# WHAT DO ADOLESCENTS WANT IN SCHOOL-BASED AND SNS-DELIVERED SEX EDUCATION?

by

**Tanisha L. Watkins**

**A Thesis**

*Submitted to the Faculty of Purdue University*

*In Partial Fulfillment of the Requirements for the degree of*

**Doctor of Philosophy**


Department of Consumer Science

West Lafayette, Indiana

December 2019

# THE PURDUE UNIVERSITY GRADUATE SCHOOL
# STATEMENT OF COMMITTEE APPROVAL

**Dr. Richard Feinberg, Chair**
Department of Consumer Science

**Dr. Yumary Ruiz**
Department of Health and Kinesiology

**Dr. Lala Archarya**
Department of Health Sciences

**Dr. Marifran Mattson**
Department of Communication

**Approved by:**
Dr. G. Jonathon Day

*This dissertation is dedicated to all the people that I love. Thank you for supporting this mad scientist throughout this crazy journey. To my son, Jalen Elijah, I hope this dissertation makes you proud. Andrew, if I could give you an honorary doctorate for most supporting husband, I would. Your support has made all the difference. Thank you. To my mother and her mother, I love you guys. Thank you for showing me that quitting is never an option.*

*Lastly, to all the underdogs, we prevail! This one's for us.*

# ACKNOWLEDGMENTS

At the end of my defense, my committee commended me on my resilience. It is true, my PhD journey has been a whirlwind and I thought about quitting many times, but I am thankful that God brought this work to completion. I am proud of myself for making it through. Thank you to my parents, my mom for her endearing support and my dad for the gift of gab. I am forever grateful for my whole family, who probably cannot tell you what I studied or what this dissertation is about, but they kept me encouraged and supported me each in their own way so I could get to the finish line. The kids that call me Cousin Shae, love you guys. Dr. Feinberg, thank you for being my third and best advisor, I am glad your career ends with me as your final student, saving the best for last. To my committee members, Dr. Mattson, Dr. Ruiz, and Dr. Acharya, thank you for being mentors and allies. You all are what's right about academia. I am happy you all were on my committee. Thank you to my sisters, cousins and friends. You all kept me sane and grounded. Thanks for helping my bachelorette weekend go viral!

Special thanks to Community HealthNet Health Centers in Gary, IN, Christine Amidon, CHS, Amber Reed and the Montgomery County Health Department. You all are wonderful. Thanks for doing important work and making a difference. Thank you to my fellow boilermaker and H&M alum, Producer Ryan Lee. Special thanks to Ashleigh Shields for all your writing help and to Debra Wilburn and family for adopting me, Jalen and Andrew. You are a Godsend. Shelley Watson, thanks for always being there to listen. Beyoncé, thank you for making music that inspired me to do my best and to strive to be the Queen B of PhD students. I am also thankful for the two advisors who decided to no longer work with me. Those setbacks helped me grow as a scientist, strengthen my faith and gave me the ammunition to start PhDology, an online community of strong and brilliant PhD students. To PhDology, this community means so much to me. Thank you all for the countless amount of support and well wishes. You all are my friends in my heart and our online support makes a real difference in my offline life.

Jalen and Andrew, couldn't have done any of this without the two of you.

Thank you everyone for taking this journey with me. We made it!

# TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

# LIST OF ABBREVIATIONS

| | |
|---|---|
| AOUM | Abstinence-only-until marriage |
| CSE | Comprehensive sex education |
| CHS | Crawfordsville High School |
| LGBTQ | Lesbian, gay, bisexual, transgender, queer |
| LHD | Local health department |
| SNS | Social networking site |
| STDs | Sexually Transmitted Diseases |
| STIs | Sexually Transmitted Infections |

# ABSTRACT

The outcomes of risky sexual behaviors among adolescents is an acute public health problem in Indiana. State STI rates are second highest among the 13-19 age group, new HIV infections for this group are on the rise and Indiana has the 17th highest teen birth rate in the nation (Centers for Disease Control and Prevention [CDC], 2018; Indiana State Department of Health [ISDH], 2015; ISDH, 2013; ISDH, 2018). In addition to risky sexual behavior, dating violence and sexual assault are significant problems for Indiana teenagers (CDC, 2016; The Indiana Youth Institute, 2017). In the hopes of mitigating these problems more effective approaches are needed to help adolescents make healthy decisions in all aspects impacting their sexual well-being.

School-based health education has been found to be a cost-effective approach that can help teens adopt healthy sexual attitudes and behaviors. Although student input can help develop effective sexual health curriculum, student voice is not well-documented in sex education curriculum development and implementation. The primary goal of this dissertation was to fill this gap by exploring high school students' preferences for their ideal school-based sex education curriculum. Specifically, the aims of this dissertation investigated 1) students' opinions about their current sex education 2) students' recommendations for content and instruction preferences in their ideal sex education curriculum and 3) the manner in which pertinent sex education content can be disseminated via social media.

A mixed-methods approach was used to collect the opinions and beliefs of Indiana high school students ages 14-18. Findings revealed that participants in this study wanted school-based sex education that included information and instruction that was 1) ***relevant***-timely and applicable to students' current lived experiences, 2) ***relatabl***e-made a personal connection with students and 3) ***reliable***-medically sound information that was inclusive of a variety of sexual activities and sexual orientations. In addition, results showed that adolescents were in favor of receiving sex education from the SNS of LHDs, but they knew very little about their LHDs and their SNS accounts. Therefore, participants suggested that LHDs 1) inform intended audiences about ***products*** by building offline connections 2) use ***promotions*** to create greater brand awareness 3) emphasize ***price*** during giveaways and ***publicize*** free services and 4) use the right ***people*** to motivate others to follow accounts. Henceforth, this study suggests that the student

voice could be a tool to develop sex education and health promotion strategies that resonates with adolescents.

# INTRODUCTION

The outcomes of risky sexual behaviors among adolescents is an acute public health problem in Indiana (Indiana State Department of Health [ISDH], 2018). Sexually transmitted infection (STI) rates are second highest among the 13-19 age group, and Indiana has the 17th highest teen births rate in the nation (Centers for Disease Control and Prevention [CDC], 2018; ISDH, 2015; ISDH, 2013). From 2015-2017, new HIV infections among 15-19-year-olds have increased 23% (ISDH, 2018). In addition to risky sexual behavior, dating violence and sexual assault are significant problems for Indiana teenagers (CDC, 2016; The Indiana Youth Institute, 2017). To improve poor sexual health outcomes among Indiana adolescents, more effective approaches are needed to educate and persuade adolescents to avoid engaging in risky sexual behaviors.

School-based sex education is a cost-effective prevention strategy that can help teens adopt healthy attitudes and behaviors, including those that reduce their risk for HIV, STIs, and pregnancy (CDC, 2017). Although Indiana law mandates AIDS/HIV education be taught in all public schools, these units do not include sexual health education. Sexual health education is considered a separate subject and is not required to be taught to students.

Although not required The Indiana Department of Education (IDOE) recommends that sexual health education be taught as part of comprehensive health education. Local districts are not required to adhere to this (Instruction on Human Sexuality or Sexually Transmitted Diseases, 2005).

Even when school-based sex education is provided to Hoosier teens, it appears that students may not receive the most effective information (USDHHS & CDC, 2015). There are two main types of formative sex education curricula in the United States; abstinence-only-until-marriage (AOUM) and comprehensive sexual education (CSE). AOUM curricula, the most commonly taught, promotes sexual activity only after marriage and reports birth control as an ineffective method against sexually transmitted diseases (STDs) and pregnancies. A report by the U.S. House of Representatives found such programs frequently contained medically incorrect information and misrepresented facts about contraceptives, abortion, and the biology of gender (Advocates for Youth, 2009). CSE emphasizes abstinence but also provides medically accurate information on birth control and condom use. This approach has proven more effective than

abstinence-only education to delay the start of sexual activity, increase the use of birth control, lower rates of STI transmission, and the spread of HIV/AIDS (Kirby, 2008; Kohler, Manhart, & Lafferty, 2008; Stanger-Hall & Hall, 2011).

Indiana is an abstinence-minimum state, meaning comprehensive topics can be taught as long as abstinence is stressed first but evidence shows, that instruction avoids teaching comprehensive topics (USDHHS & CDC, 2015). A national report reveals less than half (41.5%) of Indiana high school sexual health educators reported teaching students about how to obtain condoms, just 33.6% taught how to use a condom correctly, and only 27.6% of teachers taught all 16 HIV, STD, or pregnancy prevention topics recommended by the CDC (USDHHS & CDC, 2015). Coincidentally, even though 89.6% of Indiana adolescents reported learning about HIV infection in school, 46.6% of sexually active teens reported not using a condom during their most recent sexual intercourse (ISDH, 2013; USDHHS & CDC, 2015). Such statistics indicate Indiana secondary schools cannot solely rely on HIV education to teach students about how to protect themselves from HIV. It further appears that schools need to expand education about condom use and other contraception within a sexual health curriculum (USDHHS & CDC, 2015).

## Problem Statement

The sexual health outcomes of Indiana teens suggest that students may be in need of an improved education that will help them make healthier sexual decisions. One way to improve sex education and possibly adolescent sexual health outcomes, is to learn directly from and incorporate components that students desire in a sex education curriculum. To more effectively impact students' attitudes and behaviors, scholars contend that the content of sex education and materials should reflect the age, sexual experience, needs, assets, and culture of young people in the program (Allen, 2008; Eisenberg, Wagenaar, & Neumark-Sztainer, 1997; Kirby, 2007). Although student input can help develop an effective curriculum, student voice is not well-documented in sex education curriculum development and implementation. Student voice is important to investigate because what students desire may or may not align with what schools offer. Several studies have shown that students tend to support sex education topics that are not normally covered in their sex education curriculum such as contraception use, condom demonstrations and relationship management (Eisenberg et al., 1997; Layzer et al., 2014; Orgocka, 2004; Pound, Langford, & Campbell, 2016; Yoo, Johnson, Rice, & Manuel, 2004).

Little is known, however, about the impact of the concordance between what students are offered and what they prefer in their sex education and the possible impact this agreement or disagreement can have on students' evaluations of their current sex education, opinions about what they prefer in their ideal sex education, and their sexual health attitudes and behaviors.

## Overview and Purpose of the Research

The primary goal of this dissertation is to explore Indiana high school students' preferences for their ideal sexual health education. More specifically I explored students' (the information consumers) recommendations for both curriculum content and delivery of this sex school-based sex education curriculum. Unfortunately, given the numerous approvals needed to change school-based sex education, there is not a timely or simple relationship between defining students' ideal sex education and implementing it in school curriculum. Indiana legislators and school officials historically have been reluctant to change legislation and guidelines regarding sexual health education (Hayden, 2015). Given the poor sexual outcomes of Indiana teens, it is imperative to implement strategies sooner than later. It is feasible to effect change in a timely fashion by incorporating student input into sexual health materials that can be distributed by health organizations. Indiana school districts are allowed to supplement their sex education with materials from nonprofits, health departments and local health organizations. By partnering with schools, local health departments can distribute student-informed materials after and during classroom presentations, and most promising through their social networking sites (SNS).

As adolescents shift their media consumption, SNS are becoming promising channels to provide health information to this population. Although health organizations are beginning to use these platforms to disseminate health information, many local and state health departments have a low following, receive few likes and simply are not reaching or engaging their intended audiences (Harris, Mueller, & Snider; 2013; Thackeray et al., 2012). Therefore, a secondary goal of this dissertation is to explore Indiana high school students' opinions about receiving SNS-delivered sexual health information from local health departments when student-informed, school-based sex education is unavailable. This inquiry will also explore student recommendations for how local health departments can attract and gain adolescent followers to their SNS accounts.

## Preview of Subsequent Chapters

Chapter One provides an overview of the sexual health outcomes of Indiana adolescents and the rules governing the sexual health education Indiana students receive. This section will also contain a review of literature on school-based sex education and previous student perspectives.

Chapter Two offers a review of literature on adolescents' uses of SNS and health departments' current uses of SNS for health promotion. Next, there will be an overview of student opinions about receiving sexual health information from health organizations and the challenges these organizations face gaining followers on SNS.

Chapters Three provides the details of the research design for this dissertation. This section will include research aims, questions, and the methodology for this study.

Chapter Four contains the results and discussion from the collected data.

Chapter Five discusses final conclusions and directions for future research.

# CHAPTER ONE SEX EDUCATION LITERATURE

## Introduction

This chapter presents statistics about the sexual health outcomes of Indiana adolescents and reasons why this public health issue requires immediate attention. Next, there will be a review of literature about the appropriateness of schools to address the sexual health needs of students, the two main sexual health curricula offered in the United States, and evidence of each curriculum's impact on sexual health behaviors. Finally, this chapter will describe Indiana's current sex education guidelines, its effectiveness and evidence on how Indiana's current curricula aligns with adolescent preferences.

## Epidemiological Assessment

### Poor Birth Rates

Indiana consistently ranks as one of the worst states for adolescent sexual health. Indiana placed 17 out of 51 (with 1 representing the highest rate) on final 2016 teen births rates among females aged 15-19 (CDC, 2018). Teen births in Indiana are also declining at a slower rate than national average. From 2014 to 2015, the 6% change in the teen birth rate in Indiana, was lower than the 8% national average, making the state's teen birth rate higher than the nation for both 15-17 and 18-19-year-olds (Office of Adolescent Health U.S. Department of Health & Human Services, n.d.). The consequences of poor adolescent sexual health outcomes are not limited to the teenagers themselves. In 2010, teen births cost Indiana taxpayers close to $227 million (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2014). These costs include health care, foster care, incarceration costs for children of teen mothers, and loss of tax revenue from low educational and occupational attainment of teen mothers. Thus, improving teen pregnancy rates stands to benefit all Indiana residents.

### Poor STD Outcomes

Improving STD outcomes among Hoosier teens is also a top public health concern. According to ISDH's 2015 Spotlight Semi-Annual Report, STI rates are second highest among

the 13-19 age group. Teenagers 19 and under account for 31.6% of all chlamydia cases, 24.8% of all gonorrhea cases, and 6.5% of all syphilis cases in Indiana (ISDH, 2015). As a result, Indiana nationally ranks 22nd among the 50 states in chlamydia infection, 17th for gonorrhea, and 26th for syphilis in this age group (CDC, 2013). HIV infection is also on the rise for this population. Although the highest rates of new HIV infections were not among adolescents, from 2015-2017, new HIV infections among 15-19-year-olds increased 23% (ISDH, 2018).

**Current Sexual Activity**

Results from the 2015 Youth Risk Behavior Survey (YRBS), also suggests the need for immediate and effective intervention (The 2015 YRBS is the most current YRBS available for Indiana students. During the 2017 YRBS data collection, sampled schools in Indiana had a low response rate and fell short of obtaining weighted data [Commission on Improving the Status of Children in Indiana, 2018]). The YRBS is a nationally distributed questionnaire that collects information biannually high school students. The YRBS is a part of the Youth Risk Behavior Surveillance System (YRBSS) which gathers behaviors related to the leading causes of mortality and morbidity among youth and tracks how these risk behaviors change throughout time (CDC, 2015). The behaviors are grouped into six categories and one category focuses specifically on sexual behaviors that contribute to unintended pregnancy and STDs. 1,912 students from 43 Indiana public high schools participated in the spring 2015 survey. Overall, the school response rate for Indiana was 73%, 82% of students who received the survey responded, making the overall response rate 60%. These results were determined to be representative of Indiana students in grades 9-12.

The 2015 YRBS reveals the current sexual behaviors of Indiana high school students and shows that 41.7% of adolescents reportedly have had sexual intercourse and almost one-third (31.7%) are currently sexually active. A little less than half, 46.6%, of sexually active students reported not using a condom during their last sexual encounter. Additionally, in 2011, 13% of sexually active students reported not using any method of pregnancy prevention during their last sexual encounter, in 2015, that number increased to 15.5% (CDC, 2015).

## Dating Violence and Sexual Assault

In addition to risky sexual behaviors, dating violence and sexual assault are also significant problems for Indiana teenagers. In regard to high school students who reported experiencing sexual dating violence within the last year, Indiana is at the top of the list, ranking third highest out of 30 states who measure this health outcome (CDC, 2016). The YRBS defines sexual dating violence as an encounter in which a student was forced to kiss, touch or have sex with someone they were dating or going out with. Since 2001, adolescent dating violence rates in Indiana have consistently been higher than the national average. In 2015, 1 out of 8 or 12.6% of Indiana students reported being victims of sexual dating violence, 10% reported being victims of physical dating violence, the national averages were 10.6% and 9.6 respectively (The Indiana Youth Institute, 2017).

It is important to address dating violence as a public health concern. Even if an instance of dating violence occurs once, it increases a student's susceptibility to other risk factors. An independent analysis of the 2011 YRBS responses revealed, when compared to students who were not victims, Indiana students who were victimized in a dating violence incidents, were almost four times more likely to report a history of sexually transmitted disease (Northeast Indiana Area Health Education Center & Office of Institutional Diversity Ball State University, n.d.). The study also found that students who reported abuse were 4.4 times more likely to be forced to have sex.

## Summary

The current behaviors, sexual climate, and poor sexual health outcomes among Indiana teens demonstrate why improving adolescent sexual health should be a state public health priority. One way to decrease poor health outcomes is to provide teens with adequate sexual health instruction that can help them make responsible sexual decisions throughout their adolescence and into adulthood. School-based sexual health education is a practical, economical, and effective approach to improving adolescent sexual behaviors (CDC, 2017). The next section will discuss the importance of sexual health education and the current sexual health instruction in Indiana.

## Sexual Health Education

### Importance of school-based sexual health education.

Adolescents can receive sexual health education from a variety of sources such as parents, peers, media, and churches. These sources, however, may not provide the most accurate or effective instruction. For instance, parents have reported having difficulties talking about sex and need guidance on how to approach such discussions; especially on topics such as birth control and pregnancy prevention (Newby, Bayley, & Wallace, & 2011; Planned Parenthood Federation of America & Center for Latino Adolescent and Family Health, 2011). Despite a national decline in adolescents' receipt of formal sex education, parents have done a poor job of filling these gaps by educating their teens on their own (Lindberg, Maddow-Zimet, & Boonstra, 2016). Although parents commonly discuss how to say no to sex, there is little discussion about contraception, access to birth control and boys are more likely than girls to receive information about STDs and condom use (Lindberg et al., 2016). The authors recommend that adolescents need other sources outside of their parents to receive balanced and comprehensive sexual health information.

Teens have also reported being uncomfortable receiving parent-child sexual communication. In one national survey, only 17.5% teens reported feeling very comfortable talking to their parents about sex (Planned Parenthood, 2012). Another survey found that close to 1 in 4 teen girls and 1 in 3 teen boys do not talk with their parents at all about how to say no to sex, birth control, and STDs (Lindberg et al., 2016). When teens feel uncomfortable talking with their parents, they may turn to their peers for sexuality information. Peer influence can play a critical role in adolescent risky sexual behaviors (Widman, Choukas-Bradley, Helms, & Prinstein, 2016). On one hand, the peer influence may be helpful in that it provides adolescents an outlet for questions and discussion, but, for many, the influence can have detrimental consequences (Croatt, 2012). A sense of insecurity when communicating about sex and fear of rejection can cause some adolescents to not share their beliefs and possibly change their behaviors to gain respect and acceptance from others (Shoveller, Johnson, Langille, & Mitchell, 2004). Peer influence has also been shown to increase the likelihood of engaging in sexual

intercourse, unprotected sex and oral sex (Miller & Moore, 1990; Prinstein, Meade, & Cohen, 2003; Sieving, Eisenberg, Pettingell, & Skay, 2006).

Challenges with parents and peers to disseminate reliable information makes school-based sexual health education an ideal source to fill the gap. Since students spend a majority of their time at school, this is an opportune setting to shape students' attitudes and behaviors. Most students are in school "at least 6 hours a day for 13 years of their social, physical, and intellectual development" (CDC, 2010, p.1). By providing well-designed, well-implemented, school-based sexual health education, schools can help adolescents adopt attitudes and behaviors that support a healthy sexual lifestyle throughout adulthood (CDC, 2017). In addition, many sex education programs are already well designed enough to be adapted and taught in school settings (Kirby, 2007). School-based sexual health education is also a cost-effective prevention strategy; educators can cover a variety of topics with many students all at once. One study found that "for every dollar invested in an effective school-based sex education prevention program, $2.65 in medical costs and lost productivity were saved" (CDC, 2017, p.2).

**AOUM sexual education vs. Abstinence-plus comprehensive sexual education.**

School-based sexual health education was first introduced in the early 1900s and remains the primary source of sexual health instruction for adolescents in the United States (Guttmacher Institute, 2017; Huber & Firmin, 2014). There are two broad categories for sexual health education, abstinence-only-until-marriage (AOUM) and abstinence-plus (also known as comprehensive sex education). According to Section 510 of Title V of the Social Security Act of 1996, the federal government defines AOUM education as an educational or motivational program that contains the following eight components [42 U.S.C. 710]:

> (A) has as its exclusive purpose, teaching the social, psychological, and health gains to be realized by abstaining from sexual activity;
>
> (B) teaches abstinence from sexual activity outside marriage as the expected standard for all school age children;
>
> (C) teaches that abstinence from sexual activity is the only certain way to avoid out-of-wedlock pregnancy, sexually transmitted diseases, and other associated health problems;

(D) teaches that a mutually faithful monogamous relationship in context of marriage is the expected standard of human sexual activity;

(E) teaches that sexual activity outside of the context of marriage is likely to have harmful psychological and physical effects;

(F) teaches that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society;

(G) teaches young people how to reject sexual advances and how alcohol and drug use increases vulnerability to sexual advances; and

(H) teaches the importance of attaining self-sufficiency before engaging in sexual activity.

As evidenced by these guidelines, the central rationale of AOUM education is to increase risk avoidance by promoting that teens delay sex until marriage (Weed & Ericksen, 2017). This approach does not include information about contraception or condom use, excludes abortion, and emphasizes sexually transmitted infections and diseases as key reasons to remain abstinent (Collins, Alagiri, Summers, & Morin, 2002).

Comprehensive sexual education (CSE) programs emphasize abstinence but also offer information on contraception and protection against STDs (Bleakley, Hennessy, & Fishbein, 2006). Currently there are no federal guidelines governing CSE, instead the Sexuality Information and Education Council of the United States (SIECUS) developed the National Guidelines Task Force (NGTF) to develop the *Guidelines for Comprehensive Sexuality Education — Kindergarten–12th Grade.* The guidelines, which were first published in 1991 and last updated in 2004, identify the role of sexuality education in promoting sexual health:

(A) It provides accurate information about human sexuality, including growth and development, anatomy, physiology, human reproduction, pregnancy, childbirth, parenthood, family life, sexual orientation, gender identity, sexual response, masturbation, contraception, abortion, sexual abuse, HIV/AIDS, and other sexually transmitted infections.

(B) It helps young people assess, contemplate and develop healthy attitudes about society, gender and sexuality. This education can help improve critical-thinking skills, increase

self-esteem and self-efficacy and help young people understand how their sexuality is shaped by and affects their families and society at large.

(C) It helps young people develop communication, decision-making, assertiveness, and peer-refusal skills so when they are adults they can create reciprocal, caring, non-coercive, and mutually satisfying intimacies and relationships.

(D) It encourages young people to make responsible sexual decisions such as practicing abstinence, postponing sexual intercourse and resisting sexual pressures.

Compared to AOUM, CSE includes a greater variety of sexuality related topics. Researchers note that CSE also better covers a spectrum of teens by simultaneously providing useful information to students who are virgins and those who are sexually active, regardless of their sexual orientation (Weed & Ericksen, 2017). A guiding rationale behind CSE is the assumption that a sizable proportion of adolescents will engage in sexual activity (Weed & Ericksen, 2017). Therefore, CSE aims to protect teens by teaching risk reduction approaches, such as condom use, condom negotiation, and contraceptive use, that can help minimize the chances of becoming pregnant and contracting STDS.

**Controversy over Sexual Health Education Approaches.**

Sexual health education has been controversial since its inception and remains a contentious public topic of debate. One of today's main disagreements stems from whether public schools should offer AOUM or CSE curricula (Stanger-Hall & Hall, 2011). Moral and religious observations have been reasons proponents favor AOUM education. Some proponents of AOUM argue that teaching adolescents where to obtain condoms and contraception, and how to use them, promotes immoral or unhealthy sexual behavior and in result can increase STD and pregnancy rates (Kirby, 2007). Others believe that abstinence is the best, most effective protection against STDs and pregnancy and oppose classroom instruction that includes safer sex safe practices such as condom and contraception use because they are not foolproof (Concerned Women for America, 1998). AOUM advocates have also expressed concern that information about safe sex will encourage early sexual activity among young people (Starkman & Rajani, 2002).

One reason opponents dislike AOUM education is because these programs have been found to frequently espouse medically incorrect information. A 2004 U.S. House of

Representatives report revealed 80% of federally-funded AOUM programs used information that contained scientific errors and misrepresented facts about contraceptives, abortion, and the biology of gender (Waxman, 2004). Additionally, social justice advocates argue that AOUM education discriminates against women, girls, and can be harmful to LGBTQ youth. Organizations such as The Center for Reproductive Rights and Human Rights state that AOUM curricula often rely on stereotypes that undermine female sexual decision-making and reinforce the stigma and hostility that LGBTQ youth already experience by teaching primarily about heteronormative intercourse (Center for Reproductive Rights & Human Rights Watch, n.d.). To promote a healthy environment for all youth, researchers have recommended that schools ensure health curricula and materials include HIV and STD information that is relevant to LGBTQ youth (Hatzenbuehler, Birkett, Van Wagenen, & Meyer, 2014; Mustanski, Greene, Ryan, & Whitton, 2015; Pingel, Thomas, Harmell, & Bauermeister, 2013).

**Effectiveness of sexual health education curricula.**

The biggest argument for CSE, perhaps, is that AOUM education has proven ineffective in changing adolescent risky sexual behaviors and delaying sexual debut. Several studies and systematic reviews have concluded that AOUM instruction is less effective at reducing sexual risk behaviors when compared to CSE (Chin et al., 2012; Kirby, 2007; Kirby, 2008; Silva, 2002; Trenholm et al., 2008; Underhill, Montgomery, & Operario, 2007). Kirby (2008) conducted a systematic review of 56 studies completed or published after 1990 that compared the impact of AOUM and CSE programs on adolescents' sexual behaviors. This review is often cited because the inclusion criteria excluded studies that were poorly designed and did not meet reasonable standards for scientific evidence, providing an objective and fair comparison between the two program types. 48 comprehensive education programs were included in the review while only 9 AOUM programs met the inclusion criteria.

Only one-third of the AOUM programs were shown to positively impact adolescent sexual behavior. Two AOUM programs were able to delay sexual debut and the frequency of sexual intercourse and one study was effective in reducing the number of partners. None of the AOUM studies increased condom use, contraceptive use, or decreased sexual risk taking. In contrast, nearly two thirds of comprehensive programs exhibited strong evidence for positively impacting sexual behavior. 47% of programs delayed sexual debut, 29% reduced the frequency

of sex and 46% reduced the amount of sexual partners (Kirby, 2008). Results became slightly more positive when the author excluded studies that had quasi-experimental designs and only examined those with rigorous experimental designs. The author concluded that the evidence shows CSE programs produce better behavioral outcomes and such programs warrant widespread replication.

More recent meta-analyses conducted by the CDC confirmed Kirby's findings. Chin and colleagues (2012) conducted two separate systematic reviews on 21 AOUM and 62 CSE programs to evaluate their effectiveness for reducing adolescent pregnancy, HIV and STIs. Using the random-effects model to account for between and within-study variability, data was aggregated across all studies and an overall weighted mean OR with corresponding 95% CIs was calculated for each study (Sipe et al., 2012, p. 300). Results showed that CSE programs were effective in reducing the frequency of sexual activity, the number of sexual partners, unprotected sexual activity, decreasing STI infections and pregnancy and increasing the use of protection (Chin et al., 2012). The review of AOUM interventions did suggest reductions in sexual activity, however because of large differences in study effect estimates, the researchers stratified the studies by type of study design and found a nonsignificant effect on the frequency of sexual activity. Researchers, thus, were unable to draw clear conclusions about the effectiveness of abstinence education programs.

AOUM sex education has also been found to have the same effect on teenage sexual behavior as not receiving any sexual education at all (Collins, Alagiri, Summers, & Morin, 2002). In a survey comparing the sexual health risks of adolescents who received AOUM, CSE or no formal sex education, researchers discovered that students who received CSE had reduced risks for pregnancy and of initiating sexual activity than adolescents who received AOUM or no sex education (Kohler et al., 2008). An evaluation of four Title V, Section 510 abstinence education programs also revealed there was no significant differences on rates of sexual abstinence between control and program youth (Trenholm et al., 2007).

**Current sexual health education in Indiana.**

Despite the ineffectiveness of AOUM programs, they continue to be the norm in public schools offering sexual education, meaning many students, including Indiana teens, may not receive the most effective sex education available (Guttmacher Institute, 2017). Policies

governing Indiana sex education are often misinterpreted. Although Indiana is often referred to as a state that offers on AOUM sex education, state law implies an abstinence-minimum sexual health education policy. State law only mandates that schools provide HIV/AIDS education; however, sexual health education is considered a separate subject and is not required to be offered to students. Individual school districts have the option of providing instruction to students in the 6th grade or higher. If sexual health education is taught, the law requires instruction to stress abstinence as the expected standard of behavior. This, however, does not make Indiana an AOUM state, instead it is abstinence-minimum, meaning comprehensive topics can be taught as long as abstinence is stressed first. While the state sets up the general curriculum, it is up to each school district to decide if, when, how much and what type of sexual health education instruction is available to students.

Although each school district can create their own curriculum and teach more than abstinence education, evidence shows many programs avoid teaching comprehensive topics. The School Health Profile (SCP) is a national survey that assesses the percentage of secondary schools that implement policies and practices suggested by the CDC to improve critical health issues faced by school-aged children and adolescents (USDHHS & CDC, 2017). 300 principals and 295 lead health education teachers from a sample of Indiana middle and high schools each completed a self-administered questionnaire. Results show that Indiana high school schools that offered sex education frequently reported teaching the benefits of being sexually abstinent, factors that influence risky sexual behaviors, and how to access reliable HIV, STD, and pregnancy information (USDHHS & CDC, 2017). Reports of teaching topics related to condom instruction, however, declined. Close to 60% of Indiana high school teachers reported teaching about the importance of using condoms consistently and correctly, just 46.7% taught students how to obtain condoms, and approximately 40% taught students how to use condoms correctly. Half of Indiana high school educators did report teaching about sexual orientation and gender roles but overall and only 31% taught all 19 HIV, STD, or pregnancy prevention topics recommended by the CDC (USDHHS & CDC, 2015).

Statistics also suggest that HIV education may need to be supplemented with sexual health education in order to be more effective. Even though 89.6% of Indiana adolescents reported learning about HIV infection in school, 46.6% of sexually active teens reported not using a condom during their most recent sexual intercourse (ISDH, 2013; USDHHS & CDC,

2015). Implications from the SCP survey, as well as the poor sexual health outcomes of Indiana teens, shows students are not receiving the most relevant education they need to make safe healthy sexual decisions. National health organizations have recommended that Indiana secondary schools expand education about LGTBQ youth health, condom use and other contraception in their sexual health curriculum (USDHHS & CDC, 2015).

**Student Voice.**

While it may appear that Indiana school officials should replace AOUM curricula with a CSE approach the solution is not that straightforward. Researchers have argued to best impact students' attitudes and behaviors, the content of sexual health education and materials should reflect the age, sexual experience, needs, assets, and culture of young people in the program (Allen, 2008; Eisenberg et al., 1997; Kirby, 2007). Curricula that incorporates student voice, the perspectives, needs and experiences of the learner, through participation, collaboration and working relationships, has shown to be beneficial to education (e.g. Fielding, 2001; Mitra 2004). Student voice can take many forms but an approach that is pertinent to curriculum development includes students sharing "their opinions of problems and potential solutions" (Mitra, 2004, p.651).

An analysis of curriculum-based sex and STD/HIV education programs revealed a common characteristic of an effective curriculum involved learning directly from adolescents about the health issue and their needs (Kirby, 2007). Student voice is particularly helpful in curriculum development because it can help remove adult-dominated discourse from the curriculum and affords students the autonomy to describe their health issues and concerns in their own terms (Allen, 2008; Sanjakdar et al., 2015). This information is particularly helpful because it helps school officials better uncover factors that influence risky sexual behaviors and provides and in-depth understanding of why adolescents engage or avoid engaging in certain sexual health behavior (Kirby, 2007). Also, given that students participate in the sexual health courses, they possess unique insight on current instructors and curricula and are the only ones who can attest to the reception of the information that is being presented (Eisenberg, Wagenaar, & Neumark-Sztainer, 1998; Mitra, 2009). All of this information can improve sex education to make it more suitable in meeting adolescents' development needs (Sanjakdar et al., 2015).

**Student voice impact.**

Incorporating student voice in education has shown to have favorable outcomes not only for effective curricula development but for unintended but important student outcomes. One report found when students perceive they have a voice in school matters, they were seven times more likely to be academically motivated and more likely to experience self-worth, engagement, and purpose in school (Quaglia Institute for Student Aspirations, 2016). Meaningful student voice efforts can also help students expand cognitive and social competencies and have been linked to positive associations of student wellbeing (Anderson & Graham, 2015; Mitra, 2004). Student voice in education has even shown positive implications for classroom practice. Youens and Hall (2006) found that student voice helped teachers gain a better understanding of school culture and this insight was used to guide teaching styles and strategies. Similarly, student feedback has led to improvements in curriculum and assessment development and has allowed teachers to better identify what matters to students while strengthening their relationships with them (Cook-Sather, 2006; Fielding, 2001; Rudduck & Flutter, 2000). This work serves as the foundation for predicting that for the same reasons incorporating student voice has a positive effect on learning, it might also have positive effects on learning and decision-making about sexual behaviors.

Although student voice has shown a favorable impact for students and classroom environments, it is not well-documented in pedagogical practices (Cook-Sather, 2006; Mitra, 2004; Jackson, 2013; Sanjakdar et al., 2015). Power imbalances between teachers and students seem to mediate classroom interactions that limit student voice by ascribing dominant voices to teachers and subordinate and voices to students (Kehily, 2002; Arnot & Reay, 2007). Teacher assumptions about students' sexual behaviors may limit students' exposure to only information adults perceive students need. Incorporating student voice into sexuality pedagogical practices gives teachers and students opportunities to make meaning together which can potentially create a more effective learning environment (Sanjakdar et al., 2015).

The prevalence of sexual activity among Indiana adolescents and their poor sexual health outcomes demonstrates that adolescents need more effective education. A youth-centered approach may be instrumental to helping young people make autonomous informed decisions regarding their own sexual health (Kimmel et al., 2013, p. 182). Therefore, to develop the most meaningful information, Indiana school officials should develop one that is guiding by youth

insight. Although researchers advocate for youth-informed curricula, youth perspectives about sexual health education, especially those of American adolescents, remain relatively absent from scholarship (Eisenberg et al., 1997; Hermann, Kelley & Haigh, 2017; Kimmel et al., 2013; Pound, Langford, & Campbell, 2016). The next section will review the available literature on adolescent perspectives about school-based sexual health education.

## Student Perspectives about Sexual Health Education

### Global youth perspectives of school-based sexual health education

A recent meta-analysis of qualitative studies of young people's opinions about school-based sexual health education shows much of the available research has taken place outside of the United States (mostly in the United Kingdom; Pound, Langford, & Campbell, 2016). Despite the geographical reach and time of the studies, the authors report young people's views are relatively consistent. The results reveal two main themes: 1) schools have done a poor job of treating sexual health education as a special, distinctive topic and 2) schools have difficulty accepting that young people are sexually active and thus sexual health education is out of touch with many young people's lives, especially those that are sexually active.

The first theme shows youth view sexual education as a powerful, sensitive topic and they want educators to be mindful that it cannot be treated in the same manner as other topics (Pound, Langford, & Campbell, 2016). Due to the sensitivity of the topic, students frequently discussed wanting qualified and trained sexual health educators. Teachers were generally regarded as unsuitable for sexual health instruction as they often were perceived as untrained, unprepared and embarrassed to talk about sex (Pound, Langford, & Campbell, 2016). This affected students' perceptions of the quality of the education they received and their willingness to ask questions. Confidentiality, credibility and freedom from judgement were highly regarded qualities students desired from educators. Youth reported hesitation sharing personal information with the teachers they interacted with on a daily basis, thus some youth prefer to receive information from peer educators and health professionals.

Although students express discomfort receiving information from their teachers, the authors of the study argue that with this insight, teachers are the most sustainable sexual health educators given their already established positions in schools (Pound, Langford, & Campbell,

2016). The findings suggest that educators could improve instruction and their trustworthiness by creating safe and confidential spaces for discussion. Teachers could better maintain control over the classroom by establishing ground rules for discussion and engaging in group talk rather than singling out individuals. Teens also reported that specialness could be achieved if sexual health education was not overly biological and moralistic. The authors emphasize that part of the effectiveness of sexual health education largely depends upon the educator delivering it (Pound, Langford, & Campbell, 2016). The authors recommend that schools acknowledge the delicacy of providing sexual health information and investigate ways to deliver education that makes students and educators feel safer.

Global youth perspectives also reveal that sexual health education content fails to discuss issues relevant to their reality and preferences. Students reported disliking abstinent messaging, finding it unrealistic and many wanted sexual health education offered to them earlier (Pound, Langford, & Campbell, 2016). Youth also want to have open dialogue about sex, content that matched their emotional and sexual maturity and topics that covered a range of sexual activities outside of heterosexual intercourse. Sexually active teens wanted education that reflected their actual experiences specifically information about community health services, options if pregnancy occurs, an overview of contraceptive methods, and conversations about emotions and relationships (Pound, Langford, & Campbell, 2016).

**U.S. youth support comprehensive sexual health education.**

Like Pound, Langford, & Campell's (2016) findings, much of the existing literature on American youths' perspectives of school-based sexual health education, concludes that teens are in favor of comprehensive sexual education (Aquilino & Bragadottir, 2000; Eisenberg et al., 1997; Hammonds & Schultz, 1984; Herrman, Kelley, & Haigh, 2017; Kimmel et al., 2013). Teens have expressed that while abstinence is a valuable part of sexual health education it should not be the only content covered, and it may be most suitable for younger students (Aquilino & Bragadottir, 2000; Kimmel et al., 2013). Eleven focus groups with 75, 14-17-year-olds revealed students dismissed the concept of abstinence-only education and wanted education that described what sex was like (Herrman, Kelley, & Haigh, 2017). Students' support for CSE has largely been driven by the desire to have curricula that is developmentally appropriate, truthful, inclusive of the positives and negatives of sexual behavior, meaningful and "real" (Herrman, Kelley, &

Haigh, 2017, p. 91; Kimmel et al., 2013). Students report being more comfortable when they felt their lives and needs were understood by teachers adding that sexual health education would be better received and effective if it provided realistic examples and focused on current issues of adolescent life (Eisenberg et al., 1997; Herrman, Kelley, & Haigh, 2017; Kimmel et al., 2013).

**U.S. youth sexual health education content preferences.**

Youth recommendations for sexual health education covers a breadth of topics. Eisenberg et al. (1997) were among the first to specifically explore, U.S. student preferences for school-based sexual health education. Focus groups with 29 Minnesota high school 9th-12th graders, revealed students' ideal curriculum would include information about outside resources, consequences of sexual activity, homosexuality, abortion, reproduction, parent communication, sexual violence, decision making and social factors such as stereotypes and gender roles. Over the past 20 years, these content choices have remained relatively the same. Access to resources, decision making, parent communication, information about contraceptive use and STD prevention continue to be frequently suggested as topics adolescents want in their sexual health curriculum (Aquilino & Bragadottir, 2000; Hermann et al., 2017; Kimmel et al., 2013).

Newer research has revealed that some adolescents want the tone of sexual education to change. Eleven focus groups conducted with 75 high school students (ages 14-17) revealed that students believed that consequence-based messages did not impact behavior and instead wanted information that focused on the positive aspects and safer practices of sexual activity (Hermann et al., 2017). This largely includes learning about the emotional aspects of being sexually active and how it can impact relationships (Aquilino & Bragadottir, 2000; Hermann et al., 2017; Kimmel et al., 2013). Similar to Pound et al., (2016), Kimmel and colleagues (2013) found that youth want safer sex instruction to include discussions about self-pleasure and discover that young people also want male and female condom demonstrations covered in their sexual health materials. Therefore, researchers recommend that sexual health education "adopt a sex positive approach, in which pleasure and the rewards of sexual activity are framed favorably while addressing the inherent responsibilities" (Hermann et al., 2017, p. 96).

## Gaps in the literature

Studies that document American youth perspectives about school based sexual health education have been sparse over the past 30 years. The studies that are available, have all arrived at similar conclusions by using similar data collection and analysis methods. Although the study instruments differed in each study, they all used a semi-structured interview approach. Focus group transcripts were analyzed, coded and themes about what content preferences were generated from student responses. The confirmability in results strengthens the trustworthiness of findings, however youth may not readily recall all of the topics they may want in sexual health education. To further advance the literature, this dissertation will use surveys along with focus groups to help solicit ideas among participants.

Next, advances in technology, the Internet, and the influence they each have on sexual socialization warrant exploration on whether adolescents believe that these topics should be included in sexual health education. Pound, Langford, & Campbell (2016) found no studies that explored young people's views of sexual health education that covered topics about sexting or online safety. My own search shows no documentation of student views related to consent and social media subjects in regard to school-based sex education, all topics that have recently become pervasive in American culture. Lastly, although students have shown support for including homosexuality as a topic in sexual health content, research has not explicitly explored student opinions about incorporating topics related to LGBTQ sexual health. Interviews with 30 young gay, bisexual and questioning men's (YGBQM) revealed that the ideal school-based sex education would provide content that explored a variety of sexual desires people may experience, different sexual orientations and gender identities, and topics of sexual behaviors that went beyond traditional vaginal-penile sex such as anal sex (Pingel et al., 2013). The specificity of these topics goes beyond the broad topic of homosexuality and need more investigation.

## Research Aims and Questions

The need for student voice in the development of sex education is particularly important given the potential lifelong negative consequences of ineffective education. Knowing and incorporating student feedback into sexual health education is vital to developing a curriculum and instructional methods that will resonate with them. To impact students' attitudes and

behaviors through sexual health education, we need to hear the lived experiences of Indiana adolescents and their recommendations for their ideal sexual health curriculum. The aims of this dissertation are as follows:

**Research Aim 1** is to explore Indiana adolescents' opinions about their current sexual health curriculum.

**RQ1:** What are Indiana adolescents' current opinions about the content of their current sexual health curriculum?

**RQ2:** What are Indiana adolescents' opinions about their current sexual health instruction?

**Research Aim 2** is to explore Indiana adolescents' recommendations for their ideal sexual health curricula.

**RQ4:** What topics would students include in their ideal sexual health curriculum?

**RQ5:** What type of material would students include in their ideal sexual health curriculum?

**RQ6:** What type of instruction would students prefer in their ideal sexual health curriculum?

Schools are not the only institutions that can benefit from learning what students desire in their ideal sexual health education. The next chapter will review the challenges and successes health organizations experience trying to disseminate sexual health education to adolescents on social networking sites [SNS] and how these organizations can help provide sexual health information when schools cannot quickly implement youth informed sex education.

# CHAPTER TWO SNS LITERATURE

This chapter begins by reviewing how adolescents currently use social networking sites [SNS], how SNS are becoming emergent health education tools and adolescent perspectives about using SNS for sexual health information. This chapter will close by exploring the successes and challenges health departments face when using SNS to connect with adolescents.

## Introduction

Learning what students want in their sexual health education can help develop more effective curricula and improve sexual health outcomes, however, the gap between finding out what students want and implementing the changes they desire is quite a large task. In Indiana, despite evidence that CSE programs are more effective than AOUM programs, Indiana legislators historically have been reluctant to changing laws governing sexual health education. Convincing lawmakers, changing legislation, developing a curriculum and producing new materials could mean a student-centered sex education may not be available for Indiana teens for years to come. The poor sexual outcomes of Indiana youth demonstrate that teens need immediate access to up-to-date sexual health information, making the issue of this dissertation quite important.

Indiana school districts are allowed to supplement their sexual health education with materials from nonprofits, health departments and local health organizations. These organizations could possibly help schools more readily provide comprehensive sexual health education to their students. Since state and local health departments would not face the same administrative and political barriers as schools, they possibly could more quickly incorporate student feedback into materials. By partnering with schools, health departments can distribute student-informed materials after and during classroom presentations, and most promising through their social networking sites (SNS). A secondary goal of this dissertation is to explore Indiana high school students' perceptions about receiving SNS-delivered sexual health information from local health departments. This inquiry will also explore student recommendations for how local health departments can electronically attract and retain adolescents to their SNS accounts.

## Sexual Health Instruction

### U.S. youth sexual health instructional preferences.

Research shows adolescents agree that sexual education should be taught in schools, however studies have documented student dissatisfaction with sexual health educators' performance and instruction (Aquilino & Bragadottir, 2000; Hermann et al., 2017; Kimmel et al., 2013). Youth perceive teachers as uncomfortable and untrained when they want open, straightforward, detailed instructions about sex (Hermann et al., 2017; Kimmel et al., 2013). African-American young people (ages 14-23), reported that instructors followed curricular materials too rigidly and provide material without explanation, thus stifling in-depth conversation and question asking (Kimmel et al., 2013). Hermann and colleagues (2017) found similar results, with participants reporting their instruction was not in-depth and there was a need for updated materials. Adolescents have also complained about teachers' inability to cultivate sex-positive or "safe" classroom environments (Eisenberg et al., 1997; Kimmel et al., 2013). Young people reported being afraid to ask questions for fear they would be humiliated by peers.

Teachers' presentation style has also impacted youth involvement in classroom discussion. Students reported not asking questions when teachers appeared to be uncomfortable about a sexual health topic (Pound, Langford, & Campbell, 2016). Overall, student responses indicate that teachers who are uncomfortable discussing sex would be unable to teach it effectively (Pound et al., 2016). Moreover, even if teachers were comfortable with the material, presentations that created embarrassment among students, would make teaching the material ineffective.

To eliminate or compensate for these problems, adolescents have recommended peer and professional educators over teachers when it comes to sexual health education (Kimmel, et al., 2013; Pound et al., 2016). Youth want credible information and anonymity when receiving sexual health information and have discussed becoming uncomfortable receiving such information from teachers they interact with on a daily basis (Pound et al., 2016). The medical expertise of doctors and nurses and the confidentiality they must ensure, have therefore made them attractive choices. Teens also want educators who have knowledge of reproductive health and access to contraception, further making health professionals a preferred option (Aquilino & Bragadottir, 2000; Eisenberg et al., 1997; Hermann et al., 2017).

One study found that health professionals were more effective than classroom teachers when delivering sexual health information to high school students (Borawski et al., 2015). Teachers and school nurses were both effective in conveying sexual health information, however, students in nurse-led sessions had more significant changes in attitudes, beliefs, and efficacy up to a year after the intervention. The results imply health education teachers should not bear the sole responsibility of teaching adolescents about sexual health and involving health professionals could benefit sexual health instruction (Borawski et al., 2015). Health professionals have a unique set of skills and experiences that appear to be useful in teaching the technical and interpersonal skills needed to reduce risky sexual behavior (Borawski et al., 2015).

Borawski and colleagues (2015) recognize due to fiscal constraints and student demands, it may not be realistic for schools to use school nurses in sexual health classes. Outside health professionals also may not have time and resources to commit to teaching classes daily. Therefore, teachers remain the most viable option for providing sexual health information to adolescents (Pound et al., 2016). Adolescents have recommended field trips to sexual health clinics and classes at clinics as ways to incorporate health professionals into school-based sexual health education, other ways health professionals can aid in sexual health education are not well documented (Pound et al., 2016).

Indiana schools could strike a balance of providing students with information presented by health professionals by partnering with local health departments (LHDs) to supplement sexual health education. LHDs can be a key partner in school-and district-level efforts to strengthen student wellness and often provide expertise, support, and evidence-based resources to schools looking to strengthen the health environment for both students and staff (NACDD, 2017). One way LHDs can provide ongoing education to students is by disseminating information through social networking sites (SNS). SNS are emerging as important resources in public health. They offer an inexpensive way to disseminate timely, tailored, science-based, health information to large audiences at one time (CDC, 2011). The next section will provide an overview of SNS, adolescent SNS use, and adolescent opinions about receiving sexual health information on SNS.

## Social Networking Sites

### SNS Trends.

Based on a widely used definition of SNS from public health studies (e.g. Gough et al., 2017; Landry et al., 2013; Moorehead et al., 2013; Syred et al., 2014), social network sites as "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (Boyd & Ellison, 2007, p.211). There is a diverse collective of SNS that vary in scope and functionality (Kietzmann et al., 2011). Currently, Facebook, Instagram, Twitter, Google, Snapchat, Pinterest, LinkedIn, and Tumblr are leading social media platforms, each with millions of users worldwide. These platforms help users maintain relationships, create new connections, and build online networks among people who share similar interests or real-life connections. A SNS normally offers a user profile page, users' links with other people on the site, methods to communicate with other users , and various other services. By design, SNSs focus on user engagement. Users are encouraged to build relationships and that lead individuals to converse, share objects of sociality, meetup, or simply just list each other as a friend, fan, or follower (Ellison, 2007).

SNS have been widely adopted among the teen population and are becoming an ubiquitous part of adolescent daily life. Approximately 94% of teens, ages 13-17, use SNS. The average teen user has at least three SNS accounts, and SNS use is relatively consistent among all demographic backgrounds in that age group (Lenhart, Smith, & Anderson, 2015). Until recently, Facebook was the most heavily adopted SNS among teen users, however photo-centric platforms, Snapchat and Instagram, have now become the top sites for teens. Nearly three out of four teens, use Snapchat and Instagram, while 66% use Facebook and only 44% use Twitter (Lenhart et al., 2016). Another study reports that teens spend a little over two hours a day on SNS (Rideout, Pai, & Saphir, 2015).

With the widespread adoption of SNS among teens, health officials view these platforms as promising health promotion tools to reach adolescents "where they are." Stevens and colleagues (2016) consider an adolescent's online community, or digital neighborhood, a prominent yet understudied social determinant of sexual health. The digital neighborhood is an

online community that users cultivate and are exposed to through their use of SNS platforms. This neighborhood serves as a hub for social relationships, entertainment, and often parallels their geographic environment and offline social relationships, yet is not bound by geography (Stevens et al., 2016). As adolescents spend a great deal of time in their digital neighborhoods, these online environments have the potential to influence attitudes, beliefs, sexual opportunities and behaviors. One study found Latino youth who frequently used text messaging and social media were more likely to have had sex (Landry, Gonzales, Wood, & Vyas, 2013). The "digital 'hood' is a space where youth share and seek out sexual information, sex–related behaviors are modeled, and where norms are depicted, circulated, and strengthened or weakened"; thus, making SNS ideal channels to provide and promote sexual health education (Stevens et al., 2016, p. 61).

**Adolescent support for SNS-delivered sexual health education.**

Examination of the extant literature yields mixed results about adolescents' acceptance of receiving sexual health education on SNS. Immediate and accessible resources, trustworthy sources, and the ability to be open and honest are top reasons youth give for wanting to receive sexual health information online (Selkie et al., 2011; Ralph et al., 2011; Veinot et al., 2011; Vyas et al., 2012). These views have been equally expressed across racial and ethnic backgrounds. In a mixed methods study exploring how mobile texting and SNS can be used in an intervention to decrease sexual risk taking in Latino youth (9th and 10th graders), students and after-school staff identified four positive aspects to using a SNS program component. Widespread access, daily platform use, convenient communication, and open and honest dialogue were reasons participants supported using Facebook for sexual health information (Vyas, et al., 2012). Overall, the 15 youth participants were supportive of SNS use, reporting they would join or like a Facebook-based sexual health intervention page. Although staff expressed concerns about cyberbullying, inappropriate content, and backlash, students mentioned only one concern; if unable to post comments, pictures, or have a personal interaction with the Facebook page, participants stated they would not monitor it as often.

Focus groups with Midwestern teens (14-19), found personal communication was an aspect teens desired when receiving sexual health information on SNS (Selkie et al., 2011).

Participants did not want difficult to understand, textbook-like information, instead they preferred to receive immediate information in an interactive manner. Unlike (cf. Vyas et al., 2012), students wanted more discreet communication. Participants discussed how SNS education would allow them to connect with credible and trained sources, while simultaneously protecting their anonymity, allowing them to escape the judgement often felt from adults and friends. Private messaging and having a "frequently asked questions" section were recommendations students suggested in order to have open conversations while preserving their image. Students were receptive to receiving information from peers but wanted advanced medical information such as pregnancy questions and STI prevention to come from professionals. Researchers concluded youth appear enthusiastic about using SNS for sexual health education and these platforms could readily offer teens a "safe" setting to interact with real people via technology (Selkie et al., 2011).

Veinot and colleagues (2011) found similar results among young people (ages 14-24) in a qualitative study examining perspectives about using information and communication technologies (ICTs) to promote youth sexual health. This study was conducted in a socio-economically disadvantaged community and had a large proportion of African American and LGB participants. Findings revealed, young people face significant challenges talking with their peers, parents, and educators about sex, and view SNS as potential channels to supplement their education (Veinot et al., 2011). In addition to offering opportunities to receive information absent in their school curriculum, such as the emotional and relational aspects of sexuality, some participants discussed wanting to help spread sexual health information to have a positive impact on others. Participants explained that being identified as a user of an ICT dedicated to sexual health education was a way to be a role model to their peers. Interestingly, despite wanting to be sexual health messengers, participants worried about drama, such as gossiping, fighting, and rumors that could come with their association or interactions with the site.

**Adolescent opposition towards SNS-delivered sexual health education.**

Issues related to bullying and conflict amongst friends have repeatedly been cited as reasons adolescents are reluctant to use SNS for sexual health education. The stigma surrounding STIs makes teens concerned their involvement with SNS sexual health materials will make them

susceptible to bullying and gossip (Byron, Albury, & Evers, 2011; Evers, Albury, Byron, & Crawford, 2013; Veinot et al., 2011; Vyas, et al., 2012). According to a group of Australian young people (ages 16-22), the stigma attached to sexual practice makes SNS less than ideal for detailed discussions on sexual health, and content related to the topic would unlikely be shared on Facebook (Byron et al., 2011). Participants suggested incorporating humor into messages (also see Evers et al., 2013) and indirectly discussing sexual health as ways to reduce stigma and embarrassment. "Humor can help the [sexual health] message be more amenable to being passed on, because the sharing does not directly reflect something personal about the sender and receiver except for a shared appreciation of humor" (Evers et al., 2013, p. 268). When asked to recall familiar sexual health campaigns, researchers found students were able to recall campaigns that had humorous punchlines and images. Humor, however, should be used with caution. Prior research shows humor has been used by participants to ridicule the idea of STIs and STI testing (Syred, Naidoo, Woodhall, & Baraitser, 2014).

Concerns about drama and stigma have made youth protective of their self-image and this has influenced their acceptance and interactions of sexual health education on SNS. A content analysis of comments and interactions on a Facebook-based sexual health promotion campaign with 96% of fans aged 13-24, found only a small minority of participants shared positive chlamydia test results (Syred et al., 2014). Most of the users who did share, posted in a joking manner, at times using hyperbole to describe consequences. The low positive test postings may not necessarily be indicative of user shame or fear, they could possibly reflect low infection prevalence among users. Nonetheless, researchers did find that even though STI testing is generally regarding as "right thing to do" some participants implied that the need for testing was precipitated by engagement in risky sexual behaviors (Syred et al., 2014). Results also revealed, harmful or offensive comments appeared at least once in 19% of message threads. Named individuals or screenshots of previous messages were often the subject of offensive language or inappropriate remarks.

Teens mostly worry about peer and parental responses to their SNS activity. A mixed methods study exploring MySpace as a way to connect youth to sexual health services, found teens worry parents and friends would make assumptions about their sexual activity or health based upon their SNS activity (Ralph et al., 2011). For the qualitative portion, researchers

conducted six focus group with a total of 48 California youth ages 14-19. Teens believed their SNS interaction with sexual health content could easily be misconstrued to imply they need the information and this would make them easy targets for rumors and gossip. Even if the information is positive, such as promoting teen pregnancy prevention, students worried parents and peers would take it out of context. Participants recommended having popular teens involved with the site to garner greater acceptance and participation. Indirect ways of receiving sexual health information such as through Facebook ads, also offer teens a way to deny deliberately seeking information and reduces the risk of being accused of being sexual activity or having a STI (Byron et al., 2011). Trends show teens are migrating to newer SNS such as Instagram, Snapchat, and WhatsApp, where they are less likely to encounter parents (Kiss, 2013).

Stigma, self-preservation, and privacy could partly explain why youth report being more comfortable accessing sexual health information from traditional sources such as websites, doctors, emails, schools, and mainstream media than on SNS such as Twitter and Facebook (Divecha, Divney, Ickovics, & Kershaw, 2012; Ralph et al., 2011; Lim, Vella, Sacks-Davis, & Hellard, 2014). In a survey among 620 Australian young people (16-29), 85% of respondents were most comfortable receiving their information from websites, while only 52% and 35% wanted information from Facebook and Twitter, respectively. 64% of respondents ages 16-19, did report they would be comfortable receiving information from at least one social media source, however there was no specification as to which one. A survey of 94 low-income, parenting adolescents and young adults found participants preferred to have conversations about sexual health privately, in-person or over the phone (Divecha et al., 2012). Less than 10% of respondents were willing to discuss sexual health information with close friends on SNS, and approximately only 5% wanted to receive sexual health tips from a public SNS post. Interestingly sharing preferences on SNS were a bit higher. 20% of participants were willing to share sexual health tips with friends and 15% were willing to announce they had had an STD test.

SNS use is pervasive in adolescent life. Although studies have alluded to the reluctance of young people to receive sexual health information from SNS, these early findings do not mean that health promotion should not occur within these platforms. Teens are eager to receive sexual health education through channels outside of their schools, peers, and parents, and SNS can

indeed fill that void. It is not so much youth do not want to receive sexual health education on SNS, the matter of concern is *how* they receive it. The themes are consistent across most studies, teens want to be open and honest about their experiences, have immediate access to trustworthy sources, all while maintaining and protecting their self-image. Therefore, before engaging in SNS health promotion, it is critical for organizations to conduct their own needs assessments (Ralph et al., 2011). Youth feedback is necessary to inform strategies to disseminate information in a manner in which the population will readily receive it. Adolescent insight is especially needed to learn how newer SNS can be used for sexual health education.

**Challenges to building a following.**

Although organizations are attempting to integrate SNS into their health promotion strategies, most are facing challenges with connecting, building and engaging their intended audiences (Harris et al., 2013; Jha, Lin, & Savoia, 2016; Thackeray et al., 2012). A non-experimental, cross sectional study of state health department (SHD) social media sites, revealed SHDs have low following, receive few likes and simply are not reaching or engaging the intended population (Thackeray et al., 2012). Harris and colleagues (2013) found similar results about LHDs. Research has also shown that followers of state health department Facebook accounts tend to be employees or other similar agencies, rather than general public (Jha, Lin, & Savoia, 2015, p. 177). The three aforementioned studies concluded that more research is needed on how local health departments can most effectively use SNS.

Thackeray et al. (2012) recommend that health departments consider developing a strategic communication plan that incorporates best practices for expanding reach and fostering engagement. Similar to the development of effective sexual health curricula, health officials should include adolescents in the planning process to design relevant and effective SNS health interventions. Therefore, a primary component of a health organization's strategic communication plan should involve learning directly from adolescents their preferences for receiving sexual health education on SNS. Adolescent input however is relative absent in scholarship regarding sexual health promotion and education.

## Gaps in the literature

A literature review focused on adolescents, sex education, the Internet or Internet associated media, found that the research on adolescents' use of the Internet for sex education is limited and there are a number of gaps that exist in the field (Simon & Daneback, 2013). The authors write, "These [gaps] are namely related to the qualitative experience of adolescents who engage with sex information online, from their initial interest in information to the effects such information could have on their lives" (p. 313). Simon and Daneback (2013) also note that there are few studies that have explored adolescent use of new digital media for sexual education:

As the format of the Web has shifted in the last few years, so too have adolescents' online actions. Their experiences online are more interactive and social. However, few studies have specifically examined how and why young people use these new interactive resources (e.g., social networking, blogging) for sex education. (p.313)

This dissertation seeks to fill these gaps and help advance the literature on SNS for sexual health education.

## Research Aims and Questions

SNS use in sexual health education is an emerging research area and can be one way schools and LHDs can partner together to provide student-informed sexual health information to Indiana teens. Despite being pervasive in adolescent life, there is a paucity of research about how SNS can be used to disseminate sexual health information to adolescents. To effectively use SNS for sexual health education, health officials first need to know what adolescents desire from the SNS of LHDs that disseminate sexual health information. Thus, **Research Aim 3** is to understand what motivates youth to respond to sexual health education on SNS. Given adolescents' previous reluctance to receive sexual health information on SNS, health organizations cannot assume simply because they are on SNS, adolescent users will find, like and follow their accounts (Thackeray et al., 2012). Of the few studies that are available, none have explicitly explored how health organizations can work around these barriers and gain adolescent followers on SNS that provide sexual health information. Health organizations need scientific guidance in this area; therefore, this study seeks to fill these gaps by exploring:

**RQ 1:** What motivates adolescents to follow health organizations that disseminate sexual health information on SNSs?

**RQ 2:** What recommendations do adolescents have for how health departments can work with schools to use SNS to deliver comprehensive sexual health education?

In summation, the aims of this mixed methods dissertation are three-fold: 1) explore adolescents' opinions about their current sexual health curriculum 2) explore adolescents' recommendations for their ideal sexual health curriculum and 3) explore adolescents' opinions about following the SNS accounts of LHDs that disseminate sexual health information. The following section will provide the details of the research design for this dissertation. This section will include research aims, questions, and the methodology for both all research aims.

# CHAPTER 3 METHODOLOGY

## Introduction

Steep increases in reported STI cases in Indiana have caused significant public health concerns about adolescent sexual health. Indiana adolescents and young people are particularly at risk of contracting STIs and are facing growing issues with dating violence and sexual assault (ISDH, 2019; The Indiana Youth Institute, 2018). Schools and local health departments can help improve these outcomes by providing teens with more effective sex education. To best impact behaviors, both entities need to deliver information in a manner that is relevant and meaningful to teens. To date however, student voice has been relatively absent in the development of school-based sexual health curricula and in health organizations' communication plans to disseminate safer sex information. Learning directly from teens what they desire in sexual health education will allow schools and health organizations to create information that teens will more likely pay attention and adhere to. Thus, these insights are vital to alleviating poor sexual health outcomes among Indiana adolescents.

### Purpose.

The central purpose of this dissertation is to gain a pragmatic understanding of Indiana teens' experiences and perspectives about receiving school-based and SNS-delivered sexual health education. The objectives of this dissertation are three-fold. The first two include exploring Indiana students' current experiences and recommendations for the content and delivery of high school sexual health education. The final goal is to explore student perceptions about receiving SNS-delivered sexual health information from local health departments when student-informed, school-based sexual health education is not readily available.

### Research Questions.

Below are the research questions guiding the three aims of this study.

**Research Aim 1** is to explore Indiana adolescents' opinions about their current sexual health curriculum.

**RQ1:** What are Indiana adolescents' opinions about their current sexual health curriculum?

**RQ1a:** What are Indiana adolescents' opinions about the **content** of their current sexual health curriculum?

**RQ1b:** What are Indiana adolescents' opinions about their current sexual health **instruction**?

**Research Aim 2** is to explore Indiana adolescents' recommendations for their ideal sexual health curricula.

**RQ2:** What would students include in their ideal sexual health curriculum?

**RQ2a:** What **topics** would students include in their ideal sexual health curriculum?

**RQ2b:** What type of **instruction** would students prefer in their ideal sexual health curriculum?

**Research Aim 3** is to understand what motivates youth to respond to sexual health education on SNS.

**RQ3:** What motivates adolescents to follow health organizations that disseminate sexual health information on SNS?

**RQ3a:** What recommendations do adolescents have for how health departments can work with schools to use SNS to deliver comprehensive sexual health education?

## Methods

### Rationale for Research Design.

A mixed methods study design, using focus group and survey data, was employed to answer the aforementioned research questions. Mixed methods uses both qualitative and quantitative methods in the same study (Creswell & Clark, 2007; Creswell, 2009). Previous literature exploring adolescent perspectives about US school-based sexual health curricula has mostly used only qualitative methods (Aquilino & Bragadottir, 2000; Eisenberg, Wagenaar, & Neumark-Sztainer, 1997; Hammonds & Schultz, 1984; Herrman, 2008, Herrman, Kelley, & Haigh, 2017; Kimmel et al., 2013). Adding a quantitative component such as a survey can generate new knowledge by initiating ideas for focus group discussion and can offer a more holistic understanding of this health issue. By employing both quantitative and qualitative

methods, this study advances the literature by collecting more insights that cannot be captured in qualitative work alone.

When using mixed methods procedures, Creswell (2009) advises researchers to consider the weight given to each method in the research study. In a mixed methods design, the weight of each method does not have to be equal. This study prioritized qualitative methods in the research design. Quantitative methods were used to help guide focus group discussion and to triangulate and cross-validate qualitative methods.

Creswell (2009) also recommends that researchers consider the timing and order of their data collection, therefore this study used a combination of both concurrent triangulation and sequential explanatory strategies. This study was concurrent in that all data will be collected during one phase; however, it is sequential in that survey data was collected first before students participated in focus group discussions. Unlike the typical sequential approach, quantitative findings were not used to guide focus groups in totality, because previous literature was used to inform the qualitative instrument. Instead as more students took the survey and trends began to emerge, participants were asked to elaborate on survey trends in the focus groups. Consistent with a concurrent triangulation strategy, the mixing of the data occurs in the discussion section, where survey statistics are expounded upon by qualitative data quotes that either support or disconfirm quantitative findings (Creswell, 2009). This approach allowed data to be gathered in a shorter amount of time while also triangulating qualitative findings to add trustworthiness to study results.

**Strategies for inquiry.**

Qualitative research is a scientific method of inquiry used to explore and understand how individuals or groups interpret their experiences, how they construct their world and how they ascribe meaning to a social or human problem (Creswell, 2009; Merriam, 2009). A central goal of qualitative work is to produce, rich, deep descriptions that allow for reality sense-making, to describe and explain social phenomena and to create explanatory models and theories (Morse & Field, 1996). Qualitative research is also characterized by specific research methods. Researchers typically study phenomena in their natural settings, employ interpretivist approaches during analysis and generate words as data instead of numbers (Bricki & Green, 2007).

Qualitative inquiry dates back to the early twentieth century, however the application of qualitative research methodologies in health research is an emerging trend that began approximately 20 years ago (Al-Busaidi, 2008). Its growth has been driven by the need for greater cross cultural understanding of health behaviors, global health issues, and issues of health equity and human rights (Tolley, Ulin, Mack, Robinson, & Succop, 2016). Researchers contend qualitative research strategies are particularly suitable for health-related research because their philosophical underpinnings are concerned with the human, interpretative aspects of knowing about the social world (Pope & Mays, 2006; Ritchie & Lewis, 2003). Human behavior and understanding are at the core of health and healthcare. "Health care deals with people and people are, on the whole, more complex than the subjects of the natural sciences, there is a whole set of such questions about human interaction, and how people interpret interaction, to which health professionals may need answers before attempting to quantify behaviours or events" (Pope & Mays, 2006; pg. 5). By focusing on the human experience, researchers are able to investigate beyond the effectiveness of treatments and gain a richer understanding of the interwoven aspects of the topic which can bring fresh insights into health and illness (Yardley, 2000).

There are several interpretive frameworks within qualitative research, however some research questions can be explored without a particular allegiance to epistemological of philosophical tradition (Kennedy, 2016). "There is a practical side to qualitative research that simply involves skillfully asking open-ended questions and observing matters of interest in real-world settings to solve problems, improve programs, or develop policies" (Patton, 2014; p. 370). The straightforward questions that people have about the world can be addressed with generic qualitative inquiry. This approach "investigates people's reports of their subjective opinions, attitudes, beliefs, or reflections on their experiences, of things in the outer world" (Percy, Kostere, & Kostere, 2015, p. 5). Generic qualitative inquiry uses qualitative methods "without framing the inquiry within an explicit theoretical, philosophical, epistemological, or ontological tradition (Patton, 2014; p. 371). Generic inquiry also does not seek to build theory but instead seeks to identify recurring patterns in the forms of themes or categories (Merriam, 1998). This approach is particularly appropriate when the researcher has "a priori knowledge (categories or subcategories of information) about the topic and wants to more fully describe experiences from the participants' perspective" (Percy, Kostere, & Kostere, 2015, p. 78).

The research questions and aims of this dissertation were to explore, understand, and describe social phenomena within a particular health context. Although findings may inform and elaborate theory, my goal was not to generate theory per se, but to build on existing knowledge and identify practical ways to provide teens with sexual health education. A generic qualitative approach therefore was most suitable for the present study. The methods described below reflect approaches that allowed this study to produce descriptive data for the purpose of understanding students' lived experiences and recommendations that can be used to inform problem-solving programs and interventions (Patton, 2014).

**The Researcher's Role.**

In qualitative research, the researcher is an instrument and data collection and analysis are therefore assessed through human interpretation. Researchers, therefore, should make known any personal values or assumptions known at the beginning of the study that may impact their findings (Creswell, 2009; Patton, 2014). My perceptions of school-based sexual health education have been shaped by my lived experiences. I attended middle and high schools in NC in which teen pregnancy and sexual activity were commonplace. I received school-based sexual health education just twice, once in middle school and then again in ninth grade. In retrospect, I feel those units lacked critical information and did not provide a comprehensive view of relationships, sexual health services, contraceptive use, and the economical and emotional impact of parenthood. I believe this lack of information not only had long-term negative impacts on individual and community health outcomes, but also adverse effects on academic and financial achievement. Therefore, I believe all students need information to make healthy and responsible sexual decisions.

My experiences and views have led me to advocate for curriculum change and create school-based safer sex campaigns. Being involved in these activities provided me with knowledge into the challenges and issues adolescents face receiving reliable and timely sexual health information. These helped me build rapport and show the empathy towards participants about such a sensitive subject matter. To ensure my bias did not interfere with the study, I committed to openness and documented events as they were told in order to produce authentic, trustworthy findings. To strengthen my validity as an instrument, during data collection, I practiced mindfulness, meaning I was completely attentive to the interactions I was having with

participants and the interactions they were having with each other during focus group discussions (Patton, 2014). Also, to minimize the influence of my opinions in the analysis and results of this study, I used member checks as well as methods and analyst triangulation to ensure the findings represented the voice of the participants.

**Setting.**

Data collection took place at a small high school located in Crawfordsville, IN. The city of Crawfordsville is located within Montgomery County, a rural county located in West Central Indiana, with a population of roughly 38,000 residents (U.S. Census Bureau, 2018). Crawfordsville is the largest city within the county and has a population of about 16,000 (U.S. Census Bureau, 2018). Normal enrollment at CHS fluctuates between 650 to 715 students. CHS was chosen for a number of reasons, the first being CHS requires students to complete a sexual health education course before graduation. Students must complete either an in-class or online, two-week sexual health course and this is typically taken during their first year of high school. Next, the school is located in a region where adolescents are significantly impacted by poor sexual health outcomes. In 2015, 37.2% of STI cases were among individuals between the ages of 10-19 and residents have named teen pregnancy as a major health concern (Montgomery County Health Assessment, 2016). The teen birth rate among females ages 15-17, is also higher than the state average (HHS, 2015; Montgomery County Health Assessment, 2016). CHS officials are taking a proactive approach to alleviate poor sexual health outcomes among their students. School administrators recently partnered with their local health department and Purdue University to explore solutions to improve sexual health conditions in the community, further making CHS an ideal setting to conduct this dissertation project.

**Participant criteria.** Eligible participants were Indiana high school students between the ages of 13-19 years-old. Participants had completed an in-class or online sexual health unit or were currently enrolled in a sexual health unit. Students currently enrolled were not excluded because they provided the most up-to-date evaluations of the sexual health curriculum.

**Type of data collected.**

Focus groups were the primary strategy used to collect data during this study. Focus groups were ideal for this study because they utilize a socially oriented, interview setup. By design, focus groups elicit a multiplicity of views and shape knowledge within a group context. Gibbs (1997) argues that participant recollections and beliefs are more likely to be revealed through the social gathering and interaction that occurs during focus groups than with other approaches. Patton (2002) further supports this notion by adding that social experiences can increase the validity of results because personal perspectives are formed and sustained in group settings. From this vantage point, focus groups resemble the in-class group setting most students encounter when they receive sexual health instruction, thereby making group discussion a format students were already familiar with within the context of this study's research topic.

Although, focus groups have historically been the primary method of data collection in gathering student perspectives on their sexual health curriculum, this study collected descriptive statistics through self-reported, online surveys (Aquilino & Bragadottir, 2000; Eisenberg, Wagenaar, & Neumark-Sztainer, 1997; Hammonds & Schultz, 1984; Herrman, 2008, Herrman, Kelley, & Haigh, 2017; Kimmel et al., 2013). The survey was cross-sectional and used for descriptive and not inferential purposes. The primary purpose of surveys was to collect and provide basic summaries of the opinions of the sample. Surveys offer a fast and convenient way to get responses from a large population and added rigor to this study by offering a method to triangulate focus group findings (Tariq & Woodman, 2013). In addition, surveys can help youth more readily recall topics they may want included in their education. Surveys were also used to guide focus groups discussions and broaden perspectives that have not been considered in past studies.

**Sample Size.**

I used a criterion purposeful sampling strategy to recruit focus group participants. This technique allowed me to recruit students who have experienced and are knowledgeable about the sexual health education offered at CHS (Creswell & Clark, 2011). In total, I had 56 participants in 11 focus group discussions. Researchers acknowledge that there are no stringent guidelines for the appropriate or expected number of focus groups in health science research (Carlsen &

Glenton, 2011). In their study, Carlsen & Glenton (2011) found that researchers commonly used saturation, recommendations from literature, and practical reasons to justify their focus group sample sizes. I used all of these metrics to determine when I had reached a reasonable number of focus group sessions.

First, the mode and average amount of focus groups in studies similar to this dissertation is six, however, the total amount of participants has been wide ranging from 29 to 120 (Aquilino & Bragadottir, 2000; Eisenberg, Wagenaar, & Neumark-Sztainer, 1997; Herrman, 2008; Herrman, Kelley, & Haigh, 2017; Kimmel et al., 2013). Although I recruited an average amount of participants, my total amount of focus groups exceeded the average. I faced challenges getting students to volunteer for the study as well as logistical obstacles that prevented large groups of students to meet at one time. In result, three of my 11 focus groups only had two or three participants. While, six to eight participants are considered the optimum sizes per focus group discussion, sensitive topics such as sexual health can use a smaller number of participants (Bloor, 2001). I continued focus groups discussions until saturation was met and this was determined when focus groups were not producing new ideas.

For surveys, I used a criterion purposeful sampling approach. Based on CHS student population of 650 students, the ideal sample size at a 95% CI level with 5% margin of error was 242 participants. The school, however, did not have an efficient process of finding out how many students had taken a sexual health education unit. Given most students take the course in ninth grade, I assumed 75% of the student population would be eligible for the study, and thus the ideal sample size would be 216. I, however, was only allowed to recruit students from study hall classes only. This significantly limited the number of students I could recruit to partake in the study. In total I was able to recruit 119 students to take the survey.

**Instruments.**

I used two surveys and one semi-structured interview instrument for data collection. The Sexual Education Evaluation Survey is divided into four parts (Appendix A). Part 1 gathers student demographic information. These questions come from the 2017 Standard High School Youth Risk Behavior Survey. Part 2 elicits student evaluations of their current sexual health curriculum and their views about sexual education in schools. These questions captured student satisfaction with their current curriculum, recommendations for improvement if any, and their

perceptions about the place of sexual education in schools. Some of the questions in this group have been adapted from Byers and colleagues (2003) and the qualitative work of and Eisenberg, Wagenaar, & Neumark-Sztainer (1997). Part 3 asked students about their perceptions about their sexual health knowledge. Using a 5-point scale, these questions assessed students' perceived knowledge about how to prevent unplanned pregnancy, STIs, and HIV/AIDS and provided insight about whether students need more education. Finally, part 4 asks students to report their sexual behaviors. These questions also come directly from the Youth Risk Behavior Survey. These questions are included to "measure the prevalence of sexual activity, number of sexual partners, age at first intercourse, alcohol and other drug use related to sexual activity, condom use, and contraceptive use" (CDC, 2017 p. 26). These questions benefited the study by allowing comparison between students' sexual behaviors and the content of their current sexual health curricula.

The Focus Group Screening Questionnaire (Appendix A) requests demographic information and completion of sexual health course. Participants were asked their gender, age, ethnicity, and whether and what type of sexual health course they have taken.

The Focus Group Discussion Instrument is presented in Appendix A. This instrument is based on previous literature exploring adolescent sexual health preferences, teen pregnancy prevention, and social media health promotion intervention and evaluation (Aquilino & Bragadottir, 2000; Eisenberg, Wagenaar, & Neumark-Sztainer, 1997; Herrman, 2008). This instrument is semi-structured, however although it is composed of predetermined questions, it still allows the opportunity to explore themes or responses that naturally occur in conversation. This guide queried participants about their perceptions of their sexual health education, receiving sexual health education from local health departments and on social networking sites.

**Data collection procedure.**

Following Purdue Human Subjects Committee approval participant recruitment began one week before data collection. I had permission to verbally recruit students in their study hall sessions only. Interested students received a flier, a parent letter, an assent form and a parental consent form if under the age of 18 to take home and return signed (Appendix B). Fliers were also posted throughout the common areas of the school, and school-wide announcements were

made to remind students to return all forms. Students needed to return forms signed in order to participate in the research. Students who completed the survey were entered into a raffle to win two $25 gift cards and focus group participants received lunch and a $5 gift card at the end of their participation.

The following week, I returned to the study hall classrooms and collected all signed assent/consent forms from students who were interested in participating in the study. Interested students who did not have a signed parental consent form or who refused to sign an assent/consent form were ineligible to participate in the study. Interested participants with the appropriate permissions had an opportunity to ask questions they may have had about the study or assent/consent form. Students who agreed and were allowed to take the survey were given the URL to complete the online survey on their mobile devices. If students do not have a mobile device, they took the survey on a secured computer. Students then wrote down their name and phone number and placed it in a box to be entered into the raffle for the gift cards. Winners were notified once all data collection was complete.

Focus groups began the following week. I reported back to study hall classes and escorted students to the focus group location. The discussions took place in a conference room located in the principal's corridors. A "Focus Group In Session, Please Do Not Disturb" sign was placed on the door. Students had lunch and then were asked to complete the online Focus Group Screening Questionnaire if they had not done so. There was no student who participated in only the focus group.

Once surveys were complete, there was a brief welcome to state the purpose of the study and to explain ground rules for appropriate behaviors in the focus group. After the introduction, audio recorders were turned on. The session began with me asking pre-determined questions for the group. Since I was the only researcher during focus groups, I had to make a choice to either take notes or to practice mindfulness to successfully moderate the sessions. I decided to practice mindfulness to secure the integrity and trustworthiness of the data. Sessions on average were 65 minutes long and each one was conducted during two study hall periods. At the end of the discussion, audio recorders were turned off and participants were thanked for their time and given their gift cards. At the end of each focus group, I offered students the opportunity to volunteer to be an informant for the member checks. Five students volunteered and were given an extra entry in the gift card raffle for volunteering. Data collection occurred over eight weeks.

**Analysis procedure.**

Focus group recordings were transcribed verbatim and then analyzed after data collection using NVivo 11.4.3, a software for qualitative and mixed methods analysis. For focus group data I used a variation of the VSAIEEDC-model (Table 1). There are many ways to code and analyze data within qualitative research. To lessen vagueness and encourage more replication, Persson (2006), developed a generic analysis model that can more explicitly guide generic qualitative inquiry. The VSAIEEDC-model details seven steps in data analysis: "(a) variation (b) specification (c) abstraction (d) internal verification, (e) external verification, (f) demonstration, and (g) conclusion" (Persson, 2006, p. 38). VSAIEEDC is a cognition-based model in which Persson (2006) posits that understanding and meaning is based on cues from the context in which patterns occur. Table 1 details the steps of the VSAIEEDC model and Figure 1 shows how the model was applied in this research.

Table 1 VSAIEEDC Model

| VSAIEEDC steps | Explanation of step |
|---|---|
| **1. Variation** | Identify tentatively general variation in the material through the principle of "similarities – dissimilarities." |
| **2. Specification** | Identify more thoroughly and specifically the identifying characteristics of the data suitably subdivided in manageable sections. |
| **3. Exploration** | A visual overview of the reduced data in search of frequency-related regularities Or irregularities. |
| **4. Abstraction** | Transformation through conceptualization and reduction. |
| **5. Internal verification** | Comparisons within the data, checking for logic and feasibility. |
| **6. External verification** | Comparisons to establish logic and feasibility with other materials other than the data like established theories, published research and/or other researches. |
| **7. Demonstration** | A more formal demonstration of possibly found frequency-related regularities or irregularities in for example a matrix format. |
| **8. Conclusion** | A concluding, though still tentative, full assessment of the analysis and its result. At some point the researcher will have to decide that the data cannot yield more information. |

(Persson, 2006)

**1. Variation-** Before engaging in coding, a graduate analyst and I immersed ourselves in the data by reading all transcripts, in-depth at least twice. During this phase, we independently made notes during the reading process and met weekly to compare and discuss our notes. Once we read through all the transcripts, we used structural coding, which is designed to start organizing data around specific research questions. "Structural coding applies a content-based or conceptual phrase representing a topic of inquiry to a segment of data that relates to a specific research question that was used to frame the interview" (MacQuecn, McLellan-Lemal, Bartholow & Milstem, 2008 p. 124). A codebook based upon the focus group interview instrument was used to help develop these codes.

The graduate analyst and I independently coded the transcripts, and once complete, reconvened to compare the results of our coding. Coder agreement therefore was achieved by engaging in a peer debriefing process in which codes were collaboratively and consciously developed (Harris, Pryor, & Adams, 1997). Within a constructivist framework, peer debriefing is an approach that can be used to establish and confirm the credibility of the findings of a study (Lincoln & Guba, 1985; Spall, 1998). The graduate analyst was a peer training in qualitative research and had a general knowledge of the research area of study. The graduate analyst also came from a discipline other than consumer science and this greatly benefited the debriefing process because it allowed us to consider alternative explanations to analysis, challenge any potential bias, and offered greater objectivity to the findings (Creswell & Miller, 2000; Lincoln & Guba, 1985; Spall, 1998). During debriefing, the graduate analyst and I engaged in extensive, weekly discussions about the findings and the progress of the analysis.

**2. Specification-**The second step in the analysis involved, pattern coding, or subdividing the anchor themes identified in step one (Miles & Huberman, 1994). The anchor themes were reread and within those themes, the graduate analyst and I first independently clustered items of data that were related or connected into separate sub themes. During our peer debriefing sessions, we compared our results.

**3. Abstraction**-Still working with the pattern codes, we took note of which descriptions, words or expressions that made each pattern cohesive and unique. We then compared these words and descriptions and consolidated the pattern name into a more generally applicable and conceptual level. The resulting codes were explanatory or inferential and brought the information together in a more parsimonious unit of analysis (Miles & Huberman, 1994).

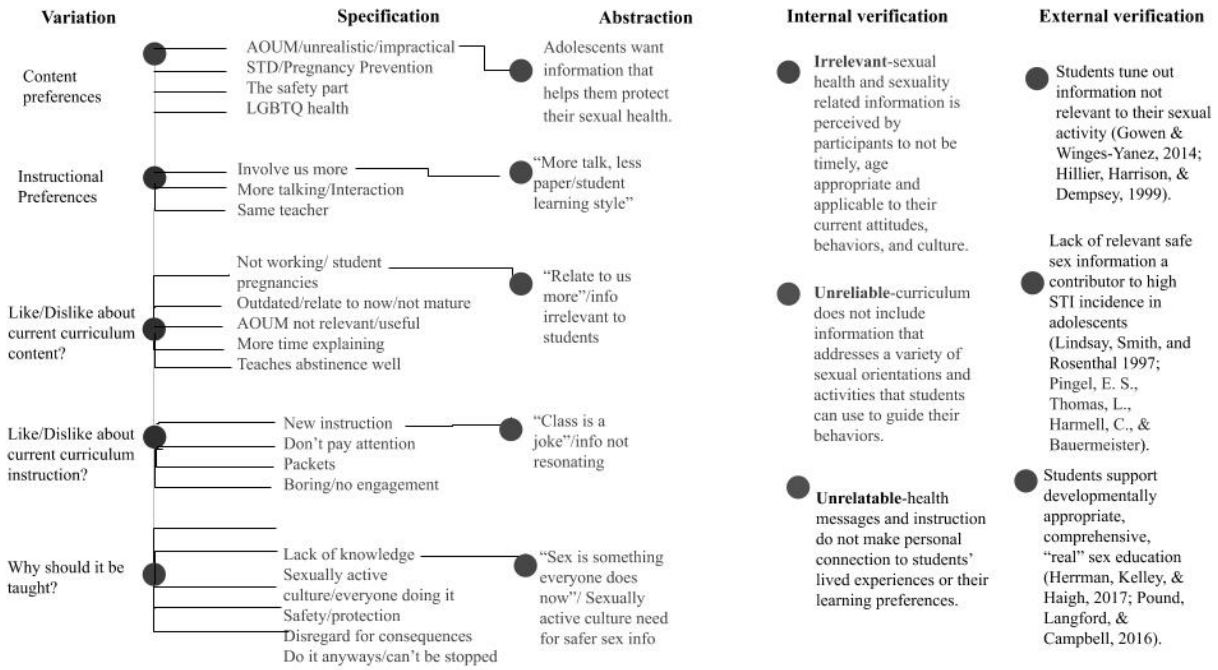
**4. Internal verification-**Next the graduate analyst and I examined all of the patterns and looked for the emergence of overarching themes. We specifically explored the underlying meaning across codes and the relationship between codes.

**6. External verification**-We then compared pattern codes and overarching themes with results from existing literature.

**7. Demonstration-**This step was not utilized. While this approach may work for case studies and one-on-one interviews, I knew it would be difficult to quantify the large amount of data focus groups may produce into a matrix format. Instead, I compared qualitative explanations to survey results.

**8. Conclusion-**Finally we then synthesized qualitative themes along with survey results to form a composite explanation of the phenomena.

Figure 1 VSAIEEDC Model Application




**Trustworthiness.** Guba's (1981) four criteria for assessing trustworthiness in qualitative work has the been long-standing expectation to ensure rigor in qualitative research. Guba (1981) posits that demonstrating credibility, transferability, dependability and confirmability are four key ways qualitative researchers can demonstrate rigor in their results. I will address each of these areas and how I meet them in my study below.

**Credibility.** To ensure that my study's findings were consistent with reality, I utilized member checks and analyst triangulation. As described above during focus group analysis, I

utilized the assistance of another graduate student to analyze and review findings. Having two researchers independently analyze data helps to eliminate selective perception and interpretive bias (Patton, 1999). To maximize coder agreement, I first developed a codebook that was based on the focus group interview instrument to set the rules for codes. The analyst and I met to go over the codebook and how it should be used. We also meet weekly throughout the analysis process to collaborate and compare results.

I also conducted member checks with five focus group participants. Member checks present the overall findings with source groups before writing them in a final report (Guba, 1981). At the end of focus group discussions, participants had the opportunity to volunteer to participate in an informant session. Once analysis was completed, I conducted an informant session with all of these participants and gave them the overall findings for evaluation before placing them in my final report. The themes given to the informants were devoid of all personal information to protect participants' identity. Participants were asked to read the themes, evaluate whether the results represented their and their peers experiences, and comment if there was anything that needed to be changed or if anything was missing. There was a consensus among the informants the information was accurate and there were no recommended modifications. This respondent validation confirmed and verified the interpretation of the findings and the appropriateness of the quotes used.

**Transferability.** I used thick descriptions in the results and discussion sections to ensure the findings of this study could be applicable to situations that are of similar context. Providing descriptive data allows for greater comparison which can help answer the issue of applicability (Guba, 1981).

**Dependability.** To make sure other researchers can replicate this study design and results, I have provided detailed descriptions of the methods used for data gathering, analysis, and interpretation. This will allow for stepwise replication and can help enhance both the confirmability and dependability of results (Guba, 1981).

**Confirmability.** Methods triangulation will be used to help confirm that the study findings are a result of the experiences of the students, rather than researcher preferences or bias (Shenton, 2004). I used the results from the surveys to help guide student focus group sessions. This gave students an opportunity to provide an explanation based on the collective responses of their peers.

**Ethical issues.** Given this study worked with a vulnerable population, informed parent consent and participant assent are two ethical areas that need to be addressed. Parental consent was required for all students under age 18. Students were not allowed to participate in focus groups or surveys without written permission from their parents. This was stressed in all recruitment materials. Students were also reminded they could end their participation at any time.

Next, due to the nature of focus groups, participant identity was known to other focus group participants. Also, because participants were recruited through their school, there may have been inherent concerns about being identified or overheard during the interview. I took the following steps to minimize this risk. 1) No one except the school nurse was allowed to enter the room during the focus group discussion. 2) Participants were instructed not to discuss focus group information outside of the designated room and scheduled interview sessions. This was also outlined in the assent and consent forms and was reiterated during the focus group ground rules on the day of the session. 3) Participants were told in advance that they could choose not to disclose information they were not comfortable discussing. 4) No specific identifiers other than age and year in school, were collected therefore it will be close to impossible to ascertain the definite identity of a participant in written reports. Lastly, participants were instructed from refraining from using names in their responses. The findings and any subsequent publications will not include student real names.

To ensure survey participants remained anonymous, students were provided with an online link so they could take the survey from their private electronic devices. In the event, students did not have a personal electronic device, they were allowed to take the survey from a secured computer. Surveys did not ask for participant names or any other identifying information.

# CHAPTER 4 RESULTS AND DISCUSSION

## Results Research Aim 1 & 2

### Participant characteristics

A total of 119 survey respondents completed the survey (Table 2). Survey respondents were mostly white (71%, n=85), female (50%, n=60), the median age was 17 and 85% (n=101), had taken an in-class sex education course. In total, 56 students participated in both the survey and focus group discussions. There were no students who only participated in the focus groups. A majority of focus group participants were female (57%), non-Hispanic whites (71%), and the median age was 16 years old.

Table 2 Demographic Characteristics of Participants and Respondents

| Characteristic | N | % | *n* | % |
|---|---|---|---|---|
| | Survey Respondents | | Focus Group Participants | |
| | 119 | | 56 | |
| Age (in years) | | | | |
| 14 | 4 | 3.36 | 1 | 1.79 |
| 15 | 15 | 12.61 | 11 | 19.64 |
| 16 | 12 | 10.08 | 10 | 17.86 |
| 17 | 25 | 21.01 | 11 | 19.64 |
| 18+ | 63 | 21.94 | 21 | 37.50 |
| Did not answer | 0 | 0 | 2 | 3.57 |
| **Race/Ethnicity** | | | | |
| American Indian or Alaska Native | 0 | 0 | 0 | 0.00 |
| Asian | 3 | 2.52 | 1 | 1.79 |
| Black or African American | 7 | 5.88 | 4 | 7.14 |
| Hispanic or Latino | 20 | 16.81 | 7 | 12.50 |
| Native Hawaiian or Other Pacific Islander | 0 | 0 | 1 | 1.79 |
| White | 85 | 71.43 | 40 | 71.43 |
| Bi-racial (two races) | 4 | 3.36 | 0 | 0.00 |
| Other | 0 | 0 | 2 | 3.57 |
| Did not answer | 0 | 0 | 1 | 1.79 |
| **Gender** | | | | |
| Male | 57 | 47.90 | 20 | 35.71 |
| Female | 60 | 50.42 | 32 | 57.14 |
| Transgender | 0 | 0 | 0 | 0.00 |
| Prefer not to answer | 2 | 1.68 | 3 | 5.36 |
| Did not answer | 0 | 0 | 1 | 1.79 |

Table 2 continued

| | | | | |
|---|---|---|---|---|
| **Sex ed course taken** | | | | |
| In-class instruction | 101 | 84.87 | 53 | 94.64 |
| Online | 10 | 8.40 | 3 | 5.36 |
| Took at another school | 7 | 5.88 | 0 | 0 |
| Did not answer | 1 | .84 | 0 | 0 |

Research aim 1 sought to explore adolescents' opinions about their current sexual health curriculum, in particular, their evaluations about the content and instruction they received. Two distinct themes emerged in response to this research aim, participants 1) wanted sex education teachers to take more time explaining useful content and 2) students' perceived their overall sex education course as a joke. RQ1a: What are Indiana adolescents' opinions about the content of their current sexual health curriculum?

## Take More Time Explaining Useful Content

Most respondents, 62% (n=74), perceived that the quality of their sex education course was at or below average, and 85% (n=101) indicated that the sex education they received should be improved (Table 3). Focus groups participants provided in-depth evaluations of the course content. Participants frequently commented that the curriculum *"should give more detail."* One participant stated, *"They touch every subject good, but they could take more time explaining it."* One participant added their sex education class content "*was like a general overview, and it didn't go into specific topics really and stuff that you actually need to know*." Another agreed, *"They should go into more detail about some of the stuff like birth control or condoms. I know most people don't even use 'em, but maybe go into more detail about telling more about what they can prevent and the sexual diseases you can get from them or of not having them*."

Table 3 Survey Respondents' Attitudes towards Sex Education

| Characteristic | *N=119* | % |
|---|---|---|
| **How would you rate the quality of your sex education course?** | | |
| Excellent | 3 | 2.52 |
| Good | 41 | 34.45 |
| Average | 49 | 41.17 |
| Poor | 20 | 16.80 |
| Terrible | 5 | 4.20 |
| Did not answer | 1 | 0.84 |
| **How would you rate the value of your sex education course?** | | |
| Extremely important | 21 | 17.65 |
| Very important | 42 | 35.29 |
| Moderately important | 32 | 26.89 |
| Slightly important | 15 | 12.61 |
| Not at all important | 8 | 6.72 |
| Did not answer | 1 | 0.84 |
| **Rate your sex education instructor** | | |
| Excellent | 3 | 2.52 |
| Good | 39 | 32.77 |
| Average | 55 | 46.22 |
| Poor | 13 | 10.92 |
| Terrible | 8 | 6.72 |
| Did not answer | 1 | 0.840 |
| **Quality of course** | | |
| Excellent | 3 | 2.52 |
| Good | 41 | 34.45 |
| Average | 49 | 41.17 |
| Poor | 20 | 16.80 |
| Terrible | 5 | 4.20 |
| Did not answer | 1 | 0.84 |
| **Should the education you received be improved?** | | |
| Yes | 101 | 84.87 |
| No | 17 | 14.29 |
| Did not answer | 1 | 0.84 |

Table 3 continued

| | | |
|---|---|---|
| **How would you improve your sex education? (Check all that apply).** | | |
| Include more topics | 71 | 19.29 |
| Focus on more than abstinence | 57 | 15.49 |
| Provide more timely information | 56 | 15.22 |
| Include information about local resources and services | 52 | 14.13 |
| Course would be taught more than once (i.e. every year, every two years) | 43 | 11.68 |
| Course would be longer to cover more information (i.e. 1 week to 2 weeks) | 37 | 10.05 |
| Have a different instructor | 36 | 9.78 |
| Other | 16 | 4.35 |
| **Topics to include in sexual health education (Check all that apply).** | | |
| Pregnancy prevention and contraceptive use | 108 | 9.73 |
| Sexual transmitted infections and diseases | 105 | 9.46 |
| Sexual assault/abuse/violence | 103 | 9.28 |
| Condom use | 98 | 8.83 |
| Relationship management | 96 | 8.65 |
| Partner sexual communication | 87 | 7.84 |
| Puberty | 86 | 7.75 |
| Sex and technology | 81 | 7.3 |
| Consent | 74 | 6.67 |
| Local services and resources | 72 | 6.49 |
| Abortion | 68 | 6.14 |
| Abstinence | 66 | 5.95 |
| LGBTQ health | 61 | 5.5 |
| other | 5 | 0.45 |
| **Should schools teach abstinence-only or safer sex education?** | | |
| Abstinence-only | 11 | 8.45 |
| Safer sex education | 106 | 90.14 |
| Did not answer | 2 | 1.41 |

In addition to curriculum content not being descriptive, participants also discussed that teachers often did not provide adequate explanation of the curriculum content. *"I think they need to take longer to explain things instead of just telling us and then automatically thinking that we*

*know what we're doing."* Lack of elaboration was particularly the case when discussing STDs. "*They touch on how to get [STDs] and all the other stuff but they don't touch on how to take care of it or get rid of it."* Another participant agreed adding:

> *The teacher would show us power points, let's say one slide was gonorrhea and they would show us a picture of it, and it would gross us out and they wouldn't describe how you would get it or how long it would last or information about it. It would just be a picture, and then they move on, like 'here is what AIDS looks like.' They don't go into enough detail.*

Focus group participants also frequently discussed how they believed that the course information was not useful. According to participants the content *"touch[es] things that aren't even relevant to us."* Although the sex educators at the study site taught a CSE unit that emphasized abstinence, students reported, "*all they're telling is don't do it."* A participant explained, "*They don't actually teach us the importance or the actual things that comes with sex. They just say, 'Oh, don't have sex, use a condom, condoms cost this much.'"* Other participants concurred, *"It's all focused on trying to tell the kids not to have sex instead of actually telling them how to have sex safely like it's supposed to be."* Another student agreed adding, *"The point of sex ed is to teach people how the body [and] how the sexual organs and intercourse works and they're really failing to do that."*

Participants also complained that their materials were not useful because they were *"outdated"* and were *"years behind." "We watch movies and stuff in that class and they're from the 1980s."* One student commented, *"When you're young and [when] you see something older you're like, oh God, I don't want to see this, this is from the 80's."* The participant continued and stated that when showing older materials, "*kids don't get it and they're like, okay I don't wanna watch this anymore or pay attention, so I think it's better to relate to the kids more."*

Participants expressed that the content was also behind because, *"it's aimed at like elementary and middle school kids not high school kids."* Students frequently commented about how they were not taught *"anything different*" and the information was repeating information that had learned previously. *"I feel like I've been hearing the same things every school year."* Other students shared similar sentiments, *"They teach us these things in middle school and stuff and then you hear the same thing throughout high school."* Another student elaborated, *"They haven't like matured the conversation at all like they aren't talking about like what the high school students are going through, they're talking about like abstinence."* Overall, students

disliked that their current content did not *"relate to now"* or was not what they considered age and culturally appropriate. Students wanted materials to include references and situations that specifically *"relate to the younger generations."*

**RQ1b: What are adolescents' opinions about their current sexual health instruction?**

## The Whole Class is a Joke

Focus group consensus to question RQ1b can best be summarized by, *"the whole class is a joke."* In addition to the unfavorable content evaluations, survey respondents reported mostly average evaluations of their sexual health instructors (see Table 3). Most respondents 46% (n=55) rated the instructor's teaching performance as average, while 35% (n=41) agreed it was good or excellent and the remaining 19% (n=21) reported that it was poor or terrible.

Focus group participants, however, had more negative opinions of their sexual health instructors. A participant explained that the difference between respondent scores may be due to the fact that *"some students are like it was a good class because it's an easy A."* The participant continued and explained that when classes are not challenging, students, *"need to know it's okay to tell the teacher you could probably improve on this, teach this a little better, go over this more in-depth."*

As the participant pointed out, a primary complaint about the course was that "*there's not really much instruction*" and instructors were not engaged in teaching the course content. "*The teacher, herself, could have done better 'cause all she did was give us the packet."* Participants frequently described how teachers relied heavily on individual, self-guided chapter packets to provide students with sexual health information. A participant explains, "*She gives us the packet and the book and goes, 'Do it,' but then she doesn't really care to teach us. She sits back on her phone and really doesn't wanna teach anything."* Other participants agreed, "*We literally have to learn ourselves in the book. She'll give us a packet for a week and our test will be on Friday, and we have to finish that packet by Friday. She doesn't talk in front of the class or anything."*

Since teachers did not *"actually teach,"* participants described how *"people nowadays just take the sexual health class as a big joke." "The class is just sad in general. I think [it's]just because of how the teachers are."* One participant added:

> *I don't think we have the best health education here. It's usually just packets out of the book, and nothing really interactive. I think that's probably why people take it as a joke, is just 'cause it's packets out of the book. It's not like PowerPoints or taking notes.*

Participants discussed how the repetitiveness of completing the packets and lack of teacher instruction impacted their attentiveness to course materials and retention of course content. "*It gets really boring and you don't pay attention.*" Another participant concurred, "*Everything in that class seems like a joke. I don't remember anything from it. I pretty much remember just sitting in that class and doing the packets.*" A student surmises:

> *I hate packets especially, so I would not take the reading serious and I know a lot of students don't take it serious. Like here's the answer I'm just gonna skim through it. I know in high school, it's very common to copy people's homework. So a packet in health and wellness, 'Oh, well. I have it done.' 'Can I copy it?' 'Yeah, go ahead, it's fine.' How are you learning if you're just copying? How are you learning something if you're just looking for the answers? So that's why packets are a bad way to teach a topic like that*

Research Aim 2 explored adolescents' content and instruction recommendations for their ideal sexual health curricula. Three final themes evolved from analysis 1) perceived adolescents want information that helps them protect their sexual health 2) adolescents perceive AOUM education as irrelevant and 3) adolescents frequently ignore AOUM instruction. RQ2a: What topics would students include in their ideal sexual health curriculum?

**Adolescents want topics that help them protect their sexual health.**

Including more topics was the top recommendation respondents gave for improving their sex education. Although most respondents, 78% (n=93), reported being at least very knowledgeable about how to prevent pregnancy, however, only 60% (n=71) were equally knowledgeable about how to prevent HIV and 48% (n=57) said they were very knowledgeable about how to prevent the transmission of STIs (Table 4). Thus, pregnancy prevention/contraception use and STI/STDs were the top topics respondents wanted to be included in sex education classes (Table 3). Focus group participants explained that teens want to *"know how to protect themselves."* A participant shared, *"They need to include what to do after something happens, like if you were to get pregnant, what do you do? If you were to get an STD, what would you do?"* One student added, *"They're pretty important things that can affect your life in the long run, so it's better to know a lot of the information now."*

Table 4 Sexual Knowledge and Course Influence

| Item | *All* *N=119* | % | *Sexually Active* *n=63* | % | *Not Sexually Active* *n=56* | % |
|---|---|---|---|---|---|---|
| **How knowledgeable are you about how to prevent pregnancy?** | | | | | | |
| Extremely knowledgeable | 45 | 37.82 | 32 | 50.79 | 13 | 23.21 |
| Very knowledgeable | 48 | 40.34 | 21 | 33.33 | 27 | 48.21 |
| Moderately knowledgeable | 22 | 18.49 | 9 | 14.29 | 13 | 23.21 |
| Slightly knowledgeable | 1 | 0.84 | 1 | 1.59 | 0 | 0.00 |
| Not knowledgeable at all | 0 | 0.00 | 0 | 0 | 0 | 0.00 |
| Did not answer | 3 | 2.52 | 0 | 0 | 3 | 5.36 |
| **How knowledgeable are you about how to prevent HIV?** | | | | | | |
| Extremely knowledgeable | 34 | 28.57 | 22 | 34.92 | 12 | 21.43 |
| Very knowledgeable | 37 | 31.09 | 18 | 28.57 | 19 | 33.93 |
| Moderately knowledgeable | 34 | 28.57 | 18 | 28.57 | 16 | 28.57 |
| Slightly knowledgeable | 9 | 7.56 | 4 | 6.35 | 5 | 8.93 |
| Not knowledgeable at all | 2 | 1.68 | 1 | 1.59 | 1 | 1.79 |
| Did not answer | 3 | 2.52 | 0 | 0 | 3 | 5.36 |
| **How knowledgeable are you about how to prevent STIs i.e. gonorrhea and chlamydia?** | | | | | | |
| Extremely knowledgeable | 31 | 26.05 | 20 | 31.7 | 11 | 19.64 |
| Very knowledgeable | 26 | 21.85 | 16 | 25.4 | 10 | 17.86 |
| Moderately knowledgeable | 45 | 37.82 | 19 | 30.2 | 26 | 46.43 |
| Slightly knowledgeable | 12 | 10.08 | 8 | 12.7 | 4 | 7.14 |
| Not knowledgeable at all | 2 | 1.68 | 0 | 0.0 | 2 | 3.57 |
| Did not answer | 3 | 2.52 | 0 | 0.0 | 3 | 5.36 |

Table 4 continued

| | | | | | | |
|---|---|---|---|---|---|---|
| **How did your sexual health education course influence your sexual behaviors?** | | | | | | |
| In an extremely positive way | 14 | 11.76 | 5 | 7.94 | 9 | 16.07 |
| In a somewhat positive way | 34 | 28.57 | 20 | 31.75 | 14 | 25.00 |
| They did not change | 67 | 56.30 | 35 | 55.56 | 32 | 57.14 |
| In a somewhat negative way | 3 | 2.52 | 2 | 3.17 | 1 | 1.79 |
| In an extremely negative | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| Did not answer | 1 | 0.84 | 1 | 1.59 | 0 | 0.00 |
| **How did your sexual health education course influence your sexual decision making?** | | | | | | |
| In an extremely positive way | 14 | 11.76 | 7 | 11.11 | 7 | 12.50 |
| In a somewhat positive way | 40 | 33.61 | 27 | 42.86 | 13 | 23.21 |
| They did not change | 61 | 51.26 | 26 | 41.27 | 35 | 62.50 |
| In a somewhat negative way | 2 | 1.68 | 1 | 1.59 | 1 | 1.79 |
| In an extremely negative | 1 | 0.84 | 1 | 1.59 | 0 | 0.00 |
| Did not answer | 1 | 0.84 | 1 | 1.59 | 0 | 0.00 |

According to participants, teachers avoided discussing topics relative to students who engaged in sexual intercourse. *"It's almost like they make you feel bad if you have sex, but everybody knows they do it, and they just don't wanna talk about it."* Participants believed teachers taught abstinence because they "*don't like see our viewpoints on it"* and *"grew up in times where abstinence...was practiced more and they don't wanna accept that it's a new generation and we just do things. Life has...cultures changed."* Another student concurred adding that given their sex education curricula is, *"just mostly based around abstinence, [teachers] don't face the fact that students are gonna be having sex. It's gonna happen and they just don't really care."*

Students stressed however that teachers needed to, *"stop beating around the bush," "start accepting it, that it's happening," and "just open the conversation"* in sex education courses. For curriculum content this meant discussing some uncomfortable topics such as pregnancy and STD prevention openly and acknowledging that some students were indeed sexually active. A student explained:

> *People are gonna have sex. You can't stop it. So might as well teach 'em how to do it the safe way, and how to prevent STDs and pregnancies, and all that stuff. I mean, we gotta think realistic, here. It's high school. Teenagers are gonna be dumb.*

One participant shared similar sentiments:

> *If you wanna have sex [ed in] the school system be like, okay, we're not gonna prevent you guys from having sex but we're gonna take our time and actually talk about each step and stages that's actually a part of sex, like all the STDs, all the AIDS, what you should do if you're itching or burning.*

Two other students added:

> *They can't tell you to stay abstinent from it, it's life, it's gonna happen. Instead of telling us no and making it seem like a bad thing, give us other options like how to steer away from the STDs and the pregnancy. Give us the safety part. Explain warnings and stuff like that.*

The second shared:

> *Some people are gonna wanna have sex occasionally in high school. Some people aren't gonna want to have sex until they're 30. It's up to the people, and the school can't control what people want to do and what people are doing in their relationships. Let's be honest. These are high school students, they're not about to listen to the school when they just say don't have sex. If the students are gonna have sex, they're probably gonna have sex either way. So you may as well just tell them how to do it safely, so they don't screw over their entire life.*

Participants recognized *"it's going to be uncomfortable*" for teachers to talk about STDs but mentioned it is important to *overcome these* barriers.

> *I would tell them not to be afraid to talk about this stuff because I know it makes them uncomfortable 'cause they think it makes us uncomfortable, but that doesn't benefit us in the long run. Like if they're not giving us the information we need 'cause they're scared to talk about it, that opens us up to getting diseases 'cause we don't know how to prevent them very well.*

Another participant expressed similar thoughts,

> *It's going to be uncomfortable but we just have to overcome that and have conversations that aren't immature. At least try because you have to break the silence, 'cause those kids they have questions and if they don't get that question answered, they might make a huge mistake or something.*

In addition to STDs, participants recognized that including abortion and LGBTQ topics in their sex education curriculum could make students and teachers uncomfortable. Abortion and LGBTQ topics were the two lowest ranked topics respondents wanted to include in their sex education curricula (Table 4). Participants explained that abortion was *"very controversial," "touchy"* and because of *"varying opinions"* participants worried it would *"bring up more arguments than actual learning."* One participant stated, *"It could get very political when we talk about it and then it will start like a big debate in the middle of class."* Another participant agreed adding, *"So many people have different views on that. I don't think it needs to be discussed in the classroom."* One student offered this insight:

> *I think people don't want to accept abortion. They don't want to know about it 'cause they think it's wrong, or some people think it's right. There's so many different opinions on abortion that if you say one wrong thing you'll clash with another person, and it'll just become into a huge argument."* The participant continued and said despite potential arguments, *"People should know about abortion. People should learn about abortion to know what's going on and what they do to that baby, and just facts about it and learning about it because so many people don't know what's going on in abortion.*

Other participants agreed and advocated that despite how people may feel and the sensitivity of the topic, abortion should be included in their sex education. *"I personally wish that it were something that could be introduced as an option because whether you agree with it or not, it is an option when it comes to pregnancy."* Another student concurred, *"Even if they think it's wrong, they shouldn't base a curriculum off that because it's needed information. More people are focusing on the whole feminist [sic] it's my body, my choice."*

LGBTQ health was the lowest ranked topic that respondents wanted included in their ideal sexual health curriculum. Some participants believed the topic was ranked low because it was *"controversial"* and because adolescents fear being bullied. One student shared, *"We get bashed... they... people get bashed about it."* As a result, students may be reluctant to discuss this topic in class, *"I think they're scared to come out and learn about it because they don't want to get made fun of and they don't wanna be pressured about it. They're just scared."* Another participant shared:

> *If someone who identifies in that spectrum were to ask questions about it they'll probably be afraid that kids are going to get mad or be like okay time to find out which one of my classmates hates the fact that I exist.*

Although *"some people are uncomfortable with"* the topic, participants expressed more frequently than not that it should be included in sex education curricula. *"It should be taught. People who are gay, and bisexual, transgender should know there are health risks for that."* Another participant agreed, "*Even if you don't agree with it, you still need to be taught it, because it's not just for you, you know there's other people who need that information."* Participants explained by including the topic in sex education curricula it allowed LGBTQ youth access to health information without having to disclose their sexual identity. *"I definitely think we have some students who would want to learn about that and I think that no matter who you are, or what you believe in, I think those people deserve to be safe."* A student concurred, *"LGBTQ people deserve to be safe too. They deserve to know how to stay safe. People should not have to out themselves in order to be safe."*

**Adolescents perceive AOUM education as irrelevant and desire more safer sex education.**

Survey respondents and focus group participants agreed they wanted their ideal sex education curricula to focus on more than abstinence. In fact, 90% (n=106) of respondents supported safer sex education over an abstinence-only curriculum (Table 3). One student shared teaching abstinence is good "*if you're not thinking about having sex 'til marriage then it's a great way of educating."* Another elaborated saying:

> *Not all of us are going to stay abstinent our whole life. Yeah like abstinence is just teaching us for like right now since we're just teens in high school, when you're an adult and if you want to form a family what are you even gonna know about it? Nothing because all you've been taught is how to stay abstinent throughout your whole life.*

A participant made a similar point, "*If it teaches abstinence only when people are ready like they're adults and they're married, they feel like 'okay now it's okay' well what do I do to keep myself safe? They wouldn't know because they focused on abstinence."*

Most participants acknowledged that students *"are not going to be abstinent forever"* and since sex *"[is] a part of life"* participants believed it was one reason schools should have safer sex education curricula. "*Sooner or later, more than likely everyone will [have sex] sometime in their life."* Participants shared safer sex education "*would be relevant for the future"* and would equip them to handle future sexual decisions. *"Talking about safer sex makes us more aware. Even people who right now swear by abstinence, if you talk about safer sex they're going to feel more comfortable when it comes to that point."*

Participants also explained that because *"most of the people in school have sex," "it's unrealistic"* to teach just abstinence. Not only was the prevalence of sexual activity discussed in all focus groups, more than half, 53% (n=63), of respondents reported ever having sex and approximately 40% (n=47) reported having sexual intercourse in the last three months (Table 5). Participants described how they lived in a sexually active culture, commenting on how *"times are changing"* and *"in high school, [sex] is becoming something that everyone does."* One participant noted, *"It's just a culture thing now. People are just like, oh well they're having sex, so I should have sex. It's more normalized."* The participant continued, *"It's not this generation anymore. For the past 10 years it's been all about drugs, sex, it's not about abstinence, wait till you get married."* Participants explained that sex is so commonplace in their lives that,

*"Sometimes people treat it as a bad thing. If you don't have sex, then there's something wrong with you."* Similarly, another student shared:

> *There's a group of guys in my grade and they're like, 'I had sex with….and it was like awesome.' Then this one guy's like, 'Oh, I haven't done that a lot' and they're like, 'Oh, you're lame' or something like that. It's kind of cool to have sex.*

Table 5 Survey Respondents' Sexual Behaviors

| Item | *N=119* | % |
|---|---|---|
| **Have you ever had sexual intercourse?** | | |
| Yes | 63 | 52.94 |
| No | 52 | 43.70 |
| Did not answer | 4 | 3.36 |
| **Respondents who have had sex** | N=63 | % |
| **How old were you when you had sexual intercourse for the first time?** | | |
| 13 years old | 5 | 7.94 |
| 14 years old | 6 | 9.52 |
| 15 years old | 10 | 15.87 |
| 16 years old | 26 | 41.27 |
| 17 years old or older | 16 | 25.40 |
| **Lifetime sexual partners** | | |
| 1 person | 25 | 39.68 |
| 2 people | 11 | 17.46 |
| 3 people | 7 | 11.11 |
| 4 people | 7 | 11.11 |
| 5 people | 5 | 7.94 |
| 6 or more people | 8 | 12.70 |
| **Number of sexual partners in the past three months?** | | |
| I have had sexual intercourse, but not during the past 3 months | 16 | 25.40 |
| 1 person | 36 | 57.14 |
| 2 people | 8 | 12.70 |
| 3 people | 2 | 3.17 |
| 4 people | 1 | 1.59 |

Table 5 continued

| | | |
|---|---|---|
| **Did you drink alcohol or use drugs before your last sexual intercourse?** | | |
| Yes | 11 | 17.46 |
| No | 52 | 82.54 |
| **The last time you had intercourse, did you/your partner use a condom?** | | |
| Yes | 35 | 55.56 |
| No | 28 | 44.44 |
| **Last method(s) used to prevent pregnancy?** | | |
| Condoms | 26 | 41.27 |
| Birth control pills | 15 | 23.81 |
| Withdrawal or some other method | 9 | 14.29 |
| An IUD (i.e. Mirena/ParaGard) or implant (i.e. Implanon or Nexplanon) | 7 | 11.11 |
| No method was used | 4 | 6.35 |
| A shot (i.e. Depo-Provera), patch (i.e. Ortho Evra), or birth control ring | 1 | 1.59 |
| Not sure | 1 | 1.59 |
| **During your life, with whom have you had sexual contact?** | | |
| Females | 28 | 44.44 |
| Males | 27 | 42.86 |
| Females and males | 8 | 12.70 |
| **Which of the following best describes you?** | | |
| Heterosexual (straight) | 51.00 | 80.95 |
| Gay or lesbian | 2.00 | 3.17 |
| Bisexual | 8.00 | 12.70 |
| Not sure | 2.00 | 3.17 |

Focus group participants also described how sexual activity is pervasive in many aspects of adolescents' lives, school, however, is a key environment in which teens discuss, hear, and witness sexual activity. *"I hear kids out in the hallway like, 'Oh yeah. I had sex with my girlfriends last night, high five.'"* Another added, *"It's just the stories that you hear people say in the hallways and stuff too. You definitely know that there are people that are sexually active in our school."* Similarly, another participant revealed, *"I'll hear guys and sometimes girls out in the hallway be like, 'Oh, yeah, I wanna bang her.'"* Students even mentioned "*instances of people being caught in sexual acts at school"* such as *"being caught in bathrooms."* A student

told this story, *"A couple of years ago some people were caught in the gym [and] in the auditorium."* Another shared, *"I've heard a lot of freshmen in the auditorium."*

Since participants perceived they lived in a sexually active culture, they explained that abstinence was not *"legitimately useful to anyone who's having sex or thinking about it."* One participant elaborated, "*It seemed impractical to me to be teaching teens [abstinence], who are probably either having sex, or going to have sex soon, and not actually teaching anything useful about it."* Given that engaging in sexual intercourse was *"what teenagers are doing,"* the consensus among participants was *"it's relevant"* to teach safer sex education rather than abstinence.

Participants also reported that their current sex education *"isn't working." "The stuff that they're teaching us, isn't effective. It's not affecting us."* The ineffectiveness of the curricula was attributed to seeing *"a lot of pregnant girls"* at school and "*the pregnancy rate at the school going up each year."* A participant shared:

> *The people that are getting pregnant, getting STDs, you need to teach them because obviously what you're doing isn't working. So you need to educate them better so that way they will at least have the information before they go and do those things.*

Survey trends appear to corroborate participants' perceived ineffectiveness of their sex health curricula. A majority of all respondents, 51% (n=61), reported that the course did not change their sexual decision making and approximately 56% (n=67), reported no influence on their actual sexual behaviors (Table 4).

Participants brought up that since *"everyone is doing it, and everyone else seems fine"* and teachers do not *"make a big deal"* about STDs and safer sex, there is a perception within the culture that the consequences of unsafe sex *"will not happen to them." "No one thinks it's gonna happen to them, so they don't really take it seriously. STDs, they don't take it seriously."* Another participant added, *"They don't think it'll happen to them or pulling out is enough."* Participants explained that *"[people] think that they can cheat the system"* as a primary reason why students appeared unconcerned about engaging in risky sexual behaviors. *"What are the odds that it could happen to me, is what they're thinking."* Participants added that students, *"don't think about it until it actually happens."*

Participants did disclose that cost was a barrier to contraceptive use. *"I think that money is a big issue of why the people are not being as safe, because things are expensive…even though*

*paying for medications and children are more expensive."* Another participant elaborated, *"Condoms are expensive…especially for teenagers because not all of us like have jobs. So, if you're having no income you can't go drop $30 on 10 condoms."* Similarly, a different participant added, *"Maybe you've got a job and you've got money, but most people don't, and you can't go and drop 60 bucks on a day-after pill."* Participants described that since contraceptives were *"overly expensive"* for their *"pretty low-income community"* it was not uncommon for people to forgo using condoms. *"You have to have money to have sex. Safe sex anyway."*

**Adolescents frequently ignore AOUM education.**

Participants also revealed that students do not *"listen"* or even *"pay attention"* to the information presented in their current sex education course and thus "*don't remember anything from [class]*." A student shared, *"I pretty much remember just sitting in that class and doing the packets."* Participants explained that students mostly do not listen in the course because the abstinence messaging contradicts what they want to do. *"People are gonna do it whether or not the teachers want you to...because people are stubborn, and they don't listen or they don't care."* Another participant agreed:

> *If you're going to want to have sex, you're gonna have sex. You're not going to listen to them, just because they told you not to. If someone tells you steps or things to do to help keep yourself safe while you're having intercourse, you're more likely to listen to it because you're still getting to have sex.*

Participants also discussed how teachers were not *"the boss"* of them and the abstinence messaging in their current curricula encouraged them to *"rebel"* and contemplate even more about engaging in sexual behaviors. A group of students agreed that their peers engage in sex because *"people tell you not to."* Another student asked this question, "*You know how if like someone tells you no, you just wanna do it even more?"* A student explained that teens engage in sex because, *"Sometimes people wanna prove them wrong like, 'Oh yeah, I'm not gonna get pregnant," or like, "I'm not gonna get an STD.'"* A student suggested, *"They should teach us like not abstinence but teach us like safe sex instead because talking about abstinence is just gonna make teenagers wanna do it more."* Therefore, participants advised *"it's gonna be easier to persuade someone to be safer having sex than to just not have sex in a whole."*

**RQ2b: What type of instruction would students prefer in their ideal sexual health curriculum?**

### Adolescents want more engagement in their sex education instruction.

To improve the sexual health instruction that students received, survey respondents were not in favor of having a different instructor as this option ranked the second lowest strategy to improve their sex education (Table 3). Focus group participants corroborated this finding and stated they *"don't really think that there should be a different instructor, there should be different instructions*." Participants suggested that teachers, *"have more lectures, have more activities,"* and *"do more demonstrations."* Participants shared that they learn best when "*actually seeing visual things and working on projects and stuff. If we would have done more projects and all of that, it would probably [be] a little more benefit."* One student even made this recommendation about how to better use course packets:

> *[If a teacher] wants to continue doing the packets, then I think that either do it together as a class where you're actively reading through it or change it up to where you're taking notes [and] having a lecture over it.* The student continued*, "you're constantly having your mind go through things, you're like well, I have notes for this, I can look back through that, oh, the lecture, I have to actually think about that.*

The most frequent recommendation that participants provided was for sex education instructors to "*be more engaging with the class."* To achieve this, participants recommended that teachers have *"more talk and less paper"* and invite *"students to get involved into the conversation*." A student explained:

> *See, I want a conversation that I can have in class like you guys did in here with the last focus group. That's the kind of conversation that I want. I wanna be able to speak up whenever I want and ask questions without other people like, "Oh, what are you talking about?" or the teacher be like, "Oh, well, blah, blah." But I actually wanna be a part of something so everybody can relate and talk about and understand.*

Students explained that greater conversation could help with information retention. *"You can learn better, if you have someone talking to you more, instead of doing packets, you're just sitting there half the time."* This participant shared:

> *I can learn better if someone talks to me, because, when I'm reading, I'm spacing out, not really trying to pay attention to what's going on in the book. I'm just spacing out, but when someone's talking to me directly, I'm like, oh, I need to learn this. This is important if they're telling me face-to-face.*

Participants not only wanted more interaction with their instructors they wanted more conversations with guest speakers. Participants wanted to hear "t*estimonials*" and "*real life examples.*" Some participants specifically wanted, *"people that have a disease like that [to] tell how it affects them in their everyday life."* A student shared this insight:

> *I'd rather more experiences come out. I mean, don't share too much, but give us hints of things not to do and what to do. You read the book and it's like, don't have sex and it's like, "okay," obviously we've been told that our whole lives but, I mean steps to take and stuff like that, like personal experiences of what you did.*

Participants also commented about the potential impact of hearing other people's stories.

> *"I like hearing stories from people, what happened to them. It affects people. It touches them mentally and physically, they can relate."* Another student concurred, "*If someone came and talked to us here and shared their story it would cause an impact on us*." Participants stated that *"most people are more engaged when they have like a guest speaker,"* they *"can get people's attention."*

*In summary the themes above reveal that:*

- Survey respondents had mostly neutral evaluations about their sex education course content. Focus group participants however had negative opinions, discussing primarily that the content was not detailed, useful, and materials were outdated.
- Survey respondents mostly reported neutral evaluations of their sex education instruction. Focus group participants had negative opinions describing the course as a joke that lacked engagement and instruction from sex education teachers.
- Both focus group and survey respondents believe they live in a sexually active culture and this was corroborated by survey statistics. Students therefore wanted their ideal sex education curriculum to focus on comprehensive sex education topics and not abstinence.
- Participants described rebelling against AOUM education by engaging in sexually activity.
- Focus group participants and respondents, specifically wanted their education to include information about pregnancy prevention, contraception use, and sexually transmitted infections and diseases.
- Although survey respondents ranked LGBTQ health as the last topic they wanted included in their sex education, focus group respondents recommended that it should be included as a way to provide information to keep LGBTQ youth safe.

- Participants and respondents both agreed the wanted more dialogic interactions between teachers and students in their sex education instruction.

# DISCUSSION RESEARCH AIM 1 & 2

This study adds to the literature by showing that there is a gap between what sex education curricula are offering and what students want to learn. Students in this study favored a safer sex education over AOUM education particularly because they wanted information that is *relevant, relatable*, and *reliable*. These findings support research arguing that the content of sex education should reflect students' lived experiences and the needs of the target group (Allen, 2008; Eisenberg, Wagenaar & Neumark-Sztainer, 1997; Kirby, 2007; Sanjakdar et al., 2015).

## The Three R's of Sex Education.

### Relevance.

Participants in this study reported living in a sexually active culture and discussed how the information they received in their sex education was not reflective of that reality, thus they often ignored what was being presented. This finding is consistent with research showing students 'tune out' information that does not align with their sexual activity or is oblivious about their actual needs (Hillier, Harrison, & Dempsey, 1999). Given this response, it appears creating relevance in sex education is a key component to consider when developing students' ideal sex education curricula. Cognitive processing and motivation theories such as Elaboration Likelihood Model, the Four-Phase Model of Interest Development, Self-Determination Theory and Expectancy-Value Theory have generally theorized relevance as an important variable that can trigger students to attend to and actively process information, and if the utility of the information can sustain individual interest, then personal relevance can increase the likelihood of behavior uptake (Petty & Cacioppo, 1986; Priniski, Hecht, Harackiewicz, 2018).

Similar to the findings of this study, prior research has demonstrated that when sexual health information was not issue-relevant, students were more likely to ignore the information because it was not considered useful. Consistent with work done by Pound and colleagues (2016), participants in this study described living in a sexually active culture in which intercourse was frequent and abstinence was an outdated idea that participants were unlikely to adhere or achieve. Research has shown when sex education focused on topics not relevant to

LGBTQ youth such as vaginal intercourse, pregnancy prevention, and marriage research revealed that participants did not pay attention because the information was not perceived as applicable to their experiences (Gowen & Winges-Yanez, 2014). Teaching content that that students are not motivated to attend to can leave them ill-equipped to engage in safe safely (Hillier, Harrison, & Dempsey, 1999). In fact, research has shown that a lack of relevant safe sex information was a contributor to the high incidence of STIs among certain adolescents (Lindsay, Smith, & Rosenthal, 1997) and conversely there is a decrease in sexual risk when youth have information that is relevant to their sexual behaviors and identity (Blake, Ledsky, Lehman, Goodenow, Sawyer, & Hack, 2001). Given the potential health implications, it is important that sexual health curricula contain information that is consistent with what is currently happening in teens lives and stresses outcomes that they perceive can be actualized.

To better capture students' attention, researchers have called for a better understanding of relevance from students' perspectives (Albrecht & Karabenick, 2018). The rationale is that students will be more engaged with curricula that addresses *what they* consider is relevant. Based upon participants' responses, relevant sex education was centered around identity and personal usefulness. Therefore, in this study, relevance in sex education is achieved when students perceive sexual health and sexuality-related information to be timely, age-appropriate, reflective of their culture and attitudes, associated with their sexual identities and are useful for guiding their current and future behaviors.

**Relatable.**

One way to create relevance in sex education is to make content more relatable by tailoring health messages within the sexual health curriculum to reflect students' lived experiences. Tailoring health messages involves customizing messages to fit the personal needs and characteristics of the target audience (Kreuter & Wray, 2003). Matching content to a smaller population's interests or framing health information in a context that is meaningful, are two techniques that can enhance message appeal and persuasiveness. Kreuter and Wray (2003) hypothesized that such strategies could create greater perceived relevance and salience among the audience, and this would lead audience members to process information essentially through the central processing route. This increased motivation to process the information, in turn would enhance attentiveness, information processing, and behavior change. Tailoring sexual health

content to reflect students' actual sexual attitudes behaviors, culture, short-term and long-term goals, could better help students identify with and create a connection with the information. The inability to relate to the current abstinence-centered information could possibly explain why a majority of participants, both those who had been sexually active and those who were still absent, reported that the sexual health information they received did not influence their sexual decision making and behaviors. This rationale is further supported by participants' recommendations to improve their sexual health education by including more safer sex topics in their curricula.

The results show not only did participants want information that related to their experiences, they wanted their teacher's instructional methods to align with how they thought they would learn the information best. Thus, focusing on teachers' instructional styles is another approach that can help make content relatable to students' educational and sexual needs. Passive teaching techniques such as discussions and lectures have proven less effective than active learning strategies (Freeman et al., 2014). Many participants in this study described disengaged teachers with passive instructional approaches and this may explain why participants reported not paying attention to and remembering the information presented in their sex education. Instead, students wanted more interactions with their teacher and activities such as demonstrations and testimonials. Although effective instructions in sex education is scant, interactive techniques such as modeling, rehearsing, and skills practice have shown to be helpful in improving the skills of certain students (Schaafsma, Kok, Stoffelen & Curfs, 2015). Thus, it is logical to assume when teachers use interactive instructional methods students are more likely to be engaged, more attentive, and more likely to process and apply the sexual health information. Furthermore, research has shown when teachers are engaged during instruction, students perceived that they care about them and the subject matter (Furrer & Skinner, 2003; Shen, McCaughtry, Martin, Fahlman, & Garn, 2012). This is important to consider given participants felt teachers were not invested or did not care about the subject when they used passive teaching strategies.

**Reliable.**

Learning from teens about what they want in their ideal sex education not only illuminated what they wanted to know but what they did not know. For instance, although

participants reported being knowledgeable about how to protect themselves from STDs and unplanned pregnancy, their reported behaviors suggest otherwise. Mentions of the withdrawal method and the perceived invincibility against the consequences of risky sexual behaviors, show that respondents' and participants' current sources of sex education are perhaps not the most trustworthy. Misinformation could partly explain why students engage in risky sexual behaviors (Layzer, Rosapep, & Barr, 2014). In addition, like previous studies, participants slightly overestimated the sexual activity of their peers (Helms, Choukas-Bradley, Widman, Giletta, Cohen, & Prinstein, 2014). With evidence that perceptions of peers' sexual activity can influence adolescents' own behaviors, an assessment of what teens do not know or think they know is particularly helpful because it allows sex educators to identify what information they need to emphasize or myths they need to correct (Helms et al., 2014).

Given these findings, our results highlight that participants desire and need sex education curricula that is reliable. To encourage students to engage in protective health behaviors, they need curricula that are medically sound, include skill development, and do not treat students as a uniform group. Student voice is needed to ensure information is representative of a range of sexual activities, orientations, and is devoid of teacher bias. Providing students with reliable information equips them with factual knowledge to engage in safe sexual practices whether they are currently sexually active or will be in the future.

It is important to stress that reliable sex education is not just accurate, it is automatically inclusive of the experiences of sexual minorities. Although survey respondents ranked LGBTQ sexual health low on the topics they recommend to include in sex education curricula, participants identified that fear of being outed as a factor that discourages students from indicating they need the information. Approximately 19% (n=12) of sexually active survey respondents identified with a minority/unsure sexual orientation. By not discussing issues relevant to LGBTQ youth, teachers miss opportunities to shape the attitudes and behaviors of a sizable portion of the student population. Studies have shown that LGBTQ youth are significantly more likely than their heterosexual counterparts to engage in risky sexual behaviors (e.g. Blake, et al., 2001; Saewyc, Skay, Richens, Reis, Poon, & Murphy, 2006). Perpetuating heteronormative standards and omitting information pertaining to LGBTQ people can put teens at risk and have a negative impact on all students by maintaining harmful ideologies such as racial and sexual prejudice, the idolization of heterosexuality as supreme, and stereotypes about

LGBTQ people (Pingel et al., 2013; Elia & Eliason, 2010). Therefore, scholars have recommended that school officials "assume students' sexual diversity and address the specific needs of gay/lesbian and bisexual adolescents" (Saewyc et al., 2006, p. 1109). This suggestion allows students to receive sexual health information they can benefit from but maybe not afraid to ask about on their own, thus potentially alleviating leaving LGTBQ uninformed and at increased risked for negative sexual health outcomes.

## Results Research Aim 3

Learning what students want and implementing the changes they desire in their sex education curriculum is quite the undertaking. Health departments and local health organizations could help schools more readily provide sexual health education to their students by disseminating information through their social networking accounts. The final goal of this dissertation, research aim 3, explored adolescent opinions about following SNS accounts of LHDs that disseminate sexual health information. Four final themes emerged from the data 1) participants knew little about their LHDs and their SNS accounts 2) people of influence can help LHDs recruit followers 3) LHDs need to establish a greater presence by promoting their services and 4) free items and giveaways could motivate students to follow their LHD SNS accounts.

### RQ 3a: What motivates adolescents to follow health organizations that disseminate sexual health information on SNSs?

#### Participants knew little about their LHDs and their SNS accounts.

Participants generally were receptive towards the idea of receiving sex education from their LHD's SNS accounts, however a majority of participants had "*no idea what the local health department is."* Several participants asked*,* "*what is the health department?"* and others reported they *"never heard of it before*," and "*don't even know where it's at.*" In addition to knowing little about the purpose and location of their LHD, participants were unaware of the health department's social networking accounts. Participants stated, "*I've never heard of social media [accounts] that talk about health"* and *"we just don't see 'em."* Therefore, because participants *"don't know they have an account"* many did not know to follow their LHD on SNS. Participants also shared even if they saw the LHD's SNS accounts online, they still would not

follow because they did not know enough about the organization. One student shared, "*I probably wouldn't follow because I didn't even know what the health department was.*" Participants expressed that it *"would probably help"* if the LHD would *"get in touch"* with them first and frequently recommended that LHD officials *"come to our school and interact with us."* Participants suggested, *"we could learn about in the health class [about] the health department page,"* along with "*what [they] can provide and how can it help you."* A student explained:

> *If you come to talk to us and like have made the effort to like catch our attention, then it shows that you actually want to like teach us something like you actually care about us. So we're gonna wanna follow you.*

**People of influence can help LHDs recruit followers.**

To attract followers, participants discussed how influential people such as community leaders and teachers can motivate others to follow LHDs' SNS accounts. "*I think more people [would] know about it, probably follow it, if it was suggested to us by a teacher*." "*I think in our sex ed class if they say 'you can go to this social media site and follow them and they have tips for things*.'" Peers were also mentioned as important influencers that could drive followers to LHD's SNS accounts. *"If I saw other friends that were following the account then I would probably be like interested and maybe check the profile out."* One student elaborated:

> *Take a few good people and they spread it out, basically a "monkey see monkey do" type of thing. Get a group of people or maybe a small group of people, they say, 'Oh yeah. This is awesome, let's tell our friends about it.' Their friends are gonna do it, then if they like it, they're gonna promote their friends to do it.*

Another participant agreed adding, "*then those people can tell other people like, 'hey, this is a really good program*.'"

Influencers that participants already knew were ideal because "*it'd be more personal*" but participants also recommended the use of "*celebrity endorsements.*" "*I'd listen to a celebrity better than I would someone my age.*" "*I think if they got celebrities to follow or promote pages, a lot more people would follow sexual health pages. Celebrities are very influencing.*" Other participants added, "*If they're pairing up with a celebrity or something then a lot of people might follow them to like get to know what's going on."* However, participants did share some skepticism saying that, *"it depends on how big or like how important they are."* "*Yes, Beyoncé's*

*telling me to use a condom. That's cool! Let me like it, let me share it*." Participants advised that LHDs could not "*just use a picture"* of a celebrity. "*It'd have to be coming from the celebrity itself. Fans literally have to literally see the celebrity speaking it, talking about it. It has to come literally from them. Like, hey, I want you to do this."* Other participants agreed, "*Kim [Kardashian] would have to tweet like, 'Hey, go follow the county health department, and they're great.' You know what I mean? Kim would have to tweet that.*" Whether a celebrity or local influencer, participants ultimately concluded that "*the people you look up to, are the people you're more likely to listen to.*"

**RQ 3b: What recommendations do adolescents have for how health departments can work with schools to use SNS to deliver comprehensive sexual health education?**

**LHDs need to establish a greater presence by promoting their services.**

Participants discussed the need for LHDs to "*publicize*" and "*promote*" themselves more to attract teen followers to their SNS accounts. Particularly, participants discussed that LHDs needed to promote more offline, *"I think they should put signs around town, cause half of us didn't even know that we had a health department."* Students again recommended that LHDs partner with schools to create greater awareness, "*put it in the school paper,*" making "*announcements*" and creating posters were common suggestions. Another participant suggested, *"Advertise it on, not like Billboards, but in school. Have posters up...during the announcements promote it. Promote it at lunch. Have flyers or something up."* Participants also stated, "*The public health places [should] sponsor something with the school, like a game or like a dance."*

Participants also suggested that LHDs create greater visibility on social media platforms, specifically encouraging *"advertising on social media to get their name out there.*" One participant explained, *"There's like a whole bunch of ads about stuff on Snapchat, maybe if they put one up people would be like, 'Oh, okay, let's watch this.'"* Another participant shared, *"I think they'd be a good idea. On Snapchat, advertisements pop up on there all the time."* By *"popping up on your phone,"* participants added how advertisements make LHDs' SNS accounts more visible. A participant shared, "*I just never see it like pop up or anything. On Instagram I'll see like somebody I know name pop up and I'll follow them or something, but you don't really see anything like that to draw us."* Another participant added,

> *I think the advertising would work really well because if I see it, I'm on Instagram all the time, if I see it like oh wow, our city has a local health department, that's really cool. I think I'll follow. That's a way that I find out this stuff exists, it shows up, because I had no idea.*

**Free items and giveaways could motivate students to follow their LHD SNS accounts.**

Lastly, participants discussed how "*kids like free stuff*" and *"giveaways and stuff like that would be an enticement especially for teenagers."* Offering giveaways was a recommended approach to promote and motivate students to follow the LHD's SNS accounts. Participants suggested that LHDs give away resources such as condoms and contraception. "*I would say offer free birth control*. *I mean that's what's gonna get people. Free is the word.*" A female participant explained how it could motivate potential followers:

> *If they did a giveaway for a $10 Walmart gift card, if you add them on Snapchat and they had like, if you ask so many questions then you can be entered to win something, I feel like that would make people add them on Snapchat and then they're not going to remember to take them off. By doing sort of 'add and you can be entered in a sort of giveaway,' even if it's just a $10 Walmart gift card, I think that that would be worth it.*

Another participant suggested LHDs can advertise *"a chance to win this gift card,"* "*and remember these steps to prevent an STI*" and another supported by saying "*have them take a little quiz or something to get a chance to win something,*" while another added, "*'win this $25 gas gift card*!' *and I'd be like, 'Yes, I'm taking your survey!'" or "Yeah, I'll repost your picture!*"

*In summary, the themes above reveal that:*

- Focus group participants are receptive to receiving sexual health information from the SNS accounts of their LHD, they however do not know much about the LHD or their SNS accounts.
- Participants recommended that LHDs partner with schools, local and celebrity influencers to help attract followers and build brand awareness about their organization and their SNS accounts.
- Participants also recommended the LHDs promote their services more by advertising at schools and on SNS platforms.
- Participants frequently mentioned that giveaways are incentives that could help motive teens to follow a LHD's SNS account.

# DISCUSSION RESEARCH AIM 3

The aim of this research was to explore adolescent opinions about receiving sex education from SNS accounts operated by LHDs. Similar to prior research, participants in our study reported favorable attitudes about receiving sex education from SNS (Selkie et al., 2011; Vyas, et al., 2012). Our research complements previous research that advises health organizations not to assume because they are on SNS, users will find, like and follow their accounts (Thackeray et al., 2012). Many participants were unaware or knew very little about the purpose and services of their LHD, and in turn were not knowledgeable about the LHD's SNS accounts. In addition, participants did not know what accounts to follow or to even search for. Our results indicate that an effective communication strategy designed to attract adolescent followers to SNS accounts that disseminate sex education should utilize the 5 P's of marketing. Specifically, participants recommended that officials of LHDs 1) inform intended audience about ***products*** by building offline relationships, 2) utilize ***promotions*** to create greater brand awareness, 3) emphasize ***price*** during giveaways and ***publicize*** free services and 4) use the right ***people*** to motivate others to follow accounts.

**Product and Place.**

One way to create greater awareness about the LHD's products is for officials to establish an offline presence with adolescents before connecting with them online. One frequently recommended place to build connections with potential teen followers was schools. By conducting school-wide and in-class presentations, LHDs could get in front of their intended audience and provide information about their products such as their resources, mission, and their social media accounts. When discussing their social media platforms, LHDs should make sure to include information about the purpose of the accounts, who operates the accounts, how to follow the account, and any opportunities to collaborate. Similar to Fernandez and colleagues (2018), our participants supported print materials in schools to disseminate sexual health related information. As a constant reminder, LHDs, should consider posting flyers about the organization, its products, and ways to follow their SNS accounts in and around schools.

**Promote, Publicize & Price.**

Participants were not actively looking for LHDs accounts on SNS, therefore, to attract followers, officials should pursue ways to automatically appear on user's news feeds and home pages. Participants highly recommended using SNS advertisements to garner greater exposure amongst the intended audience. Many SNS utilize user demographic data to help advertisers create and promote highly targeted advertisements and marketing campaigns. In fact, Facebook ads have shown to be effective at expanding reach and attracting new followers to a sexual health app aimed at teenagers (Gabarron et al., 2017). When developing these advertisements, LHDs should strongly consider promoting incentives to acquire more followers. Enticements such as free contraception and giveaways emerged as important factors that would motivate adolescents to follow LHD's SNS accounts. Having free or low-cost condom and contraceptive giveaways and incentivizing STD testing, could serve a dual public health purpose: (1) attract followers and (2) help teens engage in safer sex practices.

**People.**

Lastly, participants recommended that LHDs leverage the right people to help build brand awareness and expand their reach. Influencer marketing is "the digital equivalent of word-of-mouth marketing" (Byrne, Kearney, & Macevilly, 2017, p. 1) and uses "connected social media participants who have the credibility, following, and motivation to drive positive word-of-mouth to a broader and salient segment of the market" (Petrescu, O'Leary, Goldring, & Mrad, 2018, p. 288). Research on influencer marketing is in its infancy however earlier results show that influencers are more credible and trustworthy than paid advertisements and influencer endorsements have had positive impacts on individual healthier food choices (Abidin, 2016; Byrne et al., 2017; Chatzigeorgiou, 2017). In the context of sexual health promotion, a recent study revealed that influencers had positively impacted their followers' HIV testing behaviors (Wu et al., 2019). Celebrities were also found to be influential among participants. However, many participants did stress that it does matter who the celebrity is, and the information needing to come from them directly which may pose some challenges for LHDs. Therefore, utilizing a celebrity as an influencer may be an ideal approach for LHDs but not one that can be easily implemented.

LHDs however need to partner with intended audience members to identify prominent and potential influencers. Once influencers are chosen, they, along with LHDs, need to create visibility so followers are aware of them and their goals. Identifying and determining appropriate ways to engage with social media influencers and establishing a reciprocal social media relationship with influencers, can be a simple yet powerful approach to increasing the reach of such sexual health messages to intended populations.

## Limitations

The present study has limitations worth noting. First, the research site was located in an area where STDs and teen birth rates were higher than state average and this environment could have unforeseen effects on participants' responses and their perceptions of sex education. Thus, although focus group discussions provided rich descriptions of participants' experiences, these findings may not be generalizable to other adolescent populations or be representative of all Indiana teenagers. Additionally, the study had a very low response rate. Researchers were only allowed to recruit participants from certain classes and did not have access to all 650 students. Research has shown sexual health research with adolescents "can be complicated by issues of informed consent, parental permission institutional review board (IRB) approval, and state laws" (Braun-Courville et al., 2014, p. 1). Although this study presented no more than a minimal risk to participants, the academic IRB was reluctant to provide a waiver of guardian consent. Requiring parental consent in sexual behavior research has shown to decrease adolescent participation (e.g. Reed & Huppert, 2008; Reed, Thistlethwaite, & Huppert, 2007; Macapagal, Coventry, Arbeit, Fisher, & Mustanski, 2017). These factors stifled recruitment of survey respondents, resulting in a low participation rate and an overrepresentation of students who were 18 and older (n=63).

This research also would have benefited from the analysis of developmental differences of the focus group population. It would be worthwhile to see if differences between sexual activity influenced the final themes. Unfortunately information about sexual activity was not collected among focus group participants. Next, I encountered challenges as a human instrument. I found it difficult to practice mindfulness and note take during focus group discussions. To gather rich, descriptive data, I made the decision to focus on active listening instead of taking notes during focus group discussions. I also struggled balancing between allowing focus group participants' responses to naturally guide the discussions and asking questions from my

interview instrument. It was hard to decipher when I as an interviewer should intervene. In some instances, it was difficult to determine when participants were going on a tangent or when a conversation was being led by participants shared experiences. In retrospect, I would have benefited from participating in reflexive processes such as journaling and using multiple investigators during the data collection process.

I also had notable oversights during data collection and analysis. Since I borrowed survey items from previously used instruments and I was facing time constraints, I did not pilot my materials. This contributed to missing data in my survey as I missed opportunities to require students to answer certain questions. Also, I needed to better compare my instruments to each other to ensure the items I was measuring on the survey were also items I was inquiring about in the focus group discussion. Next, during analysis, I encountered software issues that made it impossible to compute intercoder reliability as I had originally planned, therefore I had to rely on intercoder agreement instead. Also, given time, personnel and financial constraints it was hard to analyze the data as immediately as I had originally hoped. I had to rely on the interview instrument and survey responses to guide my focus group discussions which is acceptable, however it would have been ideal to have notes from previous discussions to confirm or invalidate in new focus group discussions. Lastly, this project would have benefited from a data management and sharing plan. Having such a plan would have allowed me to better document the decisions that were made throughout the study and given me an opportunity to leave instruction about how officials from my research site could access the data in the future.

Despite these limitations, the study had numerous strengths including using mixed methods to offer a holistic understanding of the health issue. Member checks were particularly important given the issues with calculating intercoder reliability. Focus groups informants helped to ensure all of the final themes were representative of participants experiences and thoughts. The school nurse also became a key informant and was able to confirm students' reports about the increase in pregnant students enrolled in the school and the use of packets in the sex education courses. Analyst and data triangulation also helped to ensure the credibility and confirmability of results.

# CHAPTER 5 CONCLUSIONS

In 2017, STD cases in the U.S. were at an all-time high and new infections disproportionately affected adolescents (CDC, 2018). National movements such as the #MeToo campaign have also highlighted the widespread prevalence of sexual assault and sexual harassment. These incidents have raised public awareness, at times outrage, and have increased the urgency to find ways to reduce the consequences of risky sexual behaviors and sexual violence. One possible solution that has often been overlooked in popular media discussions and scholarly work about how to prevent these matters, is how sex education can alleviate the consequences of risky sexual behaviors. By exploring what type of sexual health information adolescents want in their sex education, this dissertation provides timely, scientific guidance that can help teachers, school and local health officials create sex education that resonates with teens. Improved education can help teens make responsible sexual decisions throughout adulthood and in result could possibly decrease future HIV outbreaks, incidences of STD infections and sexual assault.

The findings from this dissertation highlight how student voice could be valuable in sex education because it provides a lens into adolescents' realities and preferences. Researchers seem to believe that the voice of the student is vital to the development of an effective sexual health curriculum (e.g. Eisenberg, Wagenaar, & Neumark-Sztainer, 1997; Kirby, 2007). However, with recent cuts to sex education funding it appears that policy makers and educators believe the contrary and perhaps are looking at the educational component through their own biases which may be part of a tragic and illogical error. The error goes like this. Adults believe they know what is best for sex education because they are older and have been through sex education. Programs are then developed and delivered and when they fail, the blame is pushed onto the students and parents, and not the ineffectiveness of the information from which the programs are based. My findings suggest that students are more likely to adhere to and apply the information of a sex education that resonates with them.

This study also aligns with the results of previous studies by demonstrating that students and teachers have differing views about what topics should be taught in a sex education curriculum and that within the classroom, teachers have the ultimate authority to decide what information is taught and how it is presented even when it does not align with student

preferences (Pound, Langford, & Campbell, 2016). In this study, students wanted to learn information that went beyond abstinence but described how teachers neglected to teach topics students found relevant. Not only does this coincide with reports that found many Indiana instructors avoid teaching comprehensive sex education topics (USDHHS & CDC, 2015)., it highlights the "two worlds in which adolescent sexuality and the authority of school culture come into open confrontation" (Thomson & Scott, 1991, p.12). Previous research shows that strained power relations between adults and students and a lack of critical pedagogy contribute to reasons why student voices are not well-documented in the development and implementation of sex education curricula (e.g. Arnot & Reay, 2007; Sanjakdar et al., 2015). In result, this finding further supports research suggesting that a traditional pedagogical approach, where the teacher is the gatekeeper of knowledge, may not be most appropriate for sex education (Kehily, 2002).

While it may not be the intention of teachers withholding information about prevention has been considered unethical and a violation of human rights, as it contradicts the goal of sex education (Santelli et al., 2017). Findings show omitting certain information may have unintended consequences for students' learning. Results extend prior findings by showing that the power imbalance between teachers and students may produce a boomerang effect for students. A boomerang effect occurs when a recipient of message exhibits an attitude or behavior opposite of the intended effect (Ringold, 2002). Reactance is a type of boomerang effect and a psychological arousal initiated when a recipient perceives that a message threatens to reduce, eliminate, or threatened their behavioral freedoms (Brehm, 1966). To restore the freedom, individuals may engage in proscriptive behaviors, the boomerang effect, as a form of protest and resistance (Crossley, 2002).

Grandpre and colleagues (2003), tested the influence of pro- and antismoking messages targeted to middle and high school students on their impact on smoking behavioral intentions. Results demonstrated that explicit antismoking messages elicited reactance among adolescents. Adolescent participants indicated they were less likely to comply with antismoking messages and instead likely to smoke in order to restore their threatened freedoms (Grandpre, Alvar., Burgoon, Miller, & Hall, 2003). This study documents a similar phenomenon, it appears that for some participants in this study AOUM messages threatened sexual freedoms they felt entitled to engage in. Instead of students accepting and adhering to AOUM, they displayed reactance and were more motivated to engage in sexual activity.

Another and perhaps better approach to restoring participants' sexual freedom is "to allow adolescents more freedom to make their own choices regarding healthy behaviors" (Grandpre et al., 2003; p.364). Perhaps allowing adolescents more freedom to make choices regarding the content and instruction of their sex education could reduce the reactance students felt during their sex education course. Therefore, once teachers and school officials assess student's behaviors and knowledge, it is highly recommended they use this information and incorporate it into the actual curriculum. Increasing student voice through curriculum co-creation could help foster greater buy-in and ownership among students and maybe curtail their dismissal and reactance against their current education. Researchers assert when students have more choice, control, challenge, and opportunities for collaboration in school matters, the have a greater sense of motivation and engagement (Toshalis & Nakkula, 2012). Studies have also shown that when teachers and students collaborate together on curriculum design, they have improved classroom practices (Flutter and Rudduck 2004; Lodge, 2005; Rubin & Silva, 2003). These results show promise that having students as co-creators in sex education curriculum development may have positive results on sexual attitudes and behaviors.

While it appears ideal and obvious that students, teachers, and school officials should collaborate to utilize student voice to build a sex education curriculum that is relevant, relatable and reliable, translating all the components into practice could be challenging. Although power imbalances between teachers and students are often blamed for limiting student voice (e.g. Kehily, 2002) there are larger social and political decision-making factors simultaneously in play. Guidelines governing sex education on the local, state, and national level "frequently comprise patchworks of mandates, funding restrictions, omissions, and compromises, often at odds from one level to the next" (Goldfarb & Constantine, 2011; p.18). In order to design the curriculum that students desire, student voice may need to transcend beyond the classroom and school doors. Therefore, student voice needs to be sought and considered at all stages of curriculum design and development including during lawmaking, teacher trainings, school board decision making and more. Legislators, school officials, principals and health professionals should create spaces and opportunities for students to be a part of these processes. While such work requires more scientific investigation, students and adult allies should continue to look for loopholes or openings in which incorporating student voice in sex education can be more readily realized and utilized.

One creative way students and school officials may circumvent potential restrictions to create and disseminate student-informed sex information is by partnering with their local health department. The second research aim of this dissertation sheds light on how schools and LHDs can collaborate to provide student-informed sex education to students in a timely manner. The findings show that participants were in favor of receiving sex education from the SNS of their local LHD but students overall were unfamiliar with the LHD and their SNS accounts. Participant responses indicate that in the context of sexual health promotion, it is important to first build offline connections before trying to build adolescent audiences on SNS. By operating as a space that LHD officials could promote and raise awareness about their purpose and products, schools became a key environment for acclimating students to the LHD.

Results also highlight other strategies that LHDs could use to gain adolescent followers to their SNS. According to participant responses, establishing and maintaining familiarity among the intended audience are perhaps are the most critical components to incorporate in a strategic communication plan that seeks to recruit teen followers to SNS that disseminate sexual health information. To establish a following, most SNS encourage new users to build egocentric networks of immediate connections, where users initially add those they are most familiar with or who are already in their extended social network (Boyd & Ellison, 2007; Ellison, 2007). My findings expand the literature by suggesting that health organizations do the same. Participants recommend that officials from the local health departments build a relationship with adolescents by connecting with them first at their schools. Once that familiarity is established, participants explained that they are more likely to add and follow LHDs' SNS accounts because they are aware of the account, they are familiar with the people running the account and the purpose of the account. Once the account has built a network of immediate connections, local health department officials can then use these ties to grow outward.

## Future Research

The results of this dissertation are clearly limited. First, the findings are applicable to a small specialized population thus, future research can build on this study by replicating it in different groups in different locations. Next, conducting any research in a public or private school with minors is a significant undertaking. The resources needed to recruit adolescent subjects (i.e. passing IRB regulations, school board approval, gaining parental consent) along

with the time needed for in-depth focus groups, makes it unlikely that the qualitative component of this research could be done to produce the findings that would be generalizable and representative. It may be more practical and worthwhile to expand upon and distribute the survey component of this study across multiple sites. Survey data is more likely than focus groups to capture a more representative population and to provide a more valid look at the health issue. Incorporating additional survey measures about instructor presentation style, the quality of sex education materials, and student SNS following preferences can capture information that was missing in this study.

While the results from this dissertation may not be generalizable to large populations, it can still be useful to many, as it outlines a practical approach school officials and health departments can use to gather student insights about their sex education. Future studies can expand upon this foundation by conducting a process evaluation. Specifically, researchers could explore and evaluate various approaches school officials use to collect student input and investigate how schools incorporate that feedback into sexual health curricula. This information could attest to the feasibility of the study methods in real-life settings before widespread dissemination.

There is also the issue that this dissertation focuses on one side of the coin when it comes to sex education development, students' voices. If scholars want cocreation in sex education, it is worth exploring teacher perspectives on the matter. Teachers have described sex education as "fraught with difficulties," and while research has explored teacher perspectives about traits that make an effective sex education instructor, it is important to also learn what aspects they value in an effective sexual health curriculum (Buston, Wight, & Scott, 2001; Milton, Berne, Peppard, Patton, Hunt, & Wright, 2001). In upcoming studies, researchers could conduct a comparative analysis on what teachers and students value in a sex education curriculum. By performing such an investigation, researchers would be able to make more holistic recommendations that include the voices of the two biggest stakeholders in sex education.

Thirdly, this study relied on student self-reported data. Adding a classroom observation component could greatly benefit future studies as the researcher would be able to observe participants in their natural environment. This could help capture data students are not able to recall during focus groups and simultaneously their interactions with teachers. A potential

concern with this approach, given the sensitivity of sex education, would be how students and teachers respond knowing that a researcher has entered the environment.

Qualitative research can only suggest strategies and cause and effect relationships; therefore, future studies should consider employing experiential designs to test the effectiveness of the recommendations that this dissertation proposes. It would be worthwhile to compare the effectiveness of a sex education curriculum that incorporates aspects of relevance, relatedness, and reliability to those that students believe do not. Future work on sex education promotion on SNS should also explore the effectiveness of using the 5Ps of marketing in SNS health promotion. Researchers in this area should consider how they might use lab and/or applied experimental designs to uncover relationships between SNS messages and teen attitude and behavior changes. This area seems ripe for experimental work that for reasons of cost and difficulty has yet to be done. Finally, LHD could also incorporate student voice in the development of SNS-delivered health campaigns. Using a community based participatory research approach could be a great starting point for LHDs to identify influential teens to help develop, appear in, and promote sex education on SNS. According to Heldman and colleagues (2013) the expansion of such research is vital if public health communicators want to use SNS "to engage with our audiences, to improve public health outcomes" (p. 13).

Finally, just as participants in this study stated the culture has changed, the nature of adolescent sexual attitudes, beliefs and behavior is not static. "To be effective, sexuality education must understand that young people's concerns and interests are everchanging and contextually contingent" (Allen, 2011, p.158). Therefore, longitudinal work can help document just how student sexual cultures and their needs evolve. In particular, it would be worthwhile to explore how adolescents' sexual health needs and concerns change throughout their high school years. Research could examine students' changes in needs and concerns after taking a sex education course and factors that influence those changes. Such information would be useful for identifying and incorporating topics and elements that are age appropriate and that meet students' developmental needs over time.

## Overall Conclusion

The current sexual climate in the United States is plagued with misconduct, assault, harassment and disease. The time is now to suggest solutions that can make a sexually healthier

America a real possibility. Collaborations between scientists, health professionals, school officials, and students is our best approach to develop effective sex education that can improve sexual attitudes and behaviors on a wide scale. Providing students with effective sex education is more than telling them what to do or not do. Sex education done right provides an opportunity to connect with, listen to and share with them how to respectfully and responsibly express feelings of love and admiration, how to prevent disease, monitor their reproductive health, how to communicate with their partners, and more. This is information they will carry with them throughout their adulthood and possibly share with their partners, friends, and perhaps even their own children.

I recognize that this is one dissertation that worked with a talented but small, specialized population. While the results may not be generalizable to larger populations let it give us hope to not underestimate the power of one, the power of science, of education, to make the much-needed changes in this public health crisis. Nelson Mandela brilliantly said, "Education is the most powerful weapon which you can use to change the world." With more effective, student-informed sex education we could achieve more than better health outcomes, we could also bring about social change. "We have a golden opportunity to create a culture shift–tackling the misinformation, shame, and stigma that create the basis for many of today's sexual and reproductive health and rights issues" (Harly, 2019; para. 5). Imagine if sex education curricula that incorporated student voice was taught to all 15.1 million high school students throughout the nation. What would happen if every single local health department throughout the nation connected with high school students to constantly provide them with sex education? Could we increase greater acceptance towards the LGBTQ community, could we decrease sexual assault, prevent unplanned pregnancy and dismantle gender and racial inequities? We can. Let us do more than imagine, let us go forward, educate and change the world.

# REFERENCES


Abidin, C. (2016). Visibility labour: Engaging with Influencers' fashion brands and# OOTD advertorial campaigns on Instagram. *Media International Australia*, *161*(1), 86-100. https://doi.org/10.1177/1329878X16665177

Advocates for Youth. (2009). *Comprehensive sex education: Research and results.* Retrieved from http://www.advocatesforyouth.org/publications/1487

Albrecht, J. & Stuart, K. (2018) Relevance for Learning and Motivation in Education, *The Journal of Experimental Education*, *86*:1,1-10, DOI: 10.1080/00220973.2017.1380593

Al-Busaidi, Z. Q. (2008). Qualitative research and its uses in health care. *Sultan Qaboos University Medical Journal*, *8*(1), 11. Retrieved from https://journals.squ.edu.om/index.php/squmj

Allen, L. (2008). 'They Think You Shouldn't be Having Sex Anyway': Young People's Suggestions for Improving Sexuality Education Content. *Sexualities*, *11*(5), 573-594. DOI: 10.1177/1363460708089425

Allen, L. (2011). *Young people and sexuality education: Rethinking key debates*. New York, NY: Palgrave Macmillan

Anderson, D. L., & Graham, A. P. (2016). Improving student wellbeing: Having a say at school. *School Effectiveness and School Improvement*, *27*(3), 348-366. DOI: 10.1080/09243453.2015.1084336

Aquilino, M. L., & Bragadottir, H. (2000). Adolescent pregnancy: Teen perspectives on prevention. *MCN: The American Journal of Maternal/Child Nursing*, *25*(4),192-197. Retrieved from https://journals.lww.com/mcnjournal/pages/default.aspx

Arnot, M., & Reay, D. (2007). A sociology of pedagogic voice: Power, inequality and pupil consultation. *Discourse: Studies in the Cultural Politics of Education*, *28*(3), 311-325. . DOI: 10.1080/01596300701458814.

Blake, S. M., Ledsky, R., Lehman, T., Goodenow, C., Sawyer, R., & Hack, T. (2001). Preventing sexual risk behaviors among gay, lesbian, and bisexual adolescents: the benefits of gay-sensitive HIV instruction in schools. *American Journal of Public Health, 91*(6), 940. Retrieved from https://www.apha.org/publications-and-periodicals/american-journal-of-public-health

Bleakley, A., Hennessy, M., & Fishbein, M. (2006). Public opinion on sex education in US schools. *Archives of Pediatrics & Adolescent Medicine*, *160*(11), 1151-1156. DOI:10.1001/archpedi.160.11.1151

Bloor, M. (2001). *Focus groups in social research*. London: Sage Publications, Inc.

Borawski, E. A., Tufts, K. A., Trapl, E. S., Hayman, L. L., Yoder, L. D., & Lovegreen, L. D. (2015). Effectiveness of health education teachers and school nurses teaching sexually transmitted infections/human immunodeficiency virus prevention knowledge and skills in high school. *Journal of School Health*, *85*(3), 189-196. DOI: 10.1111/josh.12234

Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication* , *13*(1), 210-230. https://doi.org/10.1111/j.1083-6101.2007.00393.x

Braun-Courville, D. K., Schlecht, N. F., Burk, R. D., Strickler, H. D., Rojas, M., Lorde-Rollins, E., Nucci-Sack, A., Hollman, D., Linares, L.O., & Diaz, A. (2014). Strategies for conducting adolescent health research in the clinical setting: the Mount Sinai Adolescent Health Center HPV experience. *Journal of Pediatric and Adolescent Gynecology*, *27*(5), e103-e108. DOI: 10.1016/j.jpag.2013.08.004

Brehm, J. W. (1966). A theory of psychological reactance. New York: Academic Press

Bricki, N., & Green, J. (2007). *A guide to using qualitative research methodology* [PDF document]. Retrieved from http://hdl.handle.net/10144/84230

Bull, S. S., Levine, D. K., Black, S. R., Schmiege, S. J., & Santelli, J. (2012). Social media–delivered sexual health intervention: A cluster randomized controlled trial. *American Journal of Preventive Medicine*, *43*(5), 467-474. DOI: 10.1016/j.amepre.2012.07.022

Buston, K., Wight, D., & Scott, S. (2001). Difficulty and diversity: the context and practice of sex education. *British Journal of Sociology of Education*, *22*(3), 353-368. DOI: 10.1080/0142569012006797 1

Byers, E. S., Sears, H. A., Weaver, A. D., Cohen, J. N., Voyer, S. D., & Thurlow, J. L. (2003). An adolescent perspective on sexual health education at school and at home: I. High school students. *The Canadian Journal of Human Sexuality*, *12*(1), 1. Retrieved from https://search.proquest.com/docview/220811852?accountid=13360

Byrne, E., Kearney, J., & Macevilly, C. (2017). The role of influencer marketing and social influencers in public health. *Proceedings of The Nutrition Society, 76*(OCE3), E103. DOI:10.1017/S0029665117001768

Byron, P., Albury, K., & Evers, C. (2013). "It would be weird to have that on Facebook": Young people's use of social media and the risk of sharing sexual health information. *Reproductive Health Matters*, *21*(41), 35-44. https://doi.org/10.1016/S0968-8080(13)41686-5

Campbell, J. L., Quincy, C., Osserman, J., & Pedersen, O. K. (2013). Coding in-depth semistructured interviews: Problems of unitization and intercoder reliability and agreement. *Sociological Methods & Research*, *42*(3), 294-320. https://doi.org/10.1177/0049124113500475

Cassell, M. M., Jackson, C., & Cheuvront, B., (1998). Health communication on the internet: An effective channel for health behavior change?. *Journal of Health Communication*, *3*(1), 71-79. DOI: 10.1080/108107398127517

Cao, B., Liu, C., Durvasula, M., Tang, W., Pan, S., Saffer, A. J., Wei, C., & Tucker, J. D. **(2017).** Social media engagement and HIV testing among men who have sex with men in china: A nationwide cross-sectional survey. *Journal of Medical Internet Research, 19*(7). DOI: 10.2196/jmir.7251

Cao, B., Gupta, S., Wang, J., Hightow-Weidman, L. B., Muessig, K. E., Tang, W., Pan, S., Pendse, R., & Tucker, J. D. (2017). Social media interventions to promote HIV testing, linkage, adherence, and retention: Systematic review and meta-analysis. *Journal of Medical Internet Research*, *19*(11). DOI: 10.2196/jmir.7997

Carlsen, B., & Glenton, C. (2011). What about N? A methodological study of sample-size reporting in focus group studies. *BMC Medical Research Methodology*, *11*(1), 26. https://doi.org/10.1186/1471-2288-11-26

Centers for Disease Control and Prevention. (2010). *Bringing high-quality HIV and STD prevention to youth in schools: CDC's division of adolescent and school health.* Retrieved from https://www.cdc.gov/healthyyouth/about/pdf/hivstd_prevention.pdf

Centers for Disease Control and Prevention (2011). *The health communicator's social media toolkit*. Retrieved from https://www.cdc.gov/healthcommunication/toolstemplates/socialmediatoolkit_bm.pdf

Centers for Disease Control and Prevention (2013). *STDs in adolescents and young adults.* Retrieved from: http://www.cdc.gov/std/stats13/adol.htm

Centers for Disease Control and Prevention. (2015). *Youth risk behavior survey data Indiana high school survey.* Retrieved from http://www.in.gov/isdh/files/1_2015INH_Survey_Summary.pdf

Centers for Disease Control and Prevention. (2016). *Youth risk behavior surveillance - United States, 2015.* Retrieved from http://www.cdc.gov/healthyyouth/data/yrbs/pdf/2015/ss6506_updated.pdf

Centers for Disease Control and Prevention. (2017). *Sexual risk behaviors: HIV, STD, & teen pregnancy prevention.* Retrieved from https://www.cdc.gov/healthyyouth/sexualbehaviors/index.htm

Centers for Disease Control and Prevention (CDC). (2018). *Teen birth rate by state*. Retrieved from https://www.cdc.gov/nchs/pressroom/sosmap/teen-births/teenbirths.htm

Center for Reproductive Rights & Human Rights Watch. (n.d.). *Written testimony of center for reproductive rights and human rights watch to the committee on oversight and government reform on the human rights concerns of abstinence-only-until-marriage programs.* Retrieved from https://www.hrw.org/sites/default/files/related_material/4.2008%20CRR__HRW_Abstinence_Only_Testimony0408.pdf

Chatzigeorgiou, C. (2017). Modelling the impact of social media influencers on behavioural intentions of millennials: The case of tourism in rural areas in Greece. *Journal of Tourism, Heritage & Services Marketing*, *3*(2), 25-29. http://doi.org/10.5281/zenodo.1209125

Chin, H. B., Sipe, T. A., Elder, R., Mercer, S. L., Chattopadhyay, S. K., Jacob, V., Wethington, H.R., Kirby, D., Elliston, D.B., Griffith, M., & Chuke, S. O. (2012). The effectiveness of group-based comprehensive risk-reduction and abstinence education interventions to prevent or reduce the risk of adolescent pregnancy, human immunodeficiency virus, and sexually transmitted infections: two systematic reviews for the guide to community preventive services. *American Journal of Preventive Medicine*, *42*(3), 272-294. https://doi.org/10.1016/j.amepre.2011.11.006oice

C. W. Y. S., Hunt, Y. M., Beckjord, E. B., Moser, R. P., & Hesse, B. W. (2009). Social media use in the United States: Implications for health communication. *Journal of Medical Internet Research*, *11*(4). DOI: 10.2196/jmir.1249

Chou, W. Y. S., Prestin, A., Lyons, C., & Wen, K. Y. (2013). Web 2.0 for health promotion: Reviewing the current evidence. *American Journal of Public Health*, *103*(1), e9-e18. DOI: 10.2105/AJPH.2012.301071

Creswell, J. W., & Clark, V. L. P. (2007). *Designing and conducting mixed methods research.* Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods Approaches (3rd edition)*. Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed research methods* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Croatt, H. S. (2012). Developing a practical parenting workshop: A case study in family sexual communication. Retrieved from https://conservancy.umn.edu/bitstream/handle/11299/128102/1/Croatt_umn_0130E_12646.pdf

Crossley, M. L. (2002). The perils of health promotion and the 'barebacking' backlash. Health:, 6(1), 47-68. https://doi.org/10.1177/136345930200600101

Collins, C., Alagiri, P., Summers, T., & Morin, S. F. (2002). Abstinence only vs. comprehensive sex education: What are the arguments. *What is the evidence* [PDF document]. Retrieved https://pdfs.semanticscholar.org/331f/4907eaa8cafbf03aacac356955a2ca3d81ba.pdf

Concerned Women for America. (1998). *Abstinence: Why sex is worth the wait*. Retrieved from www.cwfa.org/library/family/1998-07_pp_abstinence.shtml.

Divecha, Z., Divney, A., Ickovics, J., & Kershaw, T. (2012). Tweeting about testing: Do low-income, parenting adolescents and young adults use new media technologies to communicate about sexual health?. *Perspectives on Sexual and Reproductive Health*, *44*(3), 176-183. DOI: 10.1363/4417612

Eisenberg, M. E., Wagenaar, A., & Neumark-Sztainer, D. (1997). Viewpoints of Minnesota students on school-based sexuality education. *Journal of School Health*, *67*(8), 322-326. Retrieved from https://onlinelibrary.wiley.com/journal/17461561

Elia, J. P., & Eliason, M. J. (2010). Dangerous omissions: Abstinence-only-until-marriage school-based sexuality education and the betrayal of LGBTQ youth. *American Journal of Sexuality Education*, *5*(1), 17-35. DOI: 10.1080/15546121003748848

Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, *13*(1), 210-230. DOI: 10.1111/j.1083-6101.2007.00393.x

Evers, C. W., Albury, K., Byron, P., & Crawford, K. (2013). Young people, social media, social network sites and sexual health communication in Australia:" This is funny, you should watch it". *International Journal of Communication*, *7*, 18. Retrieved from http://ijoc.org/index.php/ijoc

Fernandez, S. B., Howard, M., Hospital, M., Morris, S. L., & Wagner, E. F. (2018). Hispanic students' perceptions about HIV/STI testing and prevention: A mixed-methods study in a Hispanic-serving university. *Health Promotion Practice*, DOI:10.1177/1524839918801590

Fielding, M. (2001). Beyond the rhetoric of student voice: New departures or new constraints in the transformation of 21st century schooling?. *Forum, 43*(2),100-109).

Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, *111*(23), 8410-8415. https://doi.org/10.1073/pnas.1319030111

Flutter, J., & Ruddock, J. (2004). *Consulting Pupils: What's in it for Schools?*. London: Routledge.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, *95*(1), 148. DOI: 10.1037/0022-0663.95.1.148

Gabarron, E., & Wynn, R. (2016). Use of social media for sexual health promotion: A scoping review. *Global Health Action*, *9*(1), 32193. https://doi.org/10.3402/gha.v9.32193]

Gabarron, E., Luque, L. F., Schopf, T. R., Lau, A. Y., Armayones, M., Wynn, R., & Serrano, J. A. (2017). Impact of Facebook Ads for Sexual Health Promotion Via an Educational Web App: A Case Study. *International Journal of E-Health and Medical Communications* (IJEHMC) *8*,(2): 18-32. https://doi.org/10.4018/ijehmc.2017040102

Gibbs, A. (1997). Focus groups. *Social Research Update*, *19*(8), 1-8. Retrieved from http://sru.soc.surrey.ac.uk/

Gold, J., Pedrana, A. E., Sacks-Davis, R., Hellard, M. E., Chang, S., Howard, S., Keogh, L., Hocking, J.S., & Stoove, M. A. (2011). A systematic examination of the use of online social networking sites for sexual health promotion. *BMC Public Health*, *11*(1), 583. https://doi.org/10.1186/1471-2458-11-583

Goldfarb, E. S., & Constantine, N. A. (2011). Sexuality education. *Encyclopedia of adolescence*, *2*, 322-331. B.B. NY: Academic Press.

Gowen, L. K., & Winges-Yanez, N. (2014). Lesbian, gay, bisexual, transgender, queer, and questioning youths' perspectives of inclusive school-based sexuality education. *The Journal of Sex Research, 51*(7), 788-800. DOI: 10.1080/00224499.2013.806648

Gough, A., Hunter, R. F., Ajao, O., Jurek, A., McKeown, G., Hong, J., Barrett, E., Ferguson, M., McElwee, G., McCarthy, M., & Kee, F. (2017). Tweet for behavior change: using social media for the dissemination of public health messages. *JMIR Public Health and Surveillance*, 3(1). DOI: 10.2196/publichealth.6313

Grandpre, J., Alvaro, E. M., Burgoon, M., Miller, C. H., & Hall, J. R. (2003). Adolescent reactance and anti-smoking campaigns: A theoretical approach. *Health Communication*, *15*(3), 349-366. DOI: 10.1207/S15327027HC1503_6

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology*, *29*(2), 75. Retrieved from http://www.jstor.org/stable/30219811

Guttmacher Institute. (2017). *Sex and HIV Education.* Retrieved from https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education

Hales, S. B., Davidson, C., & Turner-McGrievy, G. M. (2014). Varying social media post types differentially impacts engagement in a behavioral weight loss intervention. *Translational Behavioral Medicine*, *4*(4), 355-362. DOI: 10.1007/s13142-014-0274-z

Hammonds, M. M., & Schultz, J. B. (1984). Sexuality education instructional techniques: Teacher usage and student preference. *Journal of School Health*, *54*(7), 235-238. https://doi.org/10.1111/j.1746-1561.1984.tb08919.x

Harris, J. K., Mueller, N. L., & Snider, D. (2013). Social media adoption in local health departments nationwide. *American Journal of Public Health*, *103*(9), 1700-1707. DOI: 10.2105/AJPH.2012.301166

Hatzenbuehler, M. L., Birkett, M., Van Wagenen, A., & Meyer, I. H. (2014). Protective school climates and reduced risk for suicide ideation in sexual minority youths. *American Journal of Public Health*, *104*(2), 279-286. DOI: 10.2105/AJPH.2013.301508.

Hayden, M. (2015). An unlikely alliance in Indiana Senate over reducing teen pregnancy rate. *Indiana Economic Digest.* Retrieved from http://www.indianaeconomicdigest.net/main.asp?SectionID=31&SubSectionID=91&ArticleID=78450

Heldman, A. B., Schindelar, J., & Weaver, J. B. (2013). Social media engagement and public health communication: Implications for public health organizations being truly "social." *Public Health Reviews*, *35*(1), 13. https://doi.org/10.1007/BF03391698

Helms, S. W., Choukas-Bradley, S., Widman, L., Giletta, M., Cohen, G. L., & Prinstein, M. J. (2014). Adolescents misperceive and are influenced by high-status peers' health risk, deviant, and adaptive behavior. *Developmental Psychology*, *50*(12), 2697. DOI: 10.1037/a0038178

Herrman, J. W. (2008). Adolescent perceptions of teen births. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *37*(1), 42-50. DOI: https://doi.org/10.1111/j.1552-6909.2007.00201.x

Herrman, J. W., Kelley, A., & Haigh, K. M. (2017). Teen Perceptions of the promotion of safer sexual practices: A focus group study. *American Journal of Sexuality Education*, *12*(1), 83-102. https://doi.org/10.1080/15546128.2016.1266453

Hillier, L., Harrison, L., & Dempsey, D. (1999). Whatever happened to duty of care? Same-sex attracted young people's stories of schooling and violence. *Critical Studies in Education*, *40*(2), 59-74. DOI: 10.1080/17508489909556334.

Hruschka, D. J., Schwartz, D., St. John, D. C., Picone-Decaro, E., Jenkins, R. A., & Carey, J. W. (2004). Reliability in coding open-ended data: Lessons learned from HIV behavioral research. *Field Methods*, *16*(3), 307-331. DOI: 10.1177/1525822X04266540

Huber, V. J., & Firmin, M. W. (2014). A history of sex education in the United States since 1900. *International Journal of Educational Reform*, *23*(1), 25-51. Retrieved from https://rowman.com/page/IJER

Instruction on Human Sexuality or Sexually Transmitted Diseases, I.C. § 20-30-5-13, (2005).

Indiana State Department of Health. (2013). *2013 HIV/AIDS epidemiologic profile, Indiana.* Retrieved from http://www.in.gov/isdh/files/Final_2013_Epi_Profile_Executive_Summary_ap.pdf

Indiana State Department of Health. (2015). *STD morbidity chlamydia, gonorrhea and syphilis morbidity* Retrieved from http://www.in.gov/isdh/files/STD_Morbidity-_Gender-Race-ethnicity-Age.pdf

Indiana State Department of Health (ISDH). (2018). *HIV/AIDS epidemiologic profile Indiana 2017.* Retrieved from https://www.in.gov/isdh/files/2015_2017%20Epi%20Profile.pdf

Instruction on human sexuality or sexually transmitted diseases. IC 20-30-5-13 of the Indiana State Code. (2016)

Jha, A., Lin, L., & Savoia, E. (2016). The use of social media by state health departments in the US: Analyzing health communication through Facebook. *Journal of Community Health*, *41*(1), 174-179. DOI 10.1007/s10900-015-0083-4

Kehily, M. J. (2002). Sexing the subject: teachers, pedagogies and sex education. *Sex Education, 2*(3), 215-231. DOI: 10.1080/1468181022000025785

Kennedy, D. M. (2016). Is it any Clearer? Generic qualitative inquiry and the VSAIEEDC model of data analysis. *Qualitative Report*, *21*(8), 1369-1379. Retrieved from http://nsuworks.nova.edu/tqr/vol21/iss8/1

Kim, S. J., Marsch, L. A., Brunette, M. F., & Dallery, J. (2017). Harnessing Facebook for smoking reduction and cessation interventions: Facebook user engagement and social support predict smoking reduction. *Journal of Medical Internet Research*, *19*(5). DOI: 10.2196/jmir.6681

Kimmel, A., Williams, T. T., Veinot, T. C., Campbell, B., Campbell, T. R., Valacak, M., & Kruger, D. J. (2013). 'I make sure I am safe and I make sure I have myself in every way possible': African-American youth perspectives on sexuality education. *Sex Education*, *13*(2), 172-185. DOI: 10.1080/14681811.2012.709840

Kirby, D. (2007). *Research Findings on Programs to Reduce Teen Pregnancy and Sexually Transmitted Diseases.* Retrieved from https://thenationalcampaign.org/sites/default/files/resource-primary-download/EA2007_full_0.pdf

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. https://doi-org.ezproxy.lib.purdue.edu/10.1525/srsp.2008.5.3.18

Kiss, J. (2013). *Teenagers migrate from Facebook as parents send them friend requests.* Retrieved from http://www.theguardian.com/technology/2013/dec/27/facebook- dead-and-buried-to-teens-research-finds

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. DOI:10.1016/j.jadohealth.2007.08.026

Kreuter, M. W., & Wray, R. J. (2003). Tailored and targeted health communication: strategies for enhancing information relevance. *American Journal of Health Behavior*, 27(1), S227-S232. DOI: 10.5993/AJHB.27.1.s3.6.

Krippendorff, K. (2004). Reliability in content analysis. *Human Communication Research*, *30*(3), 411-433. 10.1111/j.1468-2958.2004.tb00738.x

Kurasaki, K. S. (2000). Intercoder reliability for validating conclusions drawn from open-ended interview data. *Field Methods*, *12*(3), 179-194. https://doi.org/10.1177/1525822X0001200301

Landry, M., Gonzales, F. A., Wood, S., & Vyas, A. (2013). New media use and sexual behavior among Latino adolescents. *American Journal of Health Behavior*, *37*(3), 422-430. DOI: https://doi.org/10.5993/AJHB.37.3.15

Layzer, C., Rosapep, L., & Barr, S. (2014). A peer education program: Delivering highly reliable sexual health promotion messages in schools. *Journal of Adolescent Health*, *54*(3), S70-S77. DOI: https://doi.org/10.1016/j.jadohealth.2013.12.023

Lefebvre, R. C., & Bornkessel, A. S. (2013). Digital social networks and health. *Circulation*, *127*(17), 1829-1836. https://doi.org/10.1161/CIRCULATIONAHA.112.000897

Lenhart, A. (2015). *Mobile Access Shifts Social Media Use and Other Online Activities.* Retrieved from http://www.pewinternet.org/2015/04/09/mobile-access-shifts-social-media-use-and-other-online-activities/

Lenhart, A., Duggan, M., Perrin, A., Stepler, R., Rainie, H., & Parker, K. (2016). *Teen, Social Media and Technology Overview 2015*. Retrieved from http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015/

Lim, M. S., Vella, A., Sacks-Davis, R., & Hellard, M. E. (2014). Young people's comfort receiving sexual health information via social media and other sources. *International Journal of STD & AIDS*, *25*(14), 1003-1008. DOI: 10.1177/0956462414527264

Lindberg, L. D., Maddow-Zimet, I., & Boonstra, H. (2016). Changes in adolescents' receipt of sex education, 2006–2013. *Journal of Adolescent Health*, *58*(6), 621-627. DOI: https://doi.org/10.1016/j.jadohealth.2016.02.004

Lindsay, J., Smith, A. M. A., & Rosenthal, D. A. (1997). Secondary students. HIV/AIDS and sexual health (*Melbourne: Centre for the Study of STDs, Faculty of Health Sciences, La Trobe University*). Retrieved from http://hdl.handle.net/1959.9/496591

Lodge, C. (2005). From hearing voices to engaging in dialogue: Problematising student participation in school improvement. *Journal of Educational Change*, 6(2), 125-146. DOI 10.1007/s10833-005-1299-3

Lombard, M., Snyder-Duch, J., & Bracken, C. C. (2002). Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human communication research*, *28*(4), 587-604. http://dx.doi.org/10.1111/j.1468-2958.2002.tb00826.x

Macapagal, K., Coventry, R., Arbeit, M. R., Fisher, C. B., & Mustanski, B. (2017). "I won't out myself just to do a survey": Sexual and gender minority adolescents' perspectives on the risks and benefits of sex research. *Archives of Sexual Behavior*, *46*(5), 1393-1409. DOI: 10.1007/s10508-016-0784-5

MacQueen, K. M., McLellan-Lemal, E., Bartholow, K., & Milstein, B. (2008). In G. Guest & K. M. MacQueen (Eds.), (pp. 119-35). Lanham, MD: AltaMira Press.

Merchant, G., Weibel, N., Patrick, K., Fowler, J. H., Norman, G. J., Gupta, A., Servetas, C., Calfas, K., Raste, K., Pina, L., & Donohue, M. (2014). Click "like" to change your behavior: A mixed methods study of college students' exposure to and engagement with Facebook content designed for weight loss. *Journal of Medical Internet Research*, *16*(6). DOI: 10.2196/jmir.3267

Merriam, S. B. (2009). *Qualitative Research: A guide to design and interpretation.* San Francisco: Jos-sey-Bass.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook.* Sage Publications, Inc.

Miller, B. C., & Moore, K. A. (1990). Adolescent sexual behavior, pregnancy, and parenting: Research through the 1980s. *Journal of Marriage and the Family*, *52*(4), 1025-1044. Retrieved from http://www.ncfr.org/fr

Milton, J., Berne, L., Peppard, J., Patton, W., Hunt, L., & Wright, S. (2001). Teaching Sexuality Education in High Schools: what qualities do Australian teachers value?. *Sex Education*, *1*(2), 175-186. DOI: 10.1080/14681810120052597

Mitra, D. L. (2004). The significance of students: can increasing" student voice" in schools lead to gains in youth development?. Teachers College Record, 106, 651-688. Retrieved from https://www.tcrecord.org/

Mitra, D. L. (2009). Strengthening student voice initiatives in high schools: An examination of the supports needed for school-based youth-adult partnerships. *Youth & Society*, *40*(3), 311-335. DOI: 10.1177/0044118X08316211

Moorhead, S. A., Hazlett, D. E., Harrison, L., Carroll, J. K., Irwin, A., & Hoving, C. (2013). A new dimension of health care: Systematic review of the uses, benefits, and limitations of social media for health communication. *Journal of Medical Internet Research*, *15*(4). DOI: 10.2196/jmir.1933

Morse, J.M., & Field, P. A. (1996). *Nursing research the application of qualitative approaches* (2nd edition). Boston, MA: Springer

Mustanski B, Greene GJ, Ryan D, Whitton SW. (2015). Feasibility, acceptability, and initial efficacy of an online sexual health promotion program for LGBT youth: The queer sex ed intervention. *Journal of Sex Research,* 52(2), 220-30. DOI: 10.1080/00224499.2013.867924.

National Association of Chronic Disease Directors. (2017). *Local health department and school partnerships working together to build healthier schools.* Retrieved from https://c.ymcdn.com/sites/chronicdisease.site-ym.com/resource/resmgr/school_health/NACDD_Health_Department_and_.pdf

National Guidelines Task Force. (2004). *Guidelines for Comprehensive Sexuality Education – Kindergarten-12th Grade, 3rd Edition.* Retrieved from www.siecus.org/_data/global/images/guidelines.pdf

Neiger, B. L., Thackeray, R., Van Wagenen, S. A., Hanson, C. L., West, J. H., Barnes, M. D., & Fagen, M. C. (2012). Use of social media in health promotion: purposes, key performance indicators, and evaluation metrics. *Health Promotion Practice*, *13*(2), 159-164. DOI: 10.1177/1524839911433467

Neiger, B. L., Thackeray, R., Burton, S. H., Giraud-Carrier, C. G., & Fagen, M. C. (2013). Evaluating social media's capacity to develop engaged audiences in health promotion settings: Use of Twitter metrics as a case study. *Health Promotion Practice*, *14*(2), 157-162. https://doi.org/10.1177/1524839912469378

Newby, K., Bayley, J., & Wallace, L. M. (2011). "What should we tell the children about relationships and Sex?"©: Development of a program for parents using intervention mapping. *Health Promotion Practice*, *12*(2), 209-228. DOI: 10.1177/1524839909341028

Noar, S. M. (2006). A 10-year retrospective of research in health mass media campaigns: Where do we go from here? *Journal of Health Communication*, *11*(1), 21-42. https://doi.org/10.1080/10810730500461059

Noar, S. M., Palmgreen, P., Chabot, M., Dobransky, N., & Zimmerman, R. S. (2009). A 10-year systematic review of HIV/AIDS mass communication campaigns: Have we made progress?. *Journal of Health Communication*, *14*(1), 15-42. DOI: 10.1080/10810730802592239

Northeast Indiana Area Health Education Center & Office of Institutional Diversity Ball State University. (n.d.). *Adolescent Dating Violence in Indiana.* Retrieved from http://cms.bsu.edu//media/www/departmentalcontent/bbc/neiahec/adolescent%20dating%20violence%20in%20indiana.pdf?la=en

Office of Adolescent Health U.S. Department of Health & Human Services. (n.d.) *Indiana Adolescent Reproductive Health Facts.* Retrieved from https://www.hhs.gov/ash/oah/facts-and-stats/national-and-state-data-sheets/adolescent-reproductive-health/indiana/index.html

Orgocka*, A. (2004). Perceptions of communication and education about sexuality among Muslim immigrant girls in the US. *Sex Education*, *4*(3), 255-271. https://doi.org/10.1080/1468181042000243349

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health services research*, *34*(5 Pt 2), 1189. Retrieved from http://www.hsr.org/

Patton, M.Q. (2002). *Qualitative research and evaluation methods (3rd edition)*. Thousand Oaks, CA: Sage Publications

Patton, M. Q. (2014). Qualitative research & evaluation methods: Integrating theory and practice (4th edition). USA: Sage Publications, Inc.

Percy, W. H., Kostere, K., & Kostere, S. (2015). Generic qualitative research in psychology. *The Qualitative Report*, *20*(2), 76. Retrieved from https://nsuworks.nova.edu/tqr/vol20/iss2/7

Persson, R. S. (2006). VSAIEEDC-A cognition-based generic model for qualitative data analysis in giftedness and talent research. *Gifted and Talented International*, *21*(2), 29-37. Retrieved from http://hj.diva-portal.org/smash/record.jsf?pid=diva2%3A33782&dswid=-6495

Petrescu, M., O'Leary, K., Goldring, D., & Mrad, S. B. (2018). Incentivized reviews: Promising the moon for a few stars. *Journal of Retailing and Consumer Services*, *41*, 288-295. http://dx.doi.org/10.1016/j.jretconser.2017.04.005

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *In Communication and persuasion* (pp. 1-24). Springer, New York, NY.

Pingel, E. S., Thomas, L., Harmell, C., & Bauermeister, J. A. (2013). Creating comprehensive, youth centered, culturally appropriate sex education: What do young gay, bisexual, and questioning men want? *Sexuality Research and Social Policy*, *10*(4), 293-301. DOI: 10.1007/s13178-013-0134-5

Planned Parenthood Federation of America & Center for Latino Adolescent and Family Health. (2011). *Let's talk, parents and teens talk about sexuality: A national poll.* Retrieved from http://www.plannedparenthood.org/images/LT_2012_Poll_Fact_Sheet_final(2).pdf

Planned Parenthood. (2012). *Parents and teens talk about sexuality: A national poll.* Retrieved from http://www.plannedparenthood.org/images/LT_2012_Poll_Fact_Sheet_final(2).pdf

Prinstein, M. J., Meade, C. S., & Cohen, G. L. (2003). Adolescent oral sex, peer popularity, and perceptions of best friends' sexual behavior. *Journal of Pediatric Psychology*, *28*(4), 243-249. https://doi.org/10.1093/jpepsy/jsg012

Priniski, S. J., Hecht, C. A., & Harackiewicz, J. M. (2018). Making learning personally meaningful: A new framework for relevance research. *The Journal of Experimental Education, 86*(1), 11-29. DOI: 10.1080/00220973.2017.1380589

Pope, C., & Mays, N. Qualitative research in health care. 2006. *BMJ Book, Blackwell Publishing, London*.

Pound, P., Langford, R., & Campbell, R. (2016). What do young people think about their school-based sex and relationship education? A qualitative synthesis of young people's views and experiences. *BMJ Open*, *6*(9), e011329. http://dx.doi.org/10.1136/bmjopen-2016-011329

Quaglia Institute for Student Aspirations. (2016) School voice report 2016. Retrieved from http://quagliainstitute.org/dmsView/School_Voice_Report_2016.

Ralph, L. J., Berglas, N. F., Schwartz, S. L., & Brindis, C. D. (2011). Finding teens in TheirSpace: Using social networking sites to connect youth to sexual health services. *Sexuality Research and Social Policy*, *8*(1), 38-49. DOI: https://doi.org/10.1007/s13178-011-0043-4

Rafaeli, S., Ravid, G., & Soroka, V. (2004, January). De-lurking in virtual communities: A social communication network approach to measuring the effects of social and cultural capital. *System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on* (pp. 10-pp). IEEE. Retrieved from http://www.unhas.ac.id/~rhiza/arsip/jarkomsos/lurkers.pdf

Reed, J. L., Thistlethwaite, J. M., & Huppert, J. S. (2007). STI research: Recruiting an unbiased sample. *Journal of Adolescent Health*, *41*(1), 14-18. DOI: 10.1016/j.jadohealth.2007.02.010

Reed, J. L., & Huppert, J. S. (2008). Predictors of adolescent participation in sexually transmitted infection research: Brief report. *Journal of Adolescent Health*, *43*(2), 195-197. DOI: 10.1016/j.jadohealth.2008.01.020

Ringold, D. J. (2002). Boomerang effects in response to public health interventions: Some unintended consequences in the alcoholic beverage market. *Journal of Consumer Policy*, *25*(1), 27-63. https://doi.org/10.1023/A:1014588126336

Ritchie, J. & Lewis. J. (2003). *Qualitative research practice: A guide for social science students and researchers.* London: Sage Publications, Inc.

Rubin, B., & Silva, E. (2003). *Critical voices in school reform: Students living through change*. London: Routledge.

Rudduck, J., & Flutter, J. (2000). Pupil participation and pupil perspective:'carving a new order of experience'. *Cambridge Journal of Education*, *30*(1), 75-89. DOI: 10.1080/03057640050005780

Saewyc, E., Skay, C., Richens, K., Reis, E., Poon, C., & Murphy, A. (2006). Sexual orientation, sexual abuse, and HIV-risk behaviors among adolescents in the Pacific Northwest. *American Journal of Public Health*, *96*(6), 1104-1110. Retrieved from https://ajph.aphapublications.org/doi/full/10.2105/AJPH.2005.065870

Sanjakdar, F., Allen, L., Rasmussen, M. L., Quinlivan, K., Brömdal, A., & Aspin, C. (2015). In search of critical pedagogy in sexuality education: Visions, imaginations, and paradoxes. *Review of Education, Pedagogy, and Cultural Studies*, *37*(1), 53-70. DOI: 10.1080/10714413.2015.988537.

Santelli, J., Grilo, S. A., Lindberg, L. D., Speizer, I., Schalet, A., Heitel, J., ... & Heck, C. J. (2017). Abstinence-only-until-marriage policies and programs: An updated position paper of the Society for Adolescent Health and Medicine. *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, *61*(3), 400. DOI: 10.1016/j.jadohealth.2017.06.001

Schaafsma, D., Kok, G., Stoffelen, J. M., & Curfs, L. M. (2015). Identifying effective methods for teaching sex education to individuals with intellectual disabilities: A systematic review. *Journal of Sex Research*, 52(4), 412-432. DOI: 10.1080/00224499.2014.919373

Shen, B., McCaughtry, N., Martin, J. J., Fahlman, M., & Garn, A. C. (2012). Urban high-school girls' sense of relatedness and their engagement in physical education. *Journal of Teaching in Physical Education*, *31*(3), 231-245.Retrieved from http://digitalcommons.wayne.edu/coe_khs/32

Selkie, E. M., Benson, M., & Moreno, M. (2011). Adolescents' views regarding uses of social networking websites and text messaging for adolescent sexual health education. *American Journal of Health Education*, *42*(4), 205-212. DOI: 10.1080/19325037.2011.10599189

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, *22*(2), 63-75. DOI: 10.3233/EFI-2004-22201

Shoveller, J. A., Johnson, J. L., Langille, D. B., & Mitchell, T. (2004). Socio-cultural influences on young people's sexual development. *Social Science & Medicine*, 59(3), 473-487. DOI:10.1016/j.socscimed.2003.11.017

Sieving, R. E., Eisenberg, M. E., Pettingell, S., & Skay, C. (2006). Friends' influence on adolescents' first sexual intercourse. *Perspectives on Sexual and Reproductive Health*, *38*(1), 13-19. DOI: 10.1363/3801306

Simon, L., & Daneback, K. (2013). Adolescents' use of the internet for sex education: A thematic and critical review of the literature. *International Journal of Sexual Health*, *25*(4), 305-319. https://doi.org/10.1080/19317611.2013.823899

Silva, M. (2002). The effectiveness of school-based sex education programs in the promotion of abstinent behavior: A meta-analysis. *Health Education Research*, *17*(4), 471-481. https://doi.org/10.1093/her/17.4.471

Sipe, T. A., Chin, H. B., Elder, R., Mercer, S. L., Chattopadhyay, S. K., & Jacob, V. (2012). Methods for conducting community guide systematic reviews of evidence on effectiveness and economic efficiency of group-based behavioral interventions to prevent adolescent pregnancy, human immunodeficiency virus, and other sexually transmitted infections: Comprehensive risk reduction and abstinence education. *American Journal of Preventive Medicine*, *42*(3), 295-303. DOI: 10.1016/j.amepre.2011.11.002

Snyder, L. B., & Hamilton, M. A. (2002). A meta-analysis of US health campaign effects on behavior: Emphasize enforcement, exposure, and new information, and beware the secular trend. *Public Health Communication: Evidence for Behavior Change*, (Chapter 19). Retrieved from https://s3.amazonaws.com/academia.edu.documents/46613328/Hill_D_White_V_Marks_R_Borland_RChanges_20160619-9261-10v1z8h.pdf?AWSAccessKeyId=AKIAIWOWYYGZ2Y53UL3A&Expires=1523482065&Signature=zYe03rOU5cziFKf1ubC5zmyjtbU%3D&response-content-disposition=inline%3B%20filename%3DChanges_in_sun-related_attitudes_and_beh.pdf#page=374

Social Security Administration. Social Security Act: Title V: Maternal and Child Health Services Black Grant. Separate Program for Abstinence Education, Section 510 [42 U.S.C. 710]

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. https://doi.org/10.1371/journal.pone.0024658

Starkman, N., & Rajani, N. (2002). The case for comprehensive sex education. *AIDS Patient Care and STDs*, *16*(7), 313-318. DOI: 10.1089/108729102320231144

Stevens, R., Dunaev, J., Malven, E., Bleakley, A., & Hull, S. (2016). Social media in the sexual lives of African American and Latino youth: Challenges and opportunities in the digital neighborhood. *Media and Communication*, *4*(3). DOI: 10.17645/mac.v4i3.524

Suggs, L. S. (2006). A 10-year retrospective of research in new technologies for health communication. *Journal of Health Communication*, *11*(1), 61-74. https://doi.org/10.1080/10810730500461083

Syred, J., Naidoo, C., Woodhall, S. C., & Baraitser, P. (2014). Would you tell everyone this? Facebook conversations as health promotion interventions. *Journal of Medical Internet Research*, *16*(4). DOI: 10.2196/jmir.3231

Tariq, S., & Woodman, J. (2013). Using mixed methods in health research. *Journal of the Royal Society of Medicine Short Reports*, *4*(6), https://doi.org/10.1177/2042533313479197

Thackeray, R., Neiger, B. L., Smith, A. K., & Van Wagenen, S. B. (2012). Adoption and use of social media among public health departments. *BMC Public Health*, *12*(1), 242. https://doi.org/10.1186/1471-2458-12-242

The Indiana Youth Institute. (2017). *The KIDS COUNT in Indiana 2017 data book: A profile of child well-being*. Retrieved from https://s3.amazonaws.com/iyi-website/data-book/2018-Indiana-KIDS-COUNT-Data-Book.pdf?mtime=20180205073618

The National Campaign to Prevent Teen and Unplanned Pregnancy. (2014). *Counting it up the public costs of teen childbearing in Indiana in 2010.* Retrieved from https://thenationalcampaign.org/sites/default/files/resource-primary-download/fact-sheet-indiana.pdf

Thomson, R., & Scott, S. (1991). *Learning about sex: Young women and the social construction of sexual identity*. The Tufnell Press.

Thrul, J., Klein, A. B., & Ramo, D. (2015). Smoking cessation intervention on Facebook: Which content generates the best engagement?. *Drug & Alcohol Dependence*, *156*, e221-e222. DOI: 10.2196/jmir.4575

Tolley, E. E., Ulin, P. R., Mack, N., Succop, S. M., & Robinson, E. T. (2016). *Qualitative methods in public health: A field guide for applied research* (2nd edition). San Francisco, CA: John Wiley & Sons.

Toshalis, E., & Nakkula, M. J. (2012). *Motivation, engagement, and student voice*. Boston, MA: Jobs for the Future. Retrieved from https://www.howyouthlearn.org/pdf/Motivation%20Engagement%20Student%20Voice_0.pdf.

Trenholm, C., Devaney, B., Fortson, K., Quay, K., Wheeler, J., & Clark, M. (2007). Impacts of Four Title V, Section 510 Abstinence Education Programs. Final Report. Mathematica Policy Research, Inc.

Underhill, K., Montgomery, P., & Operario, D. (2007). Sexual abstinence only programmes to prevent HIV infection in high income countries: systematic review. *Bmj*, *335*(7613), 248. DOI: 10.1136/bmj.39245.446586.BE

U.S. Census Bureau. (2018) *Quickfacts Crawfordsville city, Indiana.* Retrieved from https://www.census.gov/quickfacts/fact/table/crawfordsvillecityindiana/PST045217

USDHHS & CDC (2015). School Health Profiles 2014 Characteristics of Health Programs Among Secondary Schools. Retrieved from https://www.cdc.gov/healthyyouth/data/profiles/pdf/2014/2014_profiles_report.pdf

Veinot, T. C., Campbell, T. R., Kruger, D., Grodzinski, A., & Franzen, S. (2011). Drama and danger: The opportunities and challenges of promoting youth sexual health through online social networks. In *AMIA Annual Symposium Proceedings* (Vol. 2011, p. 1436). American Medical Informatics Association. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243290/

Vyas, A. N., Landry, M., Schnider, M., Rojas, A. M., & Wood, S. F. (2012). Public health interventions: Reaching Latino adolescents via short message service and social media. *Journal of Medical Internet Research*, *14*(4). DOI: 10.2196/jmir.2178

Waxman, H. (2004). The content of federally funded abstinence-only education programs. *Washington, DC: US House of Representatives Committee on Government Reform—Minority Staff Special Investigations Division* Retrieved from http://oversight. house. gov/documents/20041201102153-50247.pdf

Widman, L., Choukas-Bradley, S., Helms, S. W., & Prinstein, M. J. (2016). Adolescent susceptibility to peer influence in sexual situations. *Journal of Adolescent Health*, *58*(3), 323-329. https://doi.org/10.1016/j.jadohealth.2015.10.253

Weed, S. E., & Ericksen, I. H. (2017). RE-EXAMINING THE EVIDENCE: School-based comprehensive sex education [PDF document]. Retrieved from http://www.institute-research.com/CSEReport/CSEReport-Final_9-13-17.pdf

Wu, D., Tang, W., Lu, H., Zhang, T. P., Cao, B., Ong, J. J., Lee, A., Liu, C., Huang, W., Fu, R. & Li, K. (2019). Leading by example: Web-based sexual health influencers among men who have sex with men have higher HIV and syphilis testing rates in China. *Journal of Medical Internet Research, 21*(1), e10171. DOI: https://doi.org/10.2196/10171

Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology and Health*, *15*(2), 215-228. DOI: 10.1080/08870440008400302

Yoo, S., Johnson, C. C., Rice, J., & Manuel, P. (2004). A qualitative evaluation of the Students of Service (SOS) program for sexual abstinence in Louisiana. *Journal of School Health*, *74*(8), 329-334.

Youens, B., & Hall, C. (2006). Incorporating pupil perspectives in initial teacher education—Lessons from the pupil mentoring project. *Teacher Development*, 10(2), 197-206. DOI: 10.1080/13664530600773291

Zhang, N., Campo, S., Janz, K. F., Eckler, P., Yang, J., Snetselaar, L. G., & Signorini, A. (2013). Electronic word of mouth on twitter about physical activity in the United States: exploratory infodemiology study. *Journal of Medical Internet Research*, *15*(11). DOI: 10.2196/jmir.2870

# APPENDIX A. SURVEYS

## Electronic Participant Survey

Thanks for participating in our survey. This survey should take no longer than 20 minutes to complete. Please answer ALL questions honestly. Remember no one can link your identity to your answers. Once you complete the survey you will be entered into a drawing for a chance to win a $25 gift card. Click next to begin.

**1.How old are you?**

A.12 years old or younger

B.13 years old

C.14 years old

D.15 years old

E.16 years old

F.17 years old

G.18 years old or older

**2.What is your sex?**

A.Female

B.Male

C. Transgender

D. Prefer not to answer

**3.In what grade are you?**

A.9th grade

B.10th grade

C.11th grade

D.12th grade

E.Ungraded or other grade

**4.Are you Hispanic or Latino?**

A.Yes

B.No

**5.What is your race? (Select one or more responses.)**

A.American Indian or Alaska Native

B.Asian

C.Black or African American

D.Native Hawaiian or Other Pacific Islander

E.White

F. Bi-racial (two races)

F. Other_____

**The next few questions will ask you about your sexual health and/or health and wellness education course. Please answer honestly.**

**6. Have you taken a sexual health education class while in high school?**

A. Yes
B. No

**7. What was your sexual health education class?**

A. Online
B. In-class instruction at CHS
C. Took at another school

**8. How would you rate your sexual health educator instructor?**

A. Excellent
B. Good
C. Average
D. Poor

E. Terrible

**9. How would you rate the quality of your sexual health education course? (Adapted from Byers et al., 2003)**

A. Excellent
B. Good
C. Average
D. Poor
E. Terrible

**10. How did your sexual health education course influence your sexual behaviors? (Adapted from Eisenberg et al., 1997)**

A. In an extremely positive way
B. In a somewhat positive way
C. They did not change
D. In a somewhat negative way
E. In an extremely negative way

**11. How did your sexual health education course influence your sexual decision making? (Adapted from Eisenberg et al., 1997)**

A. In an extremely positive way
B. In a somewhat positive way
C. They did not change
D. In a somewhat negative way
E. In an extremely negative way

**12. How valuable would you rate your sexual health education course? (Adapted from Byers et al., 2003)**

A. Extremely important
B. Very important
C. Moderately important
D. Slightly important
E. Not at all important

**13. Do you think the sexual health education you received should be improved?**

A. Yes
B. No

**14. If you could improve your sexual education class, what would you do differently? (Check all that apply).**

- ☐ Have a different instructor
- ☐ Include more topics
- ☐ Provide more timely information
- ☐ Course would be longer to cover more information (i.e. 1 week to 2 weeks)
- ☐ Course would be taught more than once (i.e every year, or every two years) to go over age appropriate information
- ☐ Include information about local resources and services
- ☐ Focus on more than abstinence
- ☐ Other

**15. Do you think sexual health education should be taught in school? (Byers et al., 2003)**

A. **Yes**
B. **No**

**16. Do you think sexual health education should be taught in school?**

A. Abstinence-only
B. Safer Sex education

**17. What topics do you think should be included in sexual health education classes? (Check all that apply.) (Adapted from Byers et al., 2003)**

- ☐ Pregnancy prevention and contraceptive use
- ☐ Consent
- ☐ LGBTQ health
- ☐ Sexual transmitted infections and diseases
- ☐ Local services and resources
- ☐ Sexual assault/abuse/violence
- ☐ Abortion
- ☐ Sex and technology
- ☐ Abstinence
- ☐ Puberty
- ☐ Partner sexual communication
- ☐ Condom use
- ☐ Relationship management
- ☐ Other_____

**18. Why do you think sexual health should be taught in school? (Check all that apply).**

- **I get reliable, credible information**
- **I would not learn this information anywhere else**
- **My parents wouldn't teach me**
- **This information is important because people my age are having sex**
- **My friends do not give me the best information**
- **The Internet/social media does not give me the best information**
- **I am sexually active**
- **Other_____**

**19. Why do you think sexual health should not be taught in school? (Check all that apply.)**

- I am too young
- My parents should teach me
- I don't need the information
- Information goes against my religious beliefs
- Other_____
- I think it should be taught in school

**20. When you have a question about sex or sexual health where do you go for information? (Check all that apply).**

- Parents
- Siblings
- Friends
- Teachers
- Doctor
- Social media
- Internet

**21. How knowledgeable are you about how to prevent pregnancy?**

A. Extremely knowledgeable
B. Very knowledgeable
C. Moderately knowledgeable
D. Slightly knowledgeable
E. Not knowledgeable at all

**22. How knowledgeable are you about how to prevent the transmission of HIV?**

A. Extremely knowledgeable
B. Very knowledgeable
C. Moderately knowledgeable

D. Slightly knowledgeable
E. Not knowledgeable at all

**23. How knowledgeable are you about how to prevent the transmission of STIs such as gonorrhea and chlamydia?**

A. Extremely knowledgeable
B. Very knowledgeable
C. Moderately knowledgeable
D. Slightly knowledgeable
E. Not knowledgeable at all

**24. If a health educator wanted to use social media to provide sexual health information to teens your age, what platforms would you tell them to use? (Check all that apply).**

- ☐ Facebook
- ☐ Instagram
- ☐ Snapchat
- ☐ Twitter
- ☐ Vine
- ☐ Other

**25. To capture your attention, a social media post about sexual health information should come from: (Check all that apply.)**

- ☐ A friend
- ☐ A celebrity
- ☐ A health organization
- ☐ A church
- ☐ A school
- ☐ A local health department

**26. What would get you to pay attention to a social media post about sexual health information? (Check all that apply).**

- ☐ The words/message
- ☐ The messenger
- ☐ The photo
- ☐ If someone @ me
- ☐ Other people who have liked it
- ☐ Other_____

**27. If I liked a social media post about pregnancy prevention I am likely to? (Check all that apply).**

- Share/retweet it
- Like it
- Take a screenshot
- Tag/mention someone
- Comment
- Message someone privately

**28. If I liked a social media post about STD and AIDS prevention I am likely to? (Check all that apply).**

- Share/retweet it
- Like it
- Take a screenshot
- Tag/mention someone
- Comment
- Message someone privately

**29. What are some barriers that would keep you from liking a social media post about sexual health information?**

- Liking it publicly might make me look bad
- It's not important enough to like
- Not a lot of people liked it
- I would share it privately because of the subject matter
- The picture is too graphic
- Other

**The last few questions are about your sexual behavior. Remember no one can trace your answers to your identity. It is very important your answer these questions honestly.**

**30. Have you ever had sexual intercourse?**

A. Yes

B. No

**31. How old were you when you had sexual intercourse for the first time?**

A. I have never had sexual intercourse

B. 11 years old or younger

C. 12 years old

D. 13 years old

E. 14 years old

F. 15 years old

G. 16 years old

H. 17 years old or older

**32. During your life, with how many people have you had sexual intercourse?**

A. I have never had sexual intercourse

B. 1 person

C. 2 people

D. 3 people

E. 4 people

F. 5 people

G. 6 or more people

**33. During the past 3 months, with how many people did you have sexual intercourse?**

A. I have never had sexual intercourse

B. I have had sexual intercourse, but not during the past 3 months

C. 1 person

D. 2 people

E. 3 people

F. 4 people

G. 5 people

H. 6 or more people

**34. Did you drink alcohol or use drugs before you had sexual intercourse the last time?**

A. I have never had sexual intercourse

B. Yes

C. No

**36. The last time you had sexual intercourse, did you or your partner use a condom?**

A. I have never had sexual intercourse

B. Yes

C. No

**37. The last time you had sexual intercourse, what method(s) did you or your partner use to prevent pregnancy?**

A. I have never had sexual intercourse

B. No method was used to prevent pregnancy

C. Birth control pills

D. Condoms

E. An IUD (such as Mirena or ParaGard) or implant (such as Implanon or Nexplanon)

F. A shot (such as Depo-Provera), patch (such as Ortho Evra), or birth control ring (such as NuvaRing)

G. Withdrawal or some other method

H. Not sure

**38. During your life, with whom have you had sexual contact?**

A. I have never had sexual contact

B. Females

C. Males

D. Females and males

**39. Which of the following best describes you?**

A. Heterosexual (straight)

B. Gay or lesbian

C. Bisexual

D. Not sure

**Thank you for completing this survey!**

## Focus Group Screening Questionnaire

**1.How old are you?**

A.12 years old or younger

B.13 years old

C.14 years old

D.15 years old

E.16 years old

F.17 years old

G.18 years old or older

**2.What is your sex?**

A.Female

B.Male

C. Transgender

D. Prefer not to answer

**3.What is your race? (Select one or more responses.)**

A.American Indian or Alaska Native

B.Asian

C.Black or African American

D.Native Hawaiian or Other Pacific Islander

E.White

F.Bi-racial (two races)

F. Other_____

**4. Which online sexual health course have you taken?**

A. I have not taken a sexual health course yet

B. In-class instruction

C. Online

**Focus Group Interview Instrument**

**The health problem**

1. Do you believe sexual health among your peers is a problem in your community? (Aquilino & Bragadottir, 2000)
2. Why do you think people of your age have sex? (Aquilino & Bragadottir, 2000)

**Research Aim 1-Opinions about current sexual health curriculum.**

1. What are your general thoughts about sexual education in schools?
2. What do you like or dislike about your current curriculum? **(Eisenberg et al., 1997)**

**Research Aim 2- Recommendations for sexual health curricula.**

3. What topics do you think you should be covered?
4. How do you think sexual health education should be taught?
5. Who should teach sexual health education courses? Why?
6. Should it be abstinence-only or safer sex?

*Moderator: Now we want to change focus a bit and talk more about other ways teens learn about sexual health?*

**Research Aim 3-Adolescents' current attitudes and behaviors regarding receiving and seeking sexual health information on popular SMS.**

1. Do you use social media for sexual health information? How?
2. What encourages you to receive information from SMS?
3. What deters you from receiving information from SMS?

*Moderator: Let's say your local health department wants to develop a SMS platform to present sexual health information to teens like you.*

**Research Aim 4-Adolescents' current attitudes and behaviors regarding receiving and seeking sexual health information on popular SMS.**

1. What would motivate teens to follow health organizations that post sexual health information on SMSs?
2. What advice would you give your local health department so they can partner with schools to provide sexual health information?

*Moderator: Lastly, let's* talk about how teens interact with others about sexual health information on SMS.

**Research Aim 5-explore how adolescents prefer to engage with others about sexual health information on SMS.**

1. How do you currently interact with others on SMS about sexual health information?
    a. If you saw a post about sexual health on SMS would you like it? Tag it, share it?

2. How do you prefer to engage with others on SMS about sexual health information?
3. How do you currently engage with sexual health information on SMS?
4. How do you prefer to engage with sexual health information on SMS?
5. What features would you prefer to use when engaging with sexual health information on SMS?
6. What motivates/deters you from engaging with sexual health information on SMS?

***Moderator: Does anyone have any final thoughts? Thank you for your time!***

## Question Matrix

**Research Aim 1 & 2-Perception and Recommendations for Sexual Health Education**

| Topic of Inquiry | Corresponding Focus Group Questions | Corresponding Survey Questions |
|---|---|---|
| **Demographic Questions** | 1.How old are you?<br>2.What is your sex?<br>3.What is your race? | 1.How old are you?<br>2.What is your sex?<br>3.In what grade are you?<br>4.Are you Hispanic or Latino?<br>5.What is your race? |
| **Eligibility** | 4. Which online sexual health course have you taken | 6. Have you taken a sexual health education class while in high school? |
| **Views on Sexual Education** | 1. What are your general thoughts about sexual education in schools?<br><br>2. What do you like or dislike about your current curriculum? (Eisenberg et al., 1997) | 9. How would you rate the quality of your sexual health education course? (Adapted from Byers et al., 2003)<br><br>10. How did your sexual health education course influence your sexual behaviors? (Adapted from Eisenberg et al., 1997)<br><br>11. How did your sexual health education course influence your sexual decision making? (Adapted from Eisenberg et al., 1997)<br><br>12. How valuable would you rate your sexual health education course? (Adapted from Byers et al., 2003)<br><br>13. Do you think the sexual health education you received should be improved? |

| | | |
|---|---|---|
| | | 14. If you could improve your sexual education class, what would you do differently?<br><br>15. Do you think sexual health education should be taught in school? (Byers et al., 2003)<br><br>16. Which curriculum below do you think should be taught in sexual health education?<br><br>18. Why do you think sexual health should be taught in school?<br><br>19. Why do you think sexual health should not be taught in school? (Check all that apply.) |
| **Instructional Preferences** | 4. How do you think sexual health education should be taught?<br>5. Who should teach sexual health education courses? Why? | 8. How would you rate your sexual health educator instructor? |
| Content Preferences | 3. What topics do you think you should be covered?<br>6. Should it be abstinence-only or safer sex? | 17. What topics do you think should be included in sexual health education classes? (Check all that apply.) (Adapted from Byers et al., 2003) |

**Research Aim 3-Recommendations for Health Departments to Disseminate Information to teens**

| Topic of Inquiry | Corresponding Focus Group Questions | Corresponding Survey Questions |
|---|---|---|
| Create a following | 3. What would motivate teens to follow health organizations that post sexual health information on SMSs?<br>4. What advice would you give your local health department, so they can partner with schools to provide sexual health information? | 24. If a health educator wanted to use social media to provide sexual health information to teens your age, what platforms would you tell them to use? (Check all that apply).<br><br>25. To capture your attention, a social media post about sexual health information should come from: (Check all that apply.)<br><br>26. What would get you to pay attention to a social media post about sexual health information? (Check all that apply). |

# APPENDIX B. FORMS

## Sample Recruitment Script

Script:

Hello, my name is _____ and I am a graduate student at Purdue University. By show of hands how many of you have taken a sexual education class? Well, we are conducting an experiment that will give you an opportunity to tell us what you thought about your experiences and just your overall thoughts about health and wellness education. We need high school students to take a survey and participate in a focus group to give us some insight about how to improve your health and wellness education.

If you decide to participate you will be paid for your time. If you participate in the focus you will be given a $5-dollar gift card, and we will also provide light refreshments. If you take the survey, you will be entered into a drawing to win a $25-dollar gift card.

In order to participate you will need to get your parents to sign the attached permission forms and also you will need to sign a consent form as well. We must have these forms the day of the focus group in order for you to be eligible to participate. Although we are getting your parents' permission, everything you report in the experiment will be anonymous. Your identity will be coded, and only researchers have access your information. Within our reports we will not match your answers to your identity.

Your participation is completely voluntary, and you can end your participation at any time.

You will have to contact us in order to find out where and when the focus group sessions will be held. There will be fliers around the school to remind you of the experiment.

We look forward to working with you, as this research is very important to health communication. If you have any questions, feel free to contact me at harri490@purdue.edu or by phone at 305-766-7436. If you are interested in participating, please raise your hand and I will give you the forms you need to get signed.

Thank you for your time.

**Recruitment Flyer**

Are you a student a Crawfordsville High School?

Want an opportunity to receive a $25 gift card by telling us what you think?

---

We want to hear from you!

**Purdue University researchers are looking for teenagers, ages 13 to 19 to participate in a study about sexual health education.**

We need students to take a brief survey. If you take the survey you will be entered in a drawing to win one of two $25-dollar gift cards. We also need students to participate in a 75-minute focus group discussion. Simply share your ideas about sexual health education and health and wellness education. Lunch will be provided. If you decide to participate and complete the focus group, you will receive a $5 gift card and if you complete the survey you will be entered in the drawing as well!

YOU can get INVOLVED…Don't miss your chance to participate.

If you would like to be considered for the focus group, please contact Tanisha Watkins at harri490@purdue.edu or 305-766-7436. You can text or e-mail your name and phone number and we will schedule your spot in the focus group. Once you have reserved your spot, we will give you a consent form for your parents to sign.

We look forward to hearing from you!
If you have any questions, please contact us.

**Parent Letter**

Dear Parent:

I am a Purdue University student and I have partnered with your child's school to conduct a research project about what high school students think about their current health and wellness education with focus on sexual education. The purpose of this study is to hear directly about what students would like to have included or excluded in their health and wellness curriculum. To learn more about what students think, we would like for your child to participate in a brief one-time survey during their study hall as well as a focus group session.

Your child does not have to participate. If s/he does participate, his/her information will be kept completely confidential, or private. If a child participating in this study is in foster care, the foster parent should contact the child's caseworker to determine who can give consent. Please take a few moments to carefully read the enclosed parental consent form. If you give your child permission to participate in the surveys and/or the focus group, please complete and sign the parental consent form. Your child will need to return this form signed in order to participate in the survey and focus group. If you have any questions about this research, please refer to the parental consent form to contact researchers or the Human Research Protection Program at Purdue University. I hope you will be as excited about this project as other parents have been.

Sincerely,

Tanisha Watkins, Ph.D. Candidate
Consumer Science Academic Instructor
Purdue University

# VITA


## Tanisha L. Watkins, PhD(c)

Harri490@purdue.edu


---

**EDUCATION & TRAINING**

Ph.D. Consumer Behavior **Date Expected: December 2019**

*Purdue University, West Lafayette, Indiana*

**Primary Advisor***:* Richard Feinberg, PhD

**Dissertation:** *Missing perspectives: What do adolescents really want from school-based and SMS-delivered sexual health education?*

**Certification:** Graduate Qualitative Research Methods

M.A. ***Strategic Communication and Public Relations*** **Date Conferred: May 2014**

*High Point University, High Point, North Carolina*

**Primary Advisor:** Virginia McDermott, PhD

**Thesis**: *It's not just what you say but how frame it: Exploring messaging framing in safe sex communication among African American female adolescents*

B.A. ***Communication/Journalism*** **Date Conferred: May 2008**

*University of Miami, Coral Gables, Florida*

*Research Interests:* School-based sex education development using student voice*;* Pregnancy prevention, Exploring social media use to promote sexual health utilization among adolescents; Developing, theorizing and evaluating online and social media health promotion campaigns; Using CBPR methods to develop tailored community health interventions

*Skills:* Strong oral and written communication skills, proven success with online social media marketing, trained to write for news and academic publications, strong research project management skills, experience writing IRBs and renewal procedures, knowledge of qualitative research methodologies, analysis, interpretation, and software programs (NVivo); knowledge of data collection and management software (Qualtrics); CITI certified in the ethical conduct of human research; knowledge of campaign development and implementation, knowledge of data curation and preservation practices

**PROFESSIONAL EXPERIENCE**

August 2016-current Crawfordsville High School and Montgomery Health Department

Research Assistant

Crawfordsville. IN

- Conducted SWOT analysis to prepare social marketing plan for rural health department and local high school seeking to decrease teen pregnancy and sexually transmitted diseases
- Used survey techniques and focus group approach to collect data from target audience
- Performed thematic analysis on qualitative findings and recommended evidence-based strategies to gain adolescent followers on social networking sites
- Prepared academic manuscript to disseminate findings
- Presented results at national health conferences

August 2017-May 2018 Dr. Ruiz Public Health Research Lab at Purdue University

Graduate Research Lab Assistant

West Lafayette, IN

- Analyzed 40+ interviews to explore population mobility and its health impact on Latino farmworkers
- Used NVivo software to code and synthesize thematic findings
- Prepared peer reviewed manuscripts for journal submission
- Identified, reviewed and organized data and health information from published research to update study literature review

August 2015-Aug. 2016 Community HealthNet Health Centers

Health Promotion Consultant

Gary. IN

- Utilized evidenced-based practices to develop tailored sexual health waiting room intervention for area facing poor sexual health outcomes
- Incorporated behavior change theories into sexual health messages aimed at increasing sexual health knowledge and safer sex behavior uptake
- Used community-based participatory research methods to conduct patient focus groups to identify relevant health and health education needs
- Conducted a needs assessment to identify factors influencing the health issues and potential behavior uptake

June 2013-Sept 2013 Health Campaign Co-designer

High Point University, High Point, NC

- Planned, implemented, and evaluated evidence-based, safer sex health campaign to promote adolescent pregnancy prevention
- Used qualitative research methods to assess the health needs and current health status of the community

- Organized student advisory board to obtain formative research to create a tailored campaign reflective of student culture
- Collaborated with community stakeholders to identify available tools, resources, and existing partnerships to support campaign
- Publicized campaign materials via social media sites like YouTube and Facebook
- Utilized cultural competency skills to communicate effectively to ethnically and racially diverse groups as well as to sexual minority adolescent populations

**TEACHING EXPERIENCE**

Jan. 2019-May 2019 Academic Instructor (Instructor of record)
*CSR 209:* Introduction to Retail Management
Department of Consumer Science, Purdue University

- Taught consumer behavior theories and professional work skills to 40 undergraduate students
- Created and modeled a quality learning environment that supported a diverse student population by focusing on mutual respect and collaboration
- Incorporated relevance strategies such as student voice into pedagogical approaches to increase attentiveness and retention of course materials.

Jan. 2017-May 2017 Graduate Teaching Instructor (Instructor of record)
*CSR 323:* Visual Merchandising
Department of Consumer Science, Purdue University

- Provided instruction about strategies and artistic principles of designing store layouts in order to best attract the attention of consumers to 20 undergraduate students
- Designed innovative and engaging course curriculum and materials
- Utilized course management software such as Blackboard to provide student feedback and grades
- Managed supplemental 2-hour lab focused on hands-on, experiential learning

May 2015-Aug. 2017 Graduate Online Teaching Instructor (Instructor of record)

Department of Consumer Science
Purdue University

- Provided online instruction in Retail and Sales Management to 80 undergraduate students
- Created and implemented interesting and interactive assignments through social networking sites to increase student engagement and collaboration
- Connected with students through Skype, emails, and other online tools

**REFERRED MANUSCRIPTS**

MANUSCRIPTS IN PREPARTION

1. **Harris, T.L.,** Shields., A., & Mattson, M. (2019) (forthcoming) *The Three Rs of Sex Education: Relevance, Relatable, and Reliability*.
2. **Harris, T.L.,** Shields., A., & Mattson, M. (2019) (forthcoming) *Strategies for LHDs to Gain Adolescent Followers on Social Network Sites (SNS):"Monkey See, Monkey Do*

**CONFERENCE PRESENTATIONS**

**Harris, T.L.,** Shields., A., & Mattson, M. (2019). *The Three Rs of Sex Education: Relevance, Relatable, and Reliability*. Project presented at the annual meeting of the Society for the Scientific Study of Sexuality, Montreal, Canada.

**Harris, T. L.,** Inderstrodt-Stephens, J., & Wang. Y. (2017, Feb.). *SmartKart, A food desert intervention proposal: Etiology, intervention literature, and theories.* Abstract presented at the annual meeting of the Purdue Communication Graduate Student Association, West Lafayette, IN.

**Harris, T. L.** (2106, Nov.). *Built on Trust, Health Insurance Navigators as Disseminators of Sexual Health Information: A Waiting-Room Video Intervention.* Project presented at the annual meeting of the Eastern States Communication Association, Denver, CO.

**Harris, T. L.** (2015, April). *It's not what you say but how you say it: Exploring message framing in safe sex communication among African- American female adolescents.* Paper presented at the annual meeting of the Eastern States Communication Association, Philadelphia, PA.

McDermott, g., & **Harris**, T. L. (2014, May). *Live life before you give life: A targeted pregnancy prevention campaign aimed at teens.* Paper presented at the annual meeting of the Adolescent Pregnancy Prevention Campaign of North Carolina, Greensboro, NC.

**Harris, T. L**. (2014, April). *The teen community: Recruiting and including high-school students in the campaign process.* Paper presented at the annual meeting of the Eastern States Communication Association, Pittsburgh, PA.

Emerson, M., Haller, S., **Harris**, T. L. & Liverman. (2014, April). *Live life before you give life: Strategies for developing a pregnancy prevention campaign aimed at teens*. Paper presented at the annual meeting of the Eastern States Communication Association, Pittsburgh, PA.

**POSTER PRESENTATIONS**

**Harris,** T., & Mattson, M. (August 2017). *Trending topic: How to use social media to disseminate sexual health information to adolescents.* Poster presented at the National Conference on Health Communications, Marketing, and Media (NCHCMM), Atlanta, GA.

El-Azab, S., **Harris**, T.L., Inderstrodt-Stephens, J. (2016, September) *It Takes a Village: Advocating Together for Comprehensive Sexual Health Education.* Poster presented at the annual meeting of the Indiana Public Health Conference, Bloomington, IN.

Harris, T. L. (2016, May*). It's not what you say but how you say it: Exploring message framing in safe sex communication among African- American female adolescents.* Poster presented at the annual meeting of the Indiana Public Health Association Conference, Bloomington, IN.

**BOOKS**

Robinson. A., **Harris, T.L.** (2017). *Talk Is Cheap, Until It Costs You Everything!: 7 Strategies That Lead to Advanced Communication.* High Point, NC: OBE

## RESEARCH SUPPORT

**Purdue Research Foundation Fellowship ($20,000)**

**Purdue University**

Competitively selected research fellowship for outstanding and promising doctoral candidates in their final year of research

**Purdue Student Service-Learning Grant ($1165)**

**Purdue University**

University-level funding for a community project entitled *Sexual Health Education: What Students Really Want to Know*

**Compton Travel Award ($500)**

**Purdue University**

Competitively selected travel funding for student presenters at national research conferences. *2016 American Public Health Association presenter.*

## AWARDS & HONORS

Say it in 6, 2nd Place Winner, Purdue University, 2019

Purdue Graduate Research Fellow, Purdue University, 2017

People's Choice Award, Three Minute Thesis Competition, Purdue University, 2015

National Communication Association Award, High Point University, 2014

Top Oral Presentation, Graduate Research Poster Symposium, High Point University, 2014