education programs either focuses on high school students or community-based interventions geared towards those 15-24 years of age. Additionally, a majority of existing research focuses on the prevalence of STIs and pregnancy among adolescents (Basch, 2011; Doğan-Ateş & Carrión-Basham, 2007; Kirby & Laris, 2009; Stanger-Hall & Hall, 2011) and/or identifies factors influencing unsafe sexual health behaviors (Dehlendorf et al., 2010; Ely & Dulmus, 2010; Ford & Forthofer, 2010; Hall et al., 2011; Hall et al., 2012; Houston et al., 2007; Jutte et al., 2010; Kirby, 2008; Meade et al., 2008; Roberts & Kennedy, 2006). Research also looks at the efficacy of peer education programs among adolescents and young adults on the basis of self-reported behavior change, as shown in the aforementioned studies. Few works address the impact of peer education programs on the actual

reduction of STIs among members of the college population, not just reported intended behavior change. The lack of studies examining university-sponsored interventions highlights the need for either this type of programming for the college-aged population or more extensive evaluation and publications on existing programs, or both.

On university campuses, effective sexual health peer education programs often focus on either HIV/AIDS or rape prevention. The majority of published literature at the college level also speaks to the effectiveness of single-sex interventions (Ergene et al., 2005; Foubert, 2000; Foubert & Marriott, 1997). Findings from Ergene and colleagues' study (2005) on a single-dose HIV/AIDS peer education session for college females in Turkey indicates that using peer education as an educational delivery method is beneficial for improving college student knowledge and awareness of sexual health risks. While educational systems differ between the US and Turkey, as are many cultural norms, the factors influencing the likelihood of partaking in risky sexual behavior in the studied population include social norms, peer pressure, and consumption of alcohol, among others (Ergene et al., 2005). It is questionable whether such findings would translate from a Turkish adolescent and young adult population to an American one; however, the social factors influencing the decision-making process of different populations are similar, possibly indicating that even with differing cultural influences, the social pressures affecting behavioral choices of this age group may not only be similar but may also function in a similar manner.

Foubert (2000) found that rape prevention programs are successful in all-male environments, significantly lowering self-reported likelihood of raping seven months after the intervention. A peer education program aimed at dispelling rape myth beliefs worked with fraternity brothers, changing perceptions of what is and is not rape. Two months after the

intervention, participants were significantly less likely to believe rape myths and thus less likely to perpetrate any acts of rape, themselves (Foubert & Marriott, 1997). Students participating in a co-educational peer rape prevention and education program reported similar findings of debunked rape myths, even two years post-intervention (Lonsway et al., 1998).

An example of a successful school-based intervention is the Teens for AIDS Prevention (TAP) program based in New Jersey City, NJ, in which peer leaders educated students about the risks of contracting HIV and other STIs in an urban high school (Mahat et al., 2008). This was done through the delivery of student-created lesson plans as part of the school's traditional sexual health curriculum. Evaluation of the program showed increased knowledge of risks of contracting HIV/AIDS as well as a reduction in students planning to have sex with multiple partners and increased numbers of students planning to use condoms/have partners use condoms (Mahat et al., 2008).

One example of an effective community-based program is the Male Advocates for Responsible Sexuality (MARS) Program in Oregon (Cupples et al., 2010). In the MARS program, peer male role models address sexual and reproductive health issues in a positive, supportive way preferred by adolescents over a traditional sexual health education model. This program, while community based, was implemented in public secondary schools and even teachers recognized the difference in students' willingness to listen and engage with peer mentors compared to traditional instructors, even when conveying the same information (Cupples et al., 2010).

While very effective, programs such as the MARS program model have not been tested among matriculating college students. Furthermore, data are limited about the existence of campus-based educators/mentors who support a comprehensive sexual health curriculum among

the population in question. The MARS program, along with similar models, could be adapted to a college or university setting to determine effectiveness in that population.

In order to do so, the fundamental base of programs such as MARS, including the comprehensive, relevant sexual health education curriculum and the acknowledgement that peer education is the most powerful channel with this age group, must not be compromised. The components of the program to adapt include addressing college students (ages 17 to 22) instead of high school students, using age- and environment-appropriate information and references, providing information regarding school- and city-specific resources available to students, and hiring university students instead of general community members as TAs/peer educators/mentors.

6.0 PROPOSED MODEL

With the emergence of college students striving to find their voices and build resumes, the college campus is an ideal setting to recruit students for peer advocacy and outreach. Peer education is beneficial to both the audience and the peer educators (Kim & Free, 2008). It is also a model that can be cost-effective and extremely efficient for spreading knowledge (Ergene et al., 2005; Mahat et al., 2008; Sawyer & Pinciaro, 1997; White et al., 2009; Zapka & Mazur, 1977). College students, embracing diversity and social justice, often become empowered to continue addressing reproductive and sexual health issues in the community outside of formal sessions, providing an ideal foundation for a mentorship program (Cupples et al., 2010).

The proposed model combines elements of existing evidence-based interventions, creating a model through which to implement a university-based, comprehensive sexual health education program rooted in peer education. It is a substantial unit of a first-year seminar course curriculum, giving the program greater credibility across campus and facilitating the program being taken seriously by students, peer mentors, and faculty members. Faculty teaching the first-year seminars will step aside on days when program material is discussed in class, allowing course teaching assistants (TAs) to lead peer education lectures. These TAs will also function as peer mentors to students enrolled in the course. Program staff will be able to monitor program effectiveness at different stages through built-in evaluations.

Through this program, students enrolled in the first-year seminar will have tri-weekly contact with a TA/educator trained in comprehensive sexual health education and peer mentoring. This regular contact will provide an environment for mentees to gain respect for their paired TA, which is the ideal foundation for forming a role model relationship. Once the rapport is cultivated, students will begin to see their TAs as acceptable mentors, and observational learning and behavioral modeling can commence. Additionally, because TA/educators will frame program content in a fun, socially relevant manner, participating students will be more likely to pattern individual behavior off of the presented material (Bandura, 2004). Having the TA/educators as a regular presence in the classroom will also provide the recurring positive reinforcement necessary for students to build self-efficacy around the knowledge and skills presented in class lectures. One-on-one meetings between TA/educators and enrolled students will further strengthen the rapport within the mentor-mentee pair and bolster self-efficacy.

In addition, attendance at extracurricular sexual health workshops will be required of enrolled students as part of their course grade. These workshops will be open to the entire campus community. Because of this, content discussed in class will be reinforced in a broader environment, speeding up the dissemination of program material throughout the student body by reaching a larger number of social networks.

As previously mentioned, successful peer education and mentoring programs have been implemented addressing adolescent and young-adult sexual health (Kim & Free, 2008; Mahat et al., 2008; Cupples et al., 2010). The biggest difference with the proposed model and existing evidence-based interventions is the target population. Changing the target population to matriculating college students requires a change in the pool from which peer educators are selected. Additionally, the premise behind successful interventions, including the MARS

program, is grounded in comprehensive sexual health education that is culturally relevant and age appropriate. Because of a slight shift in age of the target population for this program, a change in the way messages are delivered is necessary in addition to including any changes regarding population-specific risk information. After the first semester of implementing the program, it may be not only necessary, but also worthwhile to collect feedback from peer educators to see what about the program works and what does not. Finally, implementing this model requires that mentors come from the university student body instead of the general public. This will provide a potential benefit even greater than that seen in existing evidence-based interventions because the educators/mentors are more easily accessible to the mentees in the college setting.

This model pulls together and adapts some of the most effective characteristics of community and secondary school-based programs with existing models on college campuses addressing other health issues to create a comprehensive, university-based sexual health education program rooted in peer mentoring. The design, outlined in greater detail in a later section, is key to its sustainability. While not a true evidence-based intervention because it lacks real-world implementation and evaluation, program components have been carefully chosen so that, when implemented in a culturally relevant manner to the campus in question, it will prove successful in altering cultural norms and improving sexual health across campus. Students come to college campuses with varying levels of sexual health education because of diverse backgrounds. The proposed model has the ability to level the playing field so that not only do all matriculating students have access to the knowledge, skills, and abilities to have a safer, healthy sex life, but the campus environment is also one supportive of such change.

6.1 DESIGN AND RATIONALE

The proposed university-based sexual health education program creates a positive sexual health environment for college students by providing students with tools for reducing the prevalence of STIs and unwanted pregnancies, and increasing sexual health knowledge and awareness on college campuses. This is achieved through implementing a culturally relevant and age appropriate peer education program, housed within a freshman seminar curriculum, that increases knowledge using comprehensive sexual health education and fostering self-efficacy through the utilization of a peer mentor network.

While schools implementing this program will determine specific content and course instructors may use differing syllabi, all curricula must include the following topics, be framed in a sex-positive manner, inclusive of all sexual orientations, and employ peer education.

- Contraception – including male and female condoms, hormonal birth control, long-acting reversible contraception, and abstinence
- STIs – including national and local prevalence, and prevention methods
- Pregnancy – including how pregnancy happens during sexual intercourse, financial costs of unintended pregnancies, and available options for pregnant girls
- Healthy Relationships – including partner communication, decision making, and intimate partner violence
- Drugs and alcohol – including the interplay between drug and alcohol use and sex, and accurate substance use by students on campus
- Sexual violence – including rape and rape culture

All mentees will be first-year students, the majority of whom are 17-19 years of age. Like many individuals before them, these students are full of curiosity about education, society, and

sex. This program will provide a safe, supportive, and relevant environment in which learning about sexual health in a sex-positive approach is supported, not discouraged. TAs, as educators and mentors will want to participate in this program because of the valuable skills they learn through teaching and mentoring peers. Participation in the program as a TA is also a resume builder, especially for students wanting to secure leadership positions in the future.

First-year or freshman seminar courses provide a wealth of resources for matriculating students. These classes, which include a wide variety of topics geared towards ensuring new student academic success, are becoming more and more popular on campuses each year (Murtaugh et al., 1999; Porter & Swing, 2006). In addition, the size of these courses is often smaller than the majority of 100-level, introductory classes in which freshmen are enrolled at the outset of their college academic career.

With fewer students in the class, TAs become more accessible to each student. In order to facilitate a relationship where participating students are comfortable approaching their TA with sensitive questions, TA/educators will be required to attend every class session. In turn, they may serve as role models for freshman students and this relationship can facilitate a mentoring role, and thus a foundation for behavioral modeling. Because of this, peer mentoring will be built into the freshman seminar TA job description.

The last component of this model is extracurricular sexual health workshops. Due to the fact that student-focused programming already takes place in the dormitory setting, implementing formal these sessions outside of the classroom will be easy. Campuses also have student health centers with access to accurate and relative sexual health education materials as well as counseling centers that can provide additional training to mentor TAs. These existing campus resources will facilitate the success of this program.

6.2 MODEL ELEMENTS

6.2.1 Engagement

The campus offices and organizations that will participate in the proposed program already work together in some capacity. Extending those relationships to cover an additional program providing multitudinous benefits for student educators and participants should not be exceptionally challenging, especially since the program is tied directly to educational curriculum. A rational appeal to these offices and organizations acknowledging the potential impact of this program on the entire student body, not just the students enrolled in freshman seminar courses, is necessary to encourage partnership for this program.

A cornerstone of this program is that all student educators will be TAs for first-year seminar classes and thus already leaders among the freshmen student body on campus. In order to recruit undergraduate TAs, the program will first approach students in at least their second year of studies who already hold positions as TAs in relevant departments, including but not limited to teacher education, health and physical education, counseling, psychology, and social work. Assuming this recruitment technique is not adequate to fill all TA positions, program staff will advertise the position the semester prior to program implementation and over the summer on appropriate campus job boards and do specific outreach with known socially important groups on campus, e.g. residential life, athletic teams, and Greek life. For campuses requiring all incoming freshmen to register for first-year seminars, mentee recruitment will be easy. Additional recruitment work for mentees may be necessary on campuses where such courses are not required of first-year students.

University health centers recognize the widespread issue of unsafe sexual practices on college campuses. Health centers often lack the human resources necessary to successfully reach

a large portion of campus on an ongoing basis. The peer educators in this program will fill that gap in human resources, increasing the reach of this information. The program will also provide student educators with valuable experience that is not only fulfilling but also resume-building. Participation in this program as an educator and mentor will prove the ability of these students to hold leadership roles with a great deal of autonomy while balancing a multitude of other school, work, and social demands.

Many new freshmen have a desire to learn more about sex and sexual health if for nothing more than curiosity. Incoming first-year students in particular may be at a disadvantage because of lack of adequate sexual health education provided to them at the secondary school level. Students who participate in this program as mentees will not only have the opportunity to learn more about sexual health than peers not part of the program, but they will also forge relationships with mentors. These may prove beneficial throughout the remainder of their college and professional careers.

University campuses operate within broader community contexts, therefore considering potential non-campus partners is important. These stakeholders may include local Planned Parenthood and other community health centers. Lead program personnel should also make connections with other smaller local organizations aimed at similar health issues who could represent potential collaborators for the program. National organizations such as the American Sexual Health Association and student-focused outreach organizations such as Advocates for Youth are also readily available resources that should be considered as stakeholders for this program. It is also important to include the local or county health department and the state Department of Health on the list of important program stakeholders.

6.2.2 Staff Responsibilities

A core of TA/educators will make up the peer sexual health education team. Individual programs will determine the number of TA/educators needed, depending on how many first year seminar courses participate. One TA/educator is necessary for each freshman seminar course. Paired faculty members teaching the freshman seminar courses are also integral to this program, as their continued cooperation with program staff is key to program success.

Staff from the student health center specializing in campus outreach and/or sexual and reproductive health education are integral to ensuring that student educators are equipped with the proper knowledge and skills necessary to succeed in carrying out this intervention. A staff member from the college or university counseling center will aid students by providing information necessary to become effective mentors. Two staff members from the student health center, a Program Coordinator and Program Supervisor, will also be tasked with overseeing the program and be available to student educators to answer questions or solve any issues.

6.2.3 Training

All educators will receive training prior to commencement of the first year seminar courses. This will take place on campus no earlier than two weeks before the start of the fall semester. Training will cover a comprehensive sexual health educational program including but not limited to proper use of condoms and other birth control methods as well as accurate information regarding prevalence of and susceptibility to STIs. The educational programming will be both culturally relevant and age appropriate. Staff members from the student health center will lead a total of three, four-hour training sessions in which TA/educators will not only learn the health information but also ways to effectively disseminate sexual health information to peers.

Student educators will also attend a three-hour session led by a member of the counseling center staff. The session will cover appropriate mentor etiquette including effective, non-threatening communication techniques, active listening, and resources available for students covering a wide range of issues from school-related stress to sexual harassment. Relevant university policies will also be covered during these sessions. After completion of the training, students will participate in a two-hour session in which campus health and counseling center staff will observe mock educator-mentee interactions. Additionally, TA/educators will meet with paired faculty before the start of the course to prepare and plan for the semester.

Due to the sensitive topic areas covered as part of the curriculum, TA/educators will be required to sign a Professionalism Clause before completing their training. This agreement will state that TAs fully understand the delicate nature of course materials and that they agree to ensure the confidentiality of all conversations with their mentee(s). Students found breaking the Professionalism Clause will be academically reprimanded with a warning. After one warning, students will be placed on academic probation for one semester. Students with more than two infractions against the Professionalism Clause will be fired from the program and placed on academic probation for a full school year. Students will not be penalized for violating professionalism if the infraction in question is in line with campus policies, e.g. mandatory sexual assault reporting.

6.2.4 Oversight

The Program Coordinator, a health center staff member, is responsible for ensuring that the program as a whole runs smoothly. This includes scheduling educator training, pairing educators with seminar instructors, maintaining existing and creating new campus and community partnerships, and administering surveys to enrolled student participants at several points

throughout each semester of the program. The Program Supervisor, another health center staff member, is responsible for oversight of TA/student educators, checking in with TAs each month, ensuring that mentor/mentee meetings are taking place and making sure that any problems are being taken care of appropriately and in a timely fashion. The Program Supervisor is also tasked with being able to answer any questions the educators may have, resolving disputes between educators and mentees and/or educators and paired faculty members, if applicable, and assisting in scheduling the extracurricular health education workshops across campus.

In addition to being responsible for scheduling at least two brief meetings per semester with each mentee, student educators will be required to keep track of how many extracurricular workshops mentees attend. Student educators will work together to ensure that no fewer than five educators from the pool of course TAs are present for each extracurricular health education workshop. Educators will also be required to attend and/or facilitate at least one workshop per semester. The paired faculty member will determine additional TA responsibilities, such as attendance and grading. These non-curriculum responsibilities must not comprise more than 50% of the TA's required tasks.

6.2.5 Program Activities

Assuming that the majority of freshman seminar courses are three credits and meet three times a week, a requirement of this program is that 20% of the course, about nine hours of class time, throughout the semester be dedicated to the comprehensive curriculum. Material must be introduced at the beginning of the semester, added to in the middle (around a semester break) and culminate with a review at the end. It is up to the individual paired faculty and TA to determine during which class meeting times the curriculum is covered. On days when the proposed curriculum is covered, the designated TA will lead course discussions.

Regarding the extra-curricular component of the program, educator-mentee meetings will take place at mutually agreed-upon time and location, on or off campus. Meetings should, at a minimum, occur towards the beginning and end of each semester. A total of five sexual health education workshops will be scheduled throughout each semester on different days and at different times to ensure that participating students can attend no less than three extra-curricular sessions over the course of the semester. Workshops will take place in centrally located spaces on campus, such as a student union.

6.2.6 Sustainability

There are many ways this program can be sustained after the initial funding period. First, the costs for the program are relatively low considering the number of individuals involved because the program is a part of course curriculum and ties into existing resources. In terms of program promotion, all campus offices and student organizations have advertising and operating allowances built into existing budgets. Those campus offices and organizations involved with the peer sexual health program, such as the health center, counseling center, and first-year experience program, could come together to contribute a small portion of existing individual budgets to fund this program. In addition, it is expected that the process will empower student educators to continue with the program after the TA position is over and act as unofficial promoters, encouraging friends to apply for and join the TA/peer educator staff. This cuts down on advertising and training costs because fewer student educators are recruited each year and a majority of advertising is done through word of mouth. Additionally, because the peer educators also function as teaching assistants, they will receive an hourly wage through the office of student employment.

A university employing this peer education model could also apply funding to this program since a majority of activities are overseen by the health center. In addition to partnerships with local health clinics and providers for safer sex supplies and educational materials, such as Planned Parenthood, health funds provided by the school could aid in the sustainability of this program. One such program is Amplify and Advocates for Youth's Great American Condom Campaign (GACC), which partners with Trojan to sponsor over 2,500 SafeSites, or peer sexual health resources, and distribute over 1,000,000 condoms each semester at college campuses across the country. Each SafeSite receives educational materials and a box of 500 condoms to distribute across campus. The program also has a wealth of culturally diverse material available for free through its website (Amplify, 2014).

6.3 EVALUATION

Well-integrated evaluation is essential for measuring program success (Keene, 2008; Koplan, Milstein, & Wetterhall, 1999). Integrating evaluation plans into program design should be done from the initial stages of program conception. Through this process program staff and evaluators can more clearly identify progress and success of program efforts. As such, an evaluation plan is outlined below for the proposed university-based sexual health education program.

6.3.1 Deliverables

Process evaluation of the proposed university-based sexual health education program will include ensuring that a minimum of 50% of first-year seminar courses across campus incorporate

the proposed mandatory content, including the mentoring component. In each of the courses using the curriculum, the course TA will serve as the mentor for that group of first year students. Evaluation of the promotion of the TA/educator role to students across campus and the subsequent hiring protocol of such students will provide insight into the efficiency of the process. Gaining a better understanding of steps that were taken and which actions were beneficial or not to the process will allow for a smoother hiring and recruitment process for the future. Additionally, milestones ensuring the program stays on track at various stages of implementation include but are not limited to the following:

- Short-term goals
 - Hiring and training of TA/educators before the start of the fall semester of implementation year one.
 - Attendance by 80% of student participants at a minimum of three extra-curricular sexual health events during semester one.
 - Participation and support for peer education programs from at least two major campus organizations (e.g. event co-sponsorship by Residence Life or Greek Life).
 - At least two meetings for 80% of TA/educators and mentees by the end of the course.
- Intermediate goals
 - Attendance by 50% of student participants to at least two additional events the semester after course completion.
 - At least one meeting by 50% of educator/mentee pairs the semester after course completion.

- Late intermediate goals
 - Year two, semester one
 - Attendance by 90% of year two participants at a minimum of three extra-curricular sexual health events during year two, semester one.
 - Participation and support for peer education programs from at least two additional major campus organizations for year two of the program.
 - At least two meetings by 90% of TA/educators and mentees by the end of the course.
 - Year two, semester two
 - Attendance by 60% of student participants to at least two additional events the semester after course completion.
 - At least one meeting between educator/mentee pairs the semester after course completion.

The eight built-in surveys, four for each cohort, identified from the program's beginning phases of development, allow program staff to monitor changes in participant beliefs and behavior as well as campus culture surrounding sexual health practices throughout the two-year implementation phase of the program. Program staff will be able to monitor changes between year one participants and year two participants, as well as changes in the year one cohort at the end of year two. Goals for each evaluation point of the implementation phase of the program include the following:

- Short-term outcomes (end of cohort one, semester one)
 - Increased awareness of campus and community services available to students measured by a 10% increase in use and referrals of student health services.

- Increased conversations regarding responsible choices among participants by at least 25% as measured by observed participation levels during sexual health events in the first semester.
- Intermediate outcomes (end of cohort one, semester two)
 - Increase in conversations regarding responsible sexual health choices with peers other than mentors by at least 50% of students as measured by end of cohort one, year one survey.
 - Increase in visits to the student health center for sexual health services by at least 15% in the first year.
 - Reports of at least a 30% increase in contraception use with partner(s) by a minimum of 50% of student participants as measured by cohort one, year one survey.
 - Reports of increased self-efficacy of how to use contraception (e.g. condoms, the pill) and contraception effectiveness by at least 50% of student participants as measured by cohort one, year one survey.
 - Decreased STIs across campus by 5% at end of year one.
 - Decreased emergency contraception dispensing from health center by 5% at end of year one.
- Intermediate outcomes (end of cohort two, semester one – from cohort two baseline)
 - Increased awareness of campus and community services available to students measured by a 15% increase in use and referrals.

- Increase in conversations regarding responsible choices by at least 30% of participants, measured by observed participation levels during sexual health events in the first semester.
- Late intermediate outcomes (end of cohort two, semester two)
 - Increase in conversations regarding responsible sexual health choices with peers other than mentors by at least 60% of students as measured by end of cohort two, year one survey.
 - Increase in visits to the student health center for sexual health services by at least 25% in the first year.
 - Reports of at least a 50% increase in contraception use with partner(s) by a minimum of 50% of student participants as measured by cohort two, year one survey.
 - Reports of increased self-efficacy of how to use contraception (i.e. condoms, the pill) and contraception effectiveness by at least 60% of student participants as measured by cohort two, year one survey.
 - Decreased STIs across campus by 10% at end of year two.
 - Decreased emergency contraception dispensing from health center by 10% at end of year two.
- Late intermediate outcomes (end of cohort one, year two)
 - Indications that responsible behavior of peers was moderately or very influential on own sexual health behaviors by at least 75% of student participants as measured by end of cohort one, year two survey.

- Reports of at least a 75% increase in contraception use with partner(s) by a minimum of 50% of student participants as measured by cohort one, year two survey.
- Reports of increased self-efficacy of how to use contraception and contraception effectiveness by at least 75% of student participants as measured by cohort one, year two survey.
- Increase in conversations regarding responsible sexual health choices with peers other than mentors by at least 75% of students as measured by cohort one, year two survey.
- Late intermediate outcomes (end of cohort two, year two)
 - Indications that responsible behavior of peers was moderately or very influential on own sexual health behaviors by at least 80% of student participants as measured by end of cohort two, year two survey.
 - Reports of at least an 80% increase in contraception use with partner(s) by a minimum of 50% of student participants as measured by cohort two, year two survey.
 - Reports of increased self-efficacy of how to use contraception (i.e. condoms, the pill) and contraception effectiveness by at least 80% of student participants as measured by cohort two, year two survey.
 - Increase in conversations regarding responsible sexual health choices with peers other than mentors by at least 80% of students as measured by cohort two, year two survey.

- Long-term outcomes (end of year three)
 - Decreased STIs across campus by 15% at end of year three.
 - Decreased emergency contraception dispensing from health center by 15% at end of year three.
 - Cultural norms shift away from sex negative to more sex-positive approach.
 - Strengthened peer networks across groups on campus.

6.3.2 Data Collection

Data collection for this program will occur at four points during the implementation process for each cohort, in the form of student surveys. The first survey will be distributed to participants the first week of the semester in which they are enrolled in the freshman seminar course and will assess baseline knowledge in sexual health education (e.g. STI risks, how to use various forms of contraception, contraception effectiveness, and perceived social norms) and available resources for students on and off campus (e.g. services offered at the student health center and community health clinic). The baseline assessment will compile basic demographic information and address individual behaviors, including frequency and type of substance use, current sexual activity, and mental health. The survey will also ask questions about relationship status, perceptions of healthy relationships, and exposure to intimate partner violence.

Students will complete baseline surveys in class during the first week of the semester. Electronic copies will be made available for students who, for whatever reason, are not in class on the day of survey distribution. In-person completion of the first survey, however, is preferred and will be encouraged. TAs will also distribute the end-of-semester survey for each cohort in class on the last week of the semester, as part of the final exam. Subsequent follow-up surveys will be distributed to student participants at the end of the first year, one full semester post-course and end of year two, three full semesters post course enrollment for each cohort. These

surveys will all be distributed to students via email by program staff. An example of a survey schedule for the entire program is outlined in Table 1.

Table 1. Suggested Timeline for Program Surveys

Cohort One		Cohort Two	
Baseline Survey	Week 1, Fall 2016	Baseline Survey	Week 1, Fall 2017
Program End Survey	Week 15, Fall 2016	Program End Survey	Week 15, Fall 2017
Year One End Survey	Week 15, Spring 2017	Year One End Survey	Week 15, Spring 2018
Year Two End Survey	Week 15, Spring 2018	Year Two End Survey	Week 15, Spring 2019

Note: Week numbers refer to semester week number as determined by the academic institution

The first two program surveys for each cohort will be administered in class to student participants by the course TA. The Program Coordinator and Program Supervisor are responsible for ensuring that the in-class surveys are completed in a timely manner. These staff members are also responsible for ensuring that post-course surveys are administered via email to student participants from the program office.

Sending surveys to students via email will allow program staff to monitor completion rates. The survey software will be set up in such a way that students will enter their school email address and course section number for tracking purposes. Individual names will not be attached to responses. This will allow the Program Coordinator and Program Supervisor to track which students have not yet completed their surveys. Email reminders will be sent to students when one day remains in the open survey period for web-administered surveys.

6.3.3 Tools

Surveys will be the predominant tool for data collection. Several accurate and valid scales are already in existence that can be directly used or slightly modified for use in student surveys. One example of such a scale is the Condom Self-Efficacy Scale for College Students. Developed by Bradford and Beck (1991), the scale consists of 28 items measuring individual condom self-efficacy and takes approximately 20 minutes to complete. Another validated option, at least for females, is the Sexual Assertiveness Scale (SAS) (Morokoff et al., 1997), which consists of 18 items. The SAS will need to be modified to apply to both genders and to better align with cultural norms that are in many ways very different than they were 20 years ago. Additionally, as part of the Youth Risk Behavior Surveillance program, the CDC developed the National College Health Risk Behavior Survey, which along with sections addressing physical health, nutrition, violence, drug, and alcohol use, includes questions related to sexual behaviors, pregnancy, and STIs (CDC, 1997). Program staff will also have the option of pulling questions from the ACHA-NCHA II (ACHA, 2015).

Program staff will have to develop additional questions not included in the aforementioned surveys or similar existing scales as necessary. These scales may not be as reliable or valid as the existing validated tools. Information about unintended results of program implementation will be measured through health center usage, including reportable disease records. Non-program participants attending health education workshops may also receive post-attendance surveys asking questions such as whether or not they thought the session was educational/useful, criticisms, and suggestions for future events. Other tools used to monitor program progress will include spreadsheets tracking TA/educator and mentee attendance at and/or facilitation of health programs, and informal meetings between the Program Supervisor

and TA/educators on a monthly basis ensuring that they believe they have the necessary skills, resources, and support to successfully continue with program implementation.

6.3.4 Reporting Out

At the end of the third year of the program, program staff will summarize and compile findings from all surveys into a final report. Program staff will analyze data from the first cohort and early surveys from the second cohort as results become available. This will be done so as to ease the burden of analysis and ensure a more timely dissemination of findings and impacts on the campus community at the end of the program. Analysis of cohort two, year two data will be included in the results when appropriate.

The report will begin with a comparison of pre-program STI and utilization of service rates on the campus in question to state and national averages as well as post-program rates. The document will continue with a summary of program processes and procedures. Outcomes aside from a change in the aforementioned key measures will be included to show that, for example, even if changes are minimal, the program impacts skill building and self-efficacy among the student body, access to care, and sexual health culture and norms across the entire campus.

The program's summary report will be distributed to a variety of on-campus stakeholders, including the head of the student health center, campus administration, head of the freshman seminar program, and the curriculum committee. The report will also be distributed to off-campus stakeholders such as local community health clinics. Additionally, copies will be made available for health center staff at other local colleges and universities. Students will have access to program findings through the student health center website under an appropriate navigation tab. An email will be sent to all current students, including participants, giving a brief overview of the program, notifying them of the program's completion, and include a direct link

to the online summary report. A goal for program staff is that an in-depth analysis of processes, procedures, and outcomes will be accepted by and published in the *Journal of American College Health* or another applicable peer reviewed journal, so as to assist other post-secondary schools across the country tackle similar issues on their own campuses.

6.4 MODEL BARRIERS AND LIMITATIONS

Many barriers exist to the program's success, including student unwillingness to engage in the program either as participants or mentors due to lack of interest and/or lack of time. The way this program is integrated into the first-year seminar curriculum may reduce that barrier. In addition, university curriculum committees may refuse to include this content in first-year seminar curriculum for a number of reasons, including the opinion that other topic areas are more important and deserving of extensive in-class attention from students. Embedding sexual health education into mainstream course content may be too controversial across some college or university campuses. Additionally, faculty members may also express an unwillingness to share teaching time with paired undergraduate TAs.

Adequate funding for a university-based, comprehensive sexual health education program may also be unavailable at the local, state, or national level. Another barrier to success is refusal by university leadership, including the president and Board of Directors, to support this type of curricular programming. Reasons for refusal may be due to such things as individual or campus-wide religious beliefs, or lack of understanding the importance of reinforcing accurate sexual health education messages with this age group.

In regards to publicly funded higher education institutions, state funding changes from year to year, impacting the number of programs a school can finance, in part or full. Federal

funding from Title X, “the only federally program devoted solely to the provision of family planning services” (Frost, Finer & Tapales, 2008, p. 779), also varies yearly. Because this program involves educational programming outside of the classroom, policies regarding the allocation of these funding streams may positively or negatively impact the feasibility of this curriculum on a yearly basis.

7.0 CONCLUSION

Lack of effective public secondary school education curricula (Eisenberg et al., 2008; Guttmacher Institute, 2015; Hall et al., 2012; Kirby, 2008; Kirby & Laris, 2009; Lamb, 2010; Stanger-Hall & Hall, 2011) coupled with astonishing social pressures and cultural norms (Ahrold & Meston, 2010; Dehlendorf et al., 2010; Doğan-Ateş & Carrión-Basham, 2007; Hoover et al., 2010; Houston et al., 2007; Kreager & Staff, 2009; Meade et al., 2008; Martens et al., 2006; O'Brien et al., 2013; Stanger-Hall & Hall, 2011) has contributed to an unacceptable state of sexual health for 17 to 22 year olds in the US, and these statistics worsen as adolescents and young adults shift towards the older end of that age bracket (CDC, 2014). Ideally, a change at the national policy level mandating comprehensive, culturally relevant and age-appropriate sexual health education in public secondary schools would, at least in large part, solve this issue. Unfortunately, that reality is nowhere in the near future. College- and university-bound students deserve a safety net that levels the knowledge playing field and ensures access to accurate sexual health information and services in a sex-positive atmosphere for all students, regardless of gender, age, race, or sexual orientation (Lamb, 2010).

Students on college and university campuses, because of a variety of factors, partake in drug and alcohol consumption, increasing their susceptibility of placement in sexually risky situations (Duncan et al., 2005; Martens et al., 2006; Roberts & Kennedy, 2006). Health educators must approach these subjects, as well as sexual health, using language to which

students can relate in order to be as effective as possible (Dooris, 2001). Academically integrated peer education is the perfect medium for these discussions.

To that end, this paper has outlined a model for incorporating a university-based sexual health education program rooted into a first-year seminar curriculum with both curricular and extracurricular components. Using peer education, course TAs become instructors and discussion facilitators on days when covering sexual health information in class. These TAs also serve as peer mentors for participants registered for the course, are a regular presence in the classroom, and are available to students outside of course meeting times when necessary. This routine contact will provide the foundation for mutual respect between enrolled students and TA/educators, which is necessary for observational learning and behavioral modeling. In addition, the constant support from TAs will aid mentees in developing the self-efficacy necessary for successfully adopting positive sexual health behaviors. Program supervisors, staff from the student health center, will provide training and support for TAs while regularly evaluating program effectiveness.

By aiming this program at college students who are exploring who they are and what they want, both academically and personally, there is an opportunity to change the way these students perceive sex and what sexual health encompasses. In doing so, we can lower rates of STIs and unwanted pregnancies, ensuring an increased overall health level and potentially lower female dropout rate. Successful university-based sexual health programs may also highlight problems with existing high school-based curricula, encouraging legislators to reevaluate current laws, regulations, and mandates. This may also lead to a reconsideration of necessary curriculum content and the appropriate age at which sexual health education in public schools should commence.

While successful evidence-based sexual health education programs exist and are implemented in a majority of university campuses across the US, published studies acknowledging their existence and reported program findings are limited (Martens et al., 2006; Page et al., 2000; Stoner et al., 2008). In order to encourage more widespread implementation of such programming, a more formalized curriculum placed at the center of campus academic and social life that can easily be adapted to fit the local environment and culture, like the program suggested by the author, is necessary. The lack of publications, and moreso recent publications, on such endeavors contrasts with the necessary steps needed to advance the arena of university-based sexual health education programming. This author urges that university health promotion professionals take even small steps towards evaluating and publishing on current active programs. These small steps will make larger ones, such as implementing the proposed program, that much easier.

The benefits of this program will reach far beyond the students directly involved as either TAs or mentees. The campus atmosphere is built on a foundation of social networks. Messages and skills acquired, per the social networks theory, will filter throughout a large portion of the rest of campus. In addition, adolescents benefit from receiving sensitive messages, such as those related to sexual health education, from people with whom they can relate. In this population, there may be no better method to discuss sexual health education than through a peer education and mentoring model. With university operating budgets continuously on the chopping block, this curriculum has the ability to ensure the improved health of so many more students than any other traditional college-based sexual health education program, for a fraction of the cost because of cross-departmental use of resources.

This paper has several limitations. First and foremost, published studies regarding university-based, comprehensive sexual health programming are very limited. As such, the proposed program may not be incorporating key characteristics of effective programs that are currently implemented at the college level. Additionally, the author may not have necessary access to in-depth knowledge of existing non-published programs, as information on these were obtained from college and university websites. The aforementioned programs may also not be representative of the depth of sexual health programming available on college campuses across the US. Furthermore, the college population of 17 to 22 year olds is rarely viewed as one unit, limiting concrete data of the health and wellbeing of this specific age group. Instead, the population is examined as two segments: children and adolescents (often ages 5 to 17 or 18) and adults (often 18 to 24 or 18 to 44). Highlighting this field of research can also call the attention of state and federal officials to analyze the overall health status of 17 to 22 year olds, a group who experience very different health tendencies and trends than their child/adolescent and adult counterparts.

Finally, the author acknowledges that the proposed model may not be suitable for all campuses due to the controversial and sensitive nature of sexual health education. Colleges and universities with progressive views towards educational curricula may be more willing to implement the proposed program than more conservative institutions. Additionally, some geographic regions of the US may be more accepting of such approaches to sexual health.

Understanding how the sexual health behaviors and knowledge acquired during high school intersect with new and different peer pressures experienced in college will provide a more thorough foundation upon which to implement a university-based sexual health education program. From data compiled by previous authors, it is obvious that a need exists to support the

healthy and safe sexual health practices of adolescents and young adults in the US. Improving high school sexual health curricula at a national level may be one plan for the distant future. However, if history is any indicator, this is not an easy or realistic feat in the near future due to many layers of influence, including political and religious pulls. As a result, we must provide a sexual health safeguard for adolescents and young adults continuing on to their post-secondary education. In doing so, we can level the playing field for college students by filling in knowledge gaps and shifting cultural norms towards sexual health and behavior across the campus environment.

BIBLIOGRAPHY

- Ahrold, T. K., & Meston, C. M. (2010). Ethnic differences in sexual attitudes of US college students: Gender, acculturation, and religiosity factors. *Archives of Sexual Behavior*, 39(1), 190-202.
- Amplify: A Project of Advocates for Youth. (2014). *Great American condom campaign*. Retrieved from <http://amplifyyourvoice.org/gacc>.
- Ansuini, C. G., Fiddler-Woite, J., & Woite, R. S. (1996). The source, accuracy, and impact of initial sexuality information on lifetime wellness. *Adolescence*, 31(122), 283.
- Association of Public & Land-Grant Universities. (n.d.). *Members by state/province*. Retrieved from <http://www.aplu.org/members/our-members/by-state-province/>.
- American College Health Association. (2015). *National college health assessment II: Undergraduate students reference group executive summary, spring 2015*. Retrieved from http://www.acha-ncha.org/docs/NCHA-II_WEB_SPRING_2015_UNDERGRADUATE_REFERENCE_GROUP_EXECUTIVE_SUMMARY.pdf.
- Auslander, B. A., Perfect, M. M., Succop, P. A., & Rosenthal, S. L. (2007a). Perceptions of sexual assertiveness among adolescent girls: Initiation, refusal, and use of protective behaviors. *Journal of Pediatric and Adolescent Gynecology*, 20(3), 157-162.
- Auslander, B. A., Rosenthal, S. L., Fortenberry, J. D., Biro, F. M., Bernstein, D. I., & Zimet, G. D. (2007b). Predictors of sexual satisfaction in an adolescent and college population. *Journal of Pediatric and Adolescent Gynecology*, 20(1), 25-28.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Inc.
- Bandura, A. (2004). Health promotion by social cognitive means. *Health education & behavior*, 31(2), 143-164.
- Banyard, V. L., Ward, S., Cohn, E. S., Plante, E. G., Moorhead, C., & Walsh, W. (2007). Unwanted sexual contact on campus: A comparison of women's and men's experiences. *Violence and Victims*, 22(1), 52-70.

- Basch, C. E. (2011). Teen pregnancy and the achievement gap among urban minority youth. *Journal of School Health, 81*(10), 614-618.
- Benson, D. J. & Thomson, G. E. (1982). Sexual harassment on a university campus: The confluence of authority relations, sexual interest, and gender stratification. *Social Problems, 29*(3), 236-251.
- Berkowitz, A. D. (2004). The social norms approach: Theory, research and annotated bibliography. *Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention. US Department of Education.*
- Bradford, L. J. & Beck, K. H. (1991) Development and validation of a condom self-efficacy scale for college students. *Journal of American College Health, 39*(5), 219-225.
- Centers for Disease Control and Prevention. (2014). *2012 Sexually transmitted diseases surveillance: STDs in adolescents and young adults*. Retrieved from: <http://www.cdc.gov/std/stats12/adol.htm>.
- Centers for Disease Control and Prevention. (2015a). *Gonorrhea – CDC fact sheet (detailed version)*. Retrieved from <http://www.cdc.gov/std/gonorrhea/stdfact-gonorrhea-detailed.htm>.
- Centers for Disease Control and Prevention. (2015b). *Chlamydia – CDC fact sheet (detailed)*. Retrieved from <http://www.cdc.gov/std/chlamydia/stdfact-chlamydia-detailed.htm>.
- Centers for Disease Control and Prevention, Division of Adolescent and School Health, National Center for Chronic Disease Prevention and Health Promotion. (1997). Youth risk behavior surveillance: National college health risk behavior survey – United States, 1995. *Morbidity and Mortality Weekly Report: CDC Surveillance Summaries, 46*(SS-6), 1-54.
- Colorado State University Health Network. (2013). *Health education & prevention services*. Retrieved from <http://health.colostate.edu/services/health-education-prevention-services/>.
- Cupples, J. B., Zukoski, A. P. & Dierwechter, T. (2010). Reaching young men: lessons learned in the recruitment, training, and utilization of male peer sexual health educators. *Health Promotion Practice, 11*, 19S-25S.
- Dehlendorf, C., Rodriguez, M. I., Levy, K., Borrero, S., & Steinauer, J. (2010). Disparities in family planning. *American journal of obstetrics and gynecology, 202*(3), 214-220.
- Devaney, B., Johnson, A., Maynard, R., & Trenholm, C. (2002). *The evaluation of abstinence education programs funded under Title V Section 510: Interim report*. Princeton, NJ: Mathematica Policy Research, Inc.

- Doğan-Ateş, A., & Carrión-Basham, C. Y. (2007). Teenage pregnancy among latinas examining risk and protective factors. *Hispanic Journal of Behavioral Sciences*, 29(4), 554-569.
- Dooris, M. (2001). The “health promoting university”: A critical exploration of theory and practice. *Health Education*, 101(2), 51-60.
- Duncan, G. J., Boisjoly, J., Kremer, M., Levy, D. M., & Eccles, J. (2005). Peer effects in drug use and sex among college students. *Journal of Abnormal Child Psychology*, 33(3), 375-385.
- Eastman-Mueller, H., Zhang, T., & Roberts, C. M. (2015). *ACHA 2014 pap and sti survey for calendary year 2013 data: Survey data report*. Retrieved from http://www.acha.org/documents/resources/survey_data/Pap_sti/ACHA_CY2013_PapTest_and_STI_Survey_fulldatareport.pdf.
- Eisenberg, M. E., Bernat, D. H., Bearinger, L. H., & Resnick, M. D. (2008). Support for comprehensive sexuality education: Perspectives from parents of school-age youth. *Journal of Adolescent Health*, 42(4), 352-359.
- Ely, G. E., & Dulmus, C. N. (2010). Disparities in access to reproductive health options for female adolescents. *Social work in public health*, 25(3-4), 341-351.
- Ergene, T., Çok, F., Tümer, A., & Ünal, S. (2005). A controlled-study of preventive effects of peer education and single-session lectures on HIV/AIDS knowledge and attitudes among university students in Turkey. *AIDS Education and Prevention*, 17(3), 268-278.
- Ethier, K. A., Kershaw, T. S., Lewis, J. B., Milan, S., Niccolai, L. M., & Ickovics, J. R. (2006). Self-esteem, emotional distress and sexual behavior among adolescent females: Inter-relationship and temporal effects. *Journal of Adolescent Health*, 38(3), 268-274.
- Eubanks, S. (2006). Millenials – Themes in Current Literature. Retrieved July 23, 2010.
- Ford, J. L., & Forthofer, M. S. (2010). Social disparities in the receipt of contraceptive services among sexually experienced adolescent females. *Social work in public health*, 25(3-4), 352-367.
- Foubert, J. D. (2000). The longitudinal effects of a rape-prevention program on fraternity men’s attitudes, behavioral intent, and behavior. *Journal of American College Health*, 48(4), 158-163.
- Foubert, J. D. & Marriott, K. A. (1997). Effects of a sexual assault peer education program on men’s belief in rape myths. *Sex Roles*, 36(3-4), 259-268.
- Frost, J. J., Finer, L. B. & Tapales, A. (2008). The impact of publicly funded family planning clinic services on unintended pregnancies and government cost savings. *Journal of Health Care for the Poor and Underserved*, 19(3), 778-796.

- Goldenberg, J. L., Cox, C. R., Pyszczynski, T., Greenberg, J., & Solomon, S. (2002). Understanding ambivalence about sex: The effects of stripping sex of meaning. *Journal of Sex Research, 39*(4), 310.
- Goldenberg, J. L., Pyszczynski, T., McCoy, S. K., Greenberg, J., & Solomon, S. (1999). Death, sex, love, and neuroticism: Why is sex such a problem? *Journal of Personality and Social Psychology, 77*(6), 1173.
- Guttmacher Institute. (2015). Sex and HIV education. *State Policies in Brief*. New York, NY: Guttmacher Institute.
- Hall, K. S., Moreau, C., & Trussell, J. (2011). Discouraging trends in reproductive health service use among adolescent and young adult women in the USA, 2002–2008. *Human Reproduction, 26*, 184.
- Hall, K. S., Moreau, C., & Trussell, J. (2012). Associations between sexual and reproductive health communication and health service use among US adolescent women. *Perspectives on sexual and reproductive health, 44*(1), 6-12.
- Hoover, K. W., Tao, G., Berman, S. & Kent, C. K. (2010). Utilization of health services in physician offices and outpatient clinics by adolescents and young women in the United States: Implications for improving access to reproductive health services. *Journal of Adolescent Health, 46*, 342-330.
- Houston, A. M., Fang, J., Husman, C., & Peralta, L. (2007). More than just vaginal intercourse: anal intercourse and condom use patterns in the context of “main” and “casual” sexual relationships among urban minority adolescent females. *Journal of pediatric and adolescent gynecology, 20*(5), 299-304.
- Jutte, D. P., Roos, N. P., Brownell, M. D., Briggs, G., MacWilliam, L. & Roos, L. L. (2010). The ripples of adolescent motherhood: Social, educational, and medical outcomes for children of teen and prior teen mothers. *Academic Pediatrics, 10*(5), 293-301.
- Kavanaugh, M. L., Williams, S. L., & Schwarz, E. B. (2011) Emergency contraception use and counseling after changes in United States prescription status. *Fertility and Sterility, 95*(8), 2578-2581.
- Keene, M. (1 June, 2008) Integrating Evaluation into Program Design.
- Kim, C. R. & Free, C. (2008). Recent evaluations of the peer-led approach in adolescent sexual health education: A Systematic Review. *Perspectives on Sexual and Reproductive Health, 40*(3), 144-151.
- Kinsey, A. C., Pomeroy, W. B., & Martin, C. E. (1948). *Sexual behavior in the human male*. Philadelphia: WB Saunders.

- Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. H. (1953). *Sexual behavior in the human female*. Philadelphia: Saunders.
- Kirby, D. B. (2008). The impact of abstinence and comprehensive sex and STD/HIV education programs on adolescent sexual behavior. *Sexuality Research & Social Policy*, 5(3), 18-27.
- Kirby, D. & Laris, B. A. (2009). Effective curriculum-based sex and STD/HIV education programs for adolescents. *Child Development Perspectives*, 3(1), 21-29.
- Kohler, P. K., Manhart, L. E., & Lafferty, W. E. (2008). Abstinence-only and comprehensive sex education and the initiation of sexual activity and teen pregnancy. *Journal of Adolescent Health*, 42(4), 344-351.
- Koplan, J. P., Milstein, R., & Wetterhall, S. (1999). Framework for program evaluation in public health. *MMWR: Recommendations and Reports*, 48, 1-40.
- Kreager, D. A. & Staff, J. (2009). The sexual double standard and adolescent peer acceptance. *Social Psychology Quarterly*, 72(2), 143-164.
- Krause, J., Croft, D. P., & James, R. (2007). Social network theory in the behavioural sciences: Potential applications. *Behavioral Ecology and Sociobiology*, 62(1), 15-27.
- Lamb, S. (2010). Toward a sexual health ethics curriculum: Bringing philosophy and society to bear on individual development. *Harvard Educational Review*, 80(1), 81-105.
- Leslie, E., Sparling, P. B., & Owen, N. (2001). University campus settings and the promotion of physical activity in young adults: Lessons from research in Australia and the USA. *Health Education*, 101(3), 116-125.
- Lindau, S. T., Tetteh, A. S., Kasza, K., & Gilliam, M. (2008). What schools teach our patients about sex: Content, quality, and influences on sex education. *Obstetrics & Gynecology*, 111(2, Part 1), 256-266.
- Lonsway, K. A., Klaw, E. L., Berg, D. R., Waldo, C. R., Kothari, C., Mazurek, C. J., & Hegeman, K. E. (1998). Beyond “no means no”: Outcomes of an intensive program to train peer facilitators for campus acquaintance rape education. *Journal of Interpersonal Violence*, 13(1), 73-92.
- Mahat, G., Scoloveno, M. A., De Leon, T., & Frenkel, J. (2008). Preliminary evidence of an adolescent HIV/AIDS peer education program. *Journal of Pediatric Nursing*, 23(5), 358-363.
- Martens, M. P., Page, J. C., Mowry, E. S., Damann, K. M., Taylor, K. K., & Cimini, M. D. (2006). Differences between actual and perceived student norms: An examination of

- alcohol use, drug use, and sexual behavior. *Journal of American College Health*, 54(5), 295-300.
- Masters, W. H. & Johnson, V. E. (1966). *Human Sexual Response*. Boston: Little, Brown & Co.
- Maynard, R. A., Trenholm, C., Devaney, B., Johnson, A., Clark, M. A., Homrighausen, J., & Kalay, E. (2005). *First-year impacts of four Title V, Section 510 abstinence education programs*. Princeton, NJ: Mathematica Policy Research, Inc.
- Mayo Clinic. (2015). *Diseases and conditions: Epididymitis*. Retrieved from <http://www.mayoclinic.org/diseases-conditions/epididymitis/basics/definition/con-20032876>.
- Meade, C. S., Kershaw, T. S., & Ickovics, J. R. (2008). The intergenerational cycle of teenage motherhood: an ecological approach. *Health Psychology*, 27(4), 419.
- Miller, L. M. (2011). College student knowledge and attitudes toward emergency contraception. *Contraception*, 83(1), 68-73.
- Morokoff, P. J., Quina, K., Harlow, L. L., Whitmire, L., Grimley, D. M., Gibson, P. R., & Burkholder, G. J. (1997). Sexual Assertiveness Scale (SAS) for women: Development and validation. *Journal of Personality and Social Psychology*, 73(4), 790-804.
- Murtaugh, P. A., Burns, L. D., & Schuster, J. (1999). Predicting the retention of university students. *Research in Higher Education*, 40(3), 355-371.
- The National Campaign to Prevent Teen and Unplanned Pregnancy. (2013) Teen birth rate comparison, 2013: Among girls age 15-19. Retrieved from <https://thenationalcampaign.org/data/compare/1701>.
- O'Brien, R. F., Warner, L., Blythe, M. J., Adelman, W. P., Breuner, C. C., Levine, D. A., . . . Murray, P. J. (2013). Condom use by adolescents. *Pediatrics*, 132(5), 973-981.
- Page, R. M. Hammermeister, J. J., & Scanlan, A. (2000). Everybody's not doing it: Misperceptions of college students' sexual activity. *American Journal of Health Behavior*, 24(5), 387-394.
- Penn State University Health Services. (2015a). *HealthWorks*. Retrieved from <http://studentaffairs.psu.edu/health/wellness/healthWorks.shtml>.
- Penn State University Health Services. (2015b). *Request a workshop*. Retrieved from https://pennstate.qualtrics.com/jfe/form/SV_1F8jJ9eGQ0aFKS1.
- Penn State University Health Services. (2015c). *Health promotion and wellness*. Retrieved from <http://studentaffairs.psu.edu/health/wellness/>.

- Porter, S. R. & Swing, R. L. (2006). Understanding how first-year seminars affect persistence. *Research in Higher Education*, 47(1), 89-109.
- Potter, J., Trussell, J. & Moreau, C. (2009). Trends and determinants of reproductive health service use among young women in the USA. *Human Reproduction*, 42(12), 3010-18.
- Prince, A. & Bernard, A. L. (1998). Sexual behaviors and safer sex practices of college students in a commuter campus. *Journal of American College Health*, 47(1), 11-21.
- Rasmussen, M. L. (2010). Secularism, religion, and 'progressive' sex education. *Sexualities*, 13(6), 699-712.
- Roberts, S. T. & Kennedy, B. L. (2006). Why are young college women not using condoms? Their perceived risk, drug use, and developmental vulnerability may provide important clues to sexual risk. *Archives of Psychiatric Nursing*, 20(1), 32-40.
- Sales, J. M., DiClemente, R. J., Rose, E. E., Wingood, G. M., Klein, J. D., & Woods, E. R. (2007). Relationship of STD-related shame and stigma to female adolescents' condom-protected intercourse. *Journal of Adolescent Health*, 40(6), 573.e1.
- Santelli, J., Ott, M. A., Lyon, M., Rogers, J., Summers, D., & Schleifer, R. (2006). Abstinence and abstinence-only education: A review of US policies and programs. *Journal of Adolescent Health*, 38(1), 72-81.
- Sawyer, R. G. & Pinciaro, P. (1997). How peer education changed peer sexuality educators' self-esteem, personal development, and sexual behavior. *Journal of American College Health*, 45(5), 211-217.
- Scholly, K., Katz, A. R., Gascoigne, J., & Holck, P. S. (2005). Using social norms theory to explain perceptions and sexual health behaviors of undergraduate college students: An exploratory study. *Journal of American College Health*, 53(4), 159-166.
- Schry, A. R. & White, S. W. (2013). Sexual assertiveness mediates the effect of social interaction anxiety on sexual victimization risk among college women. *Behavior Therapy*, 44(1), 125-136.
- SHEP Talk. (2015). *About SHEP*. Retrieved from <https://sheptalk.wordpress.com/about/>.
- Stanger-Hall, K. F., & Hall, D. W. (2011). Abstinence-only education and teen pregnancy rates: why we need comprehensive sex education in the US. *PloS one*, 6(10), e24658.
- Stoner, S. A., Norris, J., George, W. H., Morrison, D. M., Zawacki, T., Davis, K. C., & Hessler, D. M. (2008). Women's condom use assertiveness and sexual risk-taking: Effects of alcohol intoxication and adult victimization. *Addictive Behaviors*, 33(9), 1167-1176.

- Sullivan, K., Clark, J., Castrucci, B., Samsel, R., Fonseca, V., & Garcia, I. (2011). Continuing edcaution metigates the negative consequences of adolescent childbearing. *Maternal and Child Health Journal*, 15(3), 360-366.
- Texas A&M Student Health Services. (2015). *Women's clinic*. Retrieved from <http://shs.tamu.edu/womensclinic>.
- Texas A&M Offices of the Dean of Student Life. (2015). *Peer health education: The sex project*. Retrieved from <http://studentlife.tamu.edu/hp/thesexproject>.
- Trenholm, C., Devaney, B., Fortson, K., Quay, L., Wheeler, J., & Clark, M. (2007). *Impacts of four Title V, Section 510 abstinence education programs: Final report*. Princeton, NJ: Mathematica Policy Research, Inc.
- University Health Services at Berkeley. (2015a). *Health promotion services*. Retrieved from <http://uhs.berkeley.edu/students/healthpromotion/>.
- University Health Services at Berkeley. (2015b). *Do YOU!* Retrieved from <http://uhs.berkeley.edu/doyou/>
- University Health Services at Berkeley. (2015c). *Health worker program*. Retrieved from <http://uhs.berkeley.edu/students/healthpromotion/healthworker.shtml>.
- University of Michigan University Health Services. (2015a). *Sexual health*. Retrieved from <https://www.uhs.umich.edu/sexual-health>.
- University of Michigan University Health Services. (2015b). *Women's health clinic*. Retrieved from <https://www.uhs.umich.edu/women>.
- U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Family Planning. (2014). *Healthy people 2020*. Retrieved from <http://www.healthypeople.gov/>.
- Upadhyia, K. K., Breuner, C. C., Trent, M. E., Blythe, M. J., Adelman, W. P., Levine, D. A., ... & Seigel, W. M. (2012). Emergency contraception. *Pediatrics*, 130(6), 1174-1182.
- World Health Organization. (2012, July). *Emergency contraception: Fact sheet N°244*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs244/en/>.
- White, S., Park, Y. S., Israel, T., & Cordero, E. D. (2009). Longitudinal evaluation of peer health education on a college campus: Impact on health behaviors. *Journal of American College Health*, 57(5), 497-505

Yang, Z & Gaydos, L. M. (2010). Reasons for and challenges of recent increases in teen birth rates: A study of family planning service policies and demographic changes at the state level. *Journal of Adolescent Health, 46*(6), 517-524.

Zapka, J. M. & Mazur, R. M. (1977). Peer sex education training and evaluation. *American Journal of Public Health, 67*(5), 450-454.