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Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project

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Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project

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Abstract

Background: Sexually transmitted infections (STI) are a global issue that persist, causing significant negative health outcomes like cancer, adverse reproductive issues including infertility, and death (CDC, 2019a; Office of Women's Health [OWH], 2019; WHO, 2019). In the United States, youth ages 15-24 years old make up 50% of the more than 20 million newly diagnosed STI's each year (CDC, 2019a). Young women, adolescents (Slater & Robinson, 2014), minority populations (Mermelstein & Plax, 2016), and high school dropouts (Anderson & Pörtner, 2014) are even more disproportionately affected. Access to comprehensive health information and vaccines are well documented effective STI prevention methods (CDC, 2019; Keller, 2020; WHO, 2016). **Project Design**: In the absence of mandated sexual health education programs for youth in Texas public schools, one faith-based institution sponsored an evidence-based summer education workshop to increase knowledge about STI's and support their prevention. A PICO question guided the literature review. The project used a pre and post-test questionnaire for qualitative and descriptive statistics. **Results**: The data demonstrated an increase in knowledge about STI's among a small cohort (n=4) of young women ages ranging from 18 to 24. A positive attitude toward HPV vaccination preceded education. All participants reported a decreased likelihood to participate in unprotected sex. **Conclusions**: The findings reinforce literature findings for comprehensive sexual health education, small group learning, and evidence-based and community programming improves STI knowledge.

Keywords: sexual health education, faith-based setting, pilot program, community-based

Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project

In 2018, the United States had a record number of combined cases of syphilis (up 15%), gonorrhea (up 35%), and chlamydia (up 50%) following a five-year climb that began in 2014 (Keller, 2020). Despite these alarming rates, adolescents and young adults face many obstacles to accessing evidence-based sexual health information (Keller, 2020; Texas Freedom Network Education Fund [TFNEF] & Sexuality Information and Education Council of the United States [SIECUS], 2019). The purpose of this Scholarly Project (SP) is to provide evidence-based sexual health education in a faith-based setting for young adults especially vulnerable for Sexually Transmitted Infection (STI) contraction. Anticipated outcomes of this education are improved STI knowledge and an improved attitude toward vaccination against human papillomavirus (HPV).

Problem Description

Introduction

Sexually transmitted infections (STI) are a global issue that persist even in industrialized nations like the United States, causing significant negative health outcomes for adolescents and young adults (Center for Disease Control and Prevention [CDC], 2019a; World Health Organization [WHO], 2019). Cancer, adverse reproductive outcomes including infertility, and death are some of the most significant STI consequences (CDC, 2019a; Office of Women's Health [OWH], 2019; WHO, 2019). STIs, including human immunodeficiency virus (HIV), disproportionately affect young women, adolescents (Slater & Robinson, 2014), minority populations (Mermelstein & Plax, 2016), and high school dropouts (Anderson & Pörtner, 2014). Females under age 20 are especially susceptible to STI damage due to their genital tract's

undeveloped immune system which would otherwise help fight infection (Keller, 2020; Slater & Robinson, 2014).

Problem Background

Unprotected sex is a part of many young American lives (Keller, 2020). It is no wonder that 50% of the more than 20 million newly diagnosed STI's are attributed to high schoolers and young adults in the 15-24 year-old age group (CDC, 2019a). Factors that decrease the prevalence of STI's in adolescents and young adults include access to comprehensive sexual health education and STI vaccination compliance (CDC, 2019a; Keller, 2020; Rose, 2017). Many barriers to these resources remain, resulting in wide variances in actual access to sexual health education and vaccinations (CDC 2019a; Keller, 2020; TFNEF & SIECUS, 2019; WHO, 2019). It is well documented that STI's can be prevented with access to comprehensive health information and sexual health education programs for adolescents and young adults (CDC, 2019; Keller, 2020; WHO, 2016). Studies note that culturally based education programs (Kelsey et al., 2016; Mueller, 2009), cognitive behavioral intervention programs (Champion & Collins, 2011), as well as those programs that include the target population in program design, implementation, and evaluation (WHO, 2019) are all effective in preventing or eliminating STI's. School-based health education is also effective and often improves academic performance in addition to the anticipated improved health outcomes (CDC, 2020). Other studies note that community-based sexual health education programs are effective but often require curriculum adaption and partnership support (Chinman et al., 2018; Ott et al., 2011; Sector-Turner et al., 2017).

Vaccinations are another effective way to prevent STI's (CDC, 2019a; Rose, 2017; WHO, 2016). In particular, the HPV vaccination has significantly decreased infections of the HPV strains that cause genital warts and has decreased precancerous cell diagnoses on the cervix

by 40% (CDC, 2019b). Considering that during a lifetime 80% of Americans will acquire an HPV infection, this vaccine has the potential to prevent cancer in more than 32,000 people (CDC, 2019b). Well below the Healthy People 2020 goal of 80%, 2018 HPV vaccination compliance rates in the United States were only 45.1% for girls and 36.4% for boys ages 13-15 (CDC, 2019a; Office of Disease Prevention and Health Promotion [ODPHP], 2016).

Local Problem

Texas is a long-standing champion for abstinence-only sex education (TFNEF & SIECUS, 2019), yet staggering state statistics reveal that 62.6% of high school seniors surveyed engaged in sexual intercourse, exceeding the national average of 57.3% (CDC 2017a). These statistics add evidence to the growing body of literature that find abstinence-only curricula less effective than comprehensive sexual health education at delaying sexual initiation (Henry J. Kaiser Family Foundation [KFF], 2018). Regarding the HPV vaccination, 2017 Texas' estimated compliance rate of 39.7% is far below the targeted Healthy People 80% goal, for up-to-date HPV vaccination series in adolescents thru age 15 (THHS, 2017; ODPHP, 2016). The K-12 Texas Minimum State Vaccine Requirements list excludes the HPV vaccination thereby permitting healthcare providers to describe this intervention as optional when interacting with parents at health care visits (Javaid et al., 2017). Texas' low HPV vaccination compliance is affected by this "not required" status, which compounds parental doubts of appropriate application in pre-pubescent youth and misconceptions about vaccination safety (Javaid et al., 2017). Compared to the other 49 states, plus the District of Columbia (DC), Texas ranks 47th in HPV compliance for young women up to age 17 (Nehme et al., 2017).

In San Antonio, Texas, a recent Bexar County Community Health Needs Assessment recruited residents for focus group discussions on sexual health concerns (The Health

Collaborative [THC], 2019). Focus group participants cited knowledge gaps and cultural obstacles for both youth and parents. Their recommendations suggested inclusion of a broad range of topics in sexual health education like the consequences of STIs, safe touch, caring for your body, and media influences (THC, 2019).

Contrary to concerns of the Bexar County Community Health Needs Assessment focus group participants and literature supporting sexual health education for adolescents and young adults, the local school district does not provide sexual health education curriculum. For high school students attending a dropout prevention and recovery school in the downtown metro area, the state STI statistics and barriers to sexual health education are especially relevant. Despite unknown student health and vaccination status, the student population spans a 15-25 age range, reflecting the age range with America's most prevalent new STI diagnoses (CDC, 2019). The student population faces other problems that suggest STI vulnerability including a 90% socioeconomically disadvantaged classification with 96% of the student population representing the Latino/Hispanic community (SAISD, 2020). Poor healthcare access and unreliable transportation further reinforce this population's STI vulnerability and the negative health outcomes that follow (CDC, 2019a; SAISD, 2020).

Available Knowledge

Literature Review

The PICO format was used to develop the question, "In at-risk high school students attending a community program (P), what is the effect of comprehensive sexual health education (I) on high school student knowledge of sexually transmitted infections and their intent to obtain the HPV vaccination (O)?" The electronic databases CINAHL, Medline, JSTOR, and ERIC were searched using the keywords: at-risk teens, high school students, adolescent youth, sexual health

education, community based, sexually transmitted diseases/infections, HPV vaccination knowledge, and HPV compliance. The initial search resulted in 3,167 articles. After refining the search strategy, 55 articles were identified for abstract review. Nineteen relevant articles within the 2009 to 2020 date range were critically assessed using Johns Hopkins (JH) appraisal tools. One article was eventually removed as the study was incomplete. Studies were conducted in the United States of America (U.S.A.), Africa, Europe, and one is a global strategy. A single level I cluster randomized control trial (RCT) was found. Other evidence graded included three level II, nine level III, one level IV, and four level V studies. The oldest study was published in 2009 and the most recent study was 2020. Refer to Appendix A for the literature summary.

The adolescent or youth age range carried across studies. The cluster RCT (Chinman et al., 2018) examined the impact of community-based curriculum on middle school adolescents that were 11-13 years of age. While this age range is below the population target of this project, other valuable information answered the PICO question. One faith-based study (Lanzi et al., 2019) did not examine adolescents at all, but the importance of partnerships between academic institutions and churches to implement sexual health education and disease prevention was relevant to the EBP project.

Synthesis of Evidence

Four categories emerged from the literature: Background, curriculum, partnerships, and studies that coupled curriculum and partnerships topics. The nine studies by Mueller et al. (2009), Borawski et al. (2015), Chinman et al. (2015), Lanzi et al. (2019), Sector-Turner et al. (2017), Ott et al. (2011), Aninanya et al. (2015), Huelskamp & Catalano (2018), and Weeks et al. (2016) discuss various sexual health education curricula and implementation issues across a variety of settings including problems with curriculum adaption. The school-based curriculum,

Be Proud, Be Responsible was shown to have better health outcomes when taught by a nurse versus a sexual health educator (Borawski et al., 2015), while the Getting to Outcomes curriculum yielded some improved outcomes across 32 Boys and Girls Clubs with only 65 hours of training over two years (Chinman et al., 2015). The culturally appropriate ¡Cuidate! curriculum was successfully piloted in a metro Denver, Colorado, high school for Latino youth. The Love Without Exceptions curriculum was successfully introduced in the African Methodist Episcopal (AME) church in the Deep South (Lanzi et al., 2019) and the Reach One, Teach One curriculum helped at-risk youth access sexual health education in North Dakota (Sector-Turner et al., 2017). A comprehensive sexual health education intervention which included a school-based curriculum, after school outreach, community mobilization, and health worker training in Ghana improved adolescent use of health services that prevented and treated STIs (Aninanya et al., 2015). The Ott et al. (2011) and Weeks et al. (2016) studies both discussed the problems with off-the-shelf sexual health education including the lack or low level of evaluation data and difficulty with revisions that sufficiently meet local needs. The Huelskamp & Catalano (2018) non-experimental design discussed the difficulty adapting curriculum during a short implementation period, specific to establishing rapport across a broad range of adolescent females.

Five studies emphasized the importance of partnership for implementation and program sustainability. Partnerships that support implementation, delivery, and sustainment of sexual health education programs was the target of the Lanzi et al. (2019) study where the AME partnership with the University of Alabama at Birmingham resulted in a training model for faith-based sexual health education interventions. The Chinman et al. (2015) study described the importance of implementation support to improve outcomes even when evidence-based curricula

and training are already in place. The Ott et al. (2011) study and program evaluation by Secor-Turner et al. (2017) both elaborated on the significance of collaboration between schools and public health officials, especially about generating local legitimacy and sustainment planning. The Lai et al. (2017) study further reinforces the importance of including trusted healthcare agents when implementing community based sexual health education in Hispanic or Latino populations.

Limited evidence due to scarce level IA research, minimal desired community-based alignment, and few relevant studies completed in the United States (US) that answer the EBQ were noted. In studies that did address the EBP, only a portion of the EBQ (i.e., HPV vaccination knowledge) was addressed. Sample age varied, but overall studies with adolescent populations covered a general age group (11-24), which is a limitation, but not considered significant as the target population has a similar span of 15-25. Gaps in the literature were noted in the following areas: U.S.A. community-based interventions, current adolescent STI knowledge data, and the lack of specific literature on HPV vaccination compliance among high school youth.

Literature inconsistences were noted in settings, curriculum, vaccination, and measurement tools. The range of settings included various community-based settings including an after-school recreational club, churches, and a youth-friendly community clinic. In studies that addressed curriculum, no same curricula were assessed, so adaption and implementation lessons learned varied. Inconsistencies in HPV vaccination requirements resulted in varied compliance goals. Finally, the lack of standardized tool for measuring adolescent knowledge of STIs was noted, which indicates further investigation for future intervention implementation.

Rationale

Theoretical Model

Nola Pender's (2011) Health Promotion Model (HPM) is the theoretical framework guiding this Scholarly Project (SP). For nearly 40 years, the HPM has helped nurses understand how background factors underpin individual health behaviors. Awareness of the complexity of a person's nature and environment provide clues for nurses on where to allocate resources that can positively influence behavioral health changes (Khoshnood, et al., 2018). The emphasis of helping individuals achieve better health, assumes that they are active participants in the modeling and maintenance of their own actions toward wellness (Garcia, 2016). Nurses, essentially, are health influencers dedicated to promoting wellness.

This emphasis on health, versus illness, is one of the reasons HPM was selected for this project. Other reasons include the applicability to multiple populations where goals include healthy lifestyle change, and HPM's social cognitive theory (SCT) roots, borrowed from the behavioral sciences. Self-efficacy is defined as an individual's confidence in their own capacity when acting, overcoming barriers, and is a central tenant in both SCT and HPM. Health behaviors, their influence on meeting goals, and expectations are affected by perceived self-efficacy which are linked to one's experience and influences (Garcia, 2016).

The HPM (Appendix B) is comprised of three main components: individual traits and past experiences, behavioral-specific cognitions and affect, and behavioral outcomes (Pender, 2011). The individual trait component is comprised of two main ideas: prior related behavior and personal factors which encompass a broad biopsychosocial sphere (Pender, 2011). Closely related to perceived benefits of action, perceived barriers to action, and activity-related feelings, perceived self-efficacy is one of the eight sub-traits of the behavior-specific cognitions and affect component and influence commitment to a plan of action (Pender, 2011). The desired behavioral end state may be negatively impacted by competing demands or preferences, that can be

especially influential for at-risk students already facing adult problems like poverty, poor access to health, and in many cases, parenthood of one or more children (SAISD, 2020).

The seven HPM assumptions grounded in nursing and behavioral science helped guide this SP intervention. Specifically, a person's capacity for introspection that includes an appraisal of their abilities and their desire for growth while simultaneously seeking balance between change and stability suggest that an evidence-based educational intervention that increases knowledge of healthy actions will affect change (Pender, 2011). One of the reasons the proposed interventions are expected to work is because the HPM embraces change. Adolescents are experiencing significant physical and mental growth. They are learning independence and autonomous decision making about how to care for their bodies and manage their health (Srof & Velsor-Friedrich, 2006). Providing sexual health education for adolescents and young adults transitioning from dependency to self-reliance using a theoretical framework that encompasses a broad biopsychosocial sphere of influence is a practical approach.

Project Framework

Logic models provide project planners with a visual map of the resources, activities, and outputs needed to reach their desired outcomes (CDC, 2018). Used to describe relationships or links between these elements and the project's intended effects, the logic model illustrates the process by which the intervention is expected to work (Kellogg, 2004). Both process outcomes (PO) and change outcomes (CO) can be defined as short, intermediate, or long-term goals with corresponding critical elements (Kellogg, 2004). The SMART technique stands for specific, measurable, actionable, realistic, and timely, and is often used to create effective goal statements. The logic model for this SP is further discussed in the interventions section.

Specific Aims

The goal of this project is to implement an evidence-based education program that will improve the health outcomes of the target population. Specifically, this project is designed to implement an evidence-based sexual health education program to improve students' knowledge of STI's and assess their attitude regarding vaccination against HPV. The project's overall aim was to bring about a significant improvement in the sexual and reproductive health of high school students in San Antonio, Texas.

Context

Population

The population of interest for this SP are the high school students attending community programs in a neighboring church located in the downtown metropolitan area of San Antonio, Texas. The co-ed high school is a public, referral only high school designed to prevent drop-out or recover students who've left the school system and are returning to graduate. Student ages range from 15-25 and over 91% of the high school student population is Hispanic or Latino, while Black students make up 5% and White students account for 3% (SAISD, 2020). A recent comprehensive needs assessment on the school reveals that 94% of the student population is socioeconomically disadvantaged while smaller groups of students suffer from homelessness (8%) or language barriers that negatively affect learning (19%) (SAISD, 2020).

Local Care Environment

San Antonio, Texas is the seventh most populated city in the United States and is the county seat for Bexar County (THC, 2017; U.S. Census Bureau, 2019). Just two hours from the Mexican border, Bexar County is one of the nation's first counties with a majority-minority as Hispanics account for 60.5% of the total population and contrasts with those classified as White at 27.4%, Black at 8.5%, Asian at 3.3%, Native American at 1.2%, and Hawaiian and Pacific

Islander at 0.2% (U.S. Census Bureau, 2019). Life expectancy differs across San Antonio's Bexar County zip codes. Registering among the zip codes for shortest life expectancy, 78207 is the zip code shared by the target population school and the church sponsoring the SP. The surrounding zip codes on the east, west, and south show similarly low life expectancy (THC, 2016). These zip codes also report higher rates of morbidity and chronic diseases as well as less educational achievement and experience more poverty than the northern zip codes (THC, 2016). The poverty disparity, which aligns with the life expectancy disparity, is discussed in San Antonio's Status of Poverty Report (2019). Deeply rooted economic segregation of past policies continue to effect ethnic disparities and are closely tied with continued racial segregation that remains concentrated in the city's center (City of San Antonio, 2019). An 18.6% poverty rate in San Antonio exceeds Texas' 15.5% rate and the 14.1% in the U.S. overall. Latinos/Hispanics, Blacks, and women are disproportionately affected by poverty (City of San Antonio, 2019). Another relevant local finding revealed that 20% of San Antonian children experience food insecurity (City of San Antonio, 2019).

Relevant Elements of Project Setting

The SP setting is faith-based. Nestled in the center of San Antonio, the host church is located near the Bexar County jail and a multitude of associated bail bond and law enforcement agencies. The church compound includes a large sanctuary, a smaller chapel in the basement, various rooms used as meeting or classrooms, a nursery, and a large multi-purpose gymnasium with an adjoining kitchen. In 2019, the annual budget was $271,013 dollars (Feagins, 2019). Following a loss of 38 members to relocation, or loss of contact, the official congregation membership was 361. Despite this number, Sunday services bring in only about 140 parishioners per week, up from 110 parishioners in 2018 (Feagins, 2019). The church is directly across the

street from an equally historic school that now provides education for the target population. The public-school students are the main beneficiaries of the church's community outreach. Other community service support includes hosting citizenship classes, parenting classes, and a sewing group that makes blankets for premature babies delivered at a local hospital.

The husband-and-wife Pastoral team initially provided verbal support for use of the facilities for the SP. When the coronavirus-2019 (COVID-19) pandemic struck, pastoral support extended to online program dissemination with continued church sponsorship. An embedded faith-based nurse from the same Methodist denomination and employed by a larger healthcare system, worked from a church office and was involved in the various community outreach programs. Faith-based nurses are holistic healthcare providers that employ a strong network to serve the under-served or uninsured people in their communities. All three of these church leaders are bilingual, dedicated to continuing support for the neighboring high school students, and are key stakeholders for this project.

Project Congruence with Organizational Mission, Values, Strategies and Needs Assessment

The host church has a long history of serving underprivileged persons. Established in 1876 as a Mexican Mission, one of its goals is to strengthen families and youth, just as they did nearly 150 years ago. The church comprises the oldest Mexican congregation in the United Methodist Church's (UMC) Rio Texas Conference and recognizes the denomination's 2020 Social Principles (UMC, n.d.) that are concerned with social justice. Provisions for the support of age-appropriate comprehensive sexual health education and affordable contraception are described in the Social Community chapter of the Social Principles (n.d.). These examples depict congruent alignment between the SP and the church's mission, values, and strategies for outreach. A science-based approach is viewed as necessary to offset the absence of health

education in the school curriculum. Church sponsorship also counters past and ongoing efforts by faith-communities to hinder or censor evidence-based health practices.

Evaluating Change & Readiness for Change

The host church's congregation demonstrated strength through 2019 with remarkable support for volunteer activities (LT, 2020). While the church's annual report noted that there is risk with an inverse model that provides more services than benefits received, the partnership with the neighboring school remains strong and is viewed as a positive and rewarding effort by both partners. The DNP project's emphasis on sexual health education is important to the church's ministry due to significant harm by the faith community that has not fostered a lack of spiritual center for high school youth. Programs that help young people take better care of their bodies and reduce their long-term health problems help to change the perception of the church to a more inclusive, supportive, and welcoming place. Breaking down cultural barriers that have hindered holistic health (e.g., sex is a taboo topic for many churches) is important for us to address so that progress can be made (Feagins, J.P., personal communication, March 28, 2020).

Strengths and Weaknesses

A Strengths, Weakness, Opportunity, and Threats (SWOT) organizational assessment of the church was completed. Overall, fourteen of the sixteen organizational factors identified were positive or noted to be supportive for the DNP scholarly project. The strengths and weaknesses categories are factors within control of the church and prior to COVID-19, internal church strengths and weaknesses were even. Some items noted as a strength could, in other circumstances, change to weaknesses. For example, while the school "Lunch Bunch" attendance had grown to over 40 students per week, enrolling this number of participants in a project where discussion of sensitive topics occur, would be too large for creating trust. The opportunities and

threat factors, which are external to the organization, were also equitable until the impact of the COVID-19 pandemic was fully realized. Social distancing requirements resulted in the suspension of all in-person activities including the school "Lunch Bunch" outreach. Church services went to online platforms along with prayer groups.

Overall, the organizational assessment and SWOT analysis revealed a significant amount of support for the project based on the church's pre-COVID-19 capability. The embedded faith-based nurse and championing Head Pastor were key internal stakeholders and will be critical for continued project development amid the pandemic. Sustainment of potential project successes will require external support from community partners, which remain under investigation.

Memorandum of Understanding (MOU)

The MOU established with the church is included in Appendix C.

Interventions

Logic Model

The Logic Model is a visual way to describe the links between project inputs, activities, and outputs as they relate to project outcomes (W. K. Kellogg Foundation, 2004). Both process outcomes (PO) and change outcomes (CO) were established using the SMART goal format. The DNP Logic Model (Appendix D) had three long term, five intermittent, and five short-term outcomes. Short-term goal descriptions and major components are listed in Appendix D with additional information provided here.

In Fall 2020, Project Image was the EB sexual health education identified for implementation. Available from the non-profit and science-based organization ETR, Project Image is culturally appropriate for Mexican and African American adolescent women. Adaption of the education intervention was anticipated (ST #1) as indicated in the literature. Originally

developed for primary care-based clinics with workshop, support group, and individual counseling session components, Project Image was scoped down to the workshop components that focused on STI awareness, risk perception, and strategies to reduce risk behavior which aligned with the DNP project aims (Champion, 2016). Pandemic caused complications required an alternative delivery mode for online learning due to extended social distancing. ST #2, which intended to reach at least one cohort of 4-8 student participants for the education pilot, was developed based on Project Image design. COVID-19 precautions required flexibility as target population recruiting became difficult without the in-person school-church program. The implementation plan accounted for gender separated cohorts as indicated in the literature. Three cohorts were planned based on female, male, or those that identify as lesbian, gay, bisexual, transgender, or queer (LGBTQ), but recruitment was primarily geared toward females, for which Project Image was designed. ST #3 was designed to determine if participants' STI knowledge score on a posttest questionnaire improved from their pretest questionnaire. Initially a paper questionnaire desired, but with the addition of the online education program delivery option, questions were delivered via Qualtrics, an online survey tool supported by Boise State University (BSU). ST #4 was developed to demonstrate change in attitude toward HPV vaccination. The last outcome evaluated for this SP was ST #5 and focused on the faith-based sponsor who sought to reduce self-destructive behaviors, specifically unprotected sex.

Theoretical Model Applicability to Interventions

Introduced earlier in the rationale section of this paper, individual characteristics, behavior-specific cognitions and affect, and behavioral outcomes are the three main components of Pender's Health Promotion Model (HPM) and are visualized in Appendix B. These three core components influenced development of the SP project interventions directed toward meeting the

five ST goals. For example, ST #1 goal involved the adaption of an evidence-based sexual health education curriculum. Activities associated with this ST goal required consideration of the target population and their needs which are explained in the HPM's individual characteristics component as prior related behavior and personal factors that include social, biological, and psychosocial factors (Pender, 2011). Selecting a cognitive-behavioral intervention that recognized these past experiences (good and bad) and built from that foundation was a direct corollary between the HPM and its focus on health promotion versus disease prevention. Other HPM behavior-specific cognitions and affect connections to the project were established in the associated interventional inputs, activities, and outputs for ST #2, ST #3, and ST #5. The selected evidence-based sexual health education intervention addressed STI awareness and perception of risk, thus connected to HPM's perceived benefits and barriers to action, and self-efficacy. Interactive activities enhanced affect, another HPM tenet. The sexual health education intervention also included discussion of the influence of competing demands and preferences to commit to a health promoting plan of action, another HPM subcomponent. ST #4 goal was developed to measure attitude toward change, aligned with behavioral outcome, the third HPM core component.

This implementation of the sexual health education program Project Image (Champion, n.d.) was the first known time this EB curriculum was adapted for delivery in a faith-based organization (J. Champion, personal communication, July 15, 2020). This faith-based organizational connection was significant because it correlated with the importance of personal factors as noted in Pender's HPM. Knowledge or interventions that can be shared with family or friends, are supported by the participant's social support network, or are modeled by others in that social network reinforce the positively influence a commitment to change (Pender, 2011).

The HPM core components also include the importance of situational influence. Evidence supports that health outcomes are improved in many faith-based programs (DeHaven et. al., 2004) which may be perceived as a safe or acceptable environment for learning, often filling gaps for the unserved populations (Irving, 2019).

Timeline

The timeline outlining the planning, implementation, data collection, data analysis, and dissemination activities is included as Appendix E. Planning activities consumed 50% of the project timeline and included identification, acquisition, and adaption of an appropriate sexual health education curriculum. Implementation of the education program, data collection and analysis, dissemination of project results via presentation at the final executive session, and the completed SP report summarize other critical elements. Preparation of project results for publication, either by poster or scholarly journal, is included in the final phase of this project.

Measures

The SP Outcomes Evaluation Table (Appendix F) summarizes how the outcomes were measured for effectiveness. The first two short-term outcomes were met/unmet goals that reported whether the EB curriculum was adapted for piloting (ST #1) or that a minimum number of 4 youth participated (ST #2). The impact of the Project Image education program was assessed using various data collections tools and methods which apply to the last three SP outcome, ST #3, ST #4, and ST #5. Designed to measure STI knowledge, ST#3 used the validated Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ), available via open-source (Jaworski & Carey, 2007). The 27 questions true/false/don't know scaled STD-KQ was delivered pre and post education and is displayed in Appendix G. Focused on the HPV vaccination, Outcome #4 was assessed using three questions that measured attitude toward the

HPV vaccine adopted from a validated data instrument called the vaccinTion & Hpv Knowledge (THinK) questionnaire (Matranga, et al., 2019) and is in Appendix H. These three questions were added to the Qualtrics survey and delivered pre and post education. One original open-ended question, designed to explore the obstacles or variables preventing HPV vaccination, was delivered on an index card for the in-person cohort and discussed in the hybrid session. In support of generating knowledge for the primary faith-based stakeholder, a single question was delivered only post education via Qualtrics. Using a three-level scaled question (Less, Same, More) ST #5 used a fill-in-the-blank design to measure participants likelihood to have unprotected sex following the education program and is detailed in Appendix H.

Analysis

Descriptive statistics were used to draw inferences from the data collected in ST# 3-5. The 27-question STD-KQ (Appendix G), delivered before and after the education program, generated data analyzed based on mean score variance. Aggregated data, based on preprogram delivery versus post program delivery provided visualization of the score differences. Similarly, for ST#4, three questions, specific to "attitude to be vaccinated against HPV," were pulled from the 16-question THinK questionnaire (Matranga et al., 2019). These three questions (Appendix H) generated data that analyzed baseline knowledge compared to post education knowledge using means and standard deviations. For ST#4, to strengthen data reliability, an additional one-time original and open-ended question was included (Pell Institute, 2020; Zaccagnini & White, 2017). By asking "what are the obstacles preventing vaccination?" participants were afforded the opportunity to describe contributing reasons that may have affected or influenced their attitude toward HPV vaccination. Finally, the original question designed for the church and ST #5 provided customized feedback about the influence of the program on participants high-risk

behavior. The Qualtrics generated data analyzed the Less, Same, More responses revealing education influence on participants' potential future behavior.

Ethical Considerations

Ethical Considerations and Protection of Participants

Institutional Review Board (IRB) approval was obtained from Boise State University (BSU) via an expedited application submitted April 21, 2021. The Letter of Determination was approved (Appendix L) with an IRB modification (Appendix M) to update the questionnaire for pre and post question alignment just before project implementation.

Multiple protective measures were employed for participant protection. Confidentiality measures included use of alternative numerical identification and password protected data storage. For face-to face classes, privacy measures included use of church spaces that hosted various classes which minimized potential stigma associated with attendance and use of a single, monitored entry point that also enhanced safety. No physical harm to participants was anticipated or occurred. Informed consent for participants 18 and older was secured. The consent process included a verbal script and was captured electronically. In compliance with Texas Family Code Section 261.101 (a), participants were notified of mandatory reporting requirements related to abuse and neglect. Participants were also informed that their participation was voluntary and that there were no ramifications if they chose to drop out of the program at any point. Referrals for follow-up education, medical care, and mental health counseling was provided by DNP student. Church volunteers completed the abuse prevention training Safe Gatherings and Trusted con Confianza in compliance with conference policy for those who volunteer with youth or vulnerable adults (Rio Texas Conference United Methodist Church, n.d.). The educational intervention was determined low risk by IRB.

Conflicts of Interest

Project volunteers included two trained Project Image educators, and church members that supported program delivery for participants. One of the volunteer educators was the original author of the Project Image curriculum, however, no financial conflict of interest was determined because Project Image's proceeds go to a non-profit organization.

Biases

Efforts to minimize bias were implemented, but not guaranteed. Recall bias may have influenced initial knowledge assessment of STI's or HPV vaccination status, especially as participants may not have been included in previous medical decisions, simply due to their age. It was also accepted that non-scientific terminology may have been used before to explain STI's. To reduce recall bias, lay terms were incorporated in the curriculum. Participation was voluntary and offered to all students at the community school which minimized selection bias. However, participation might have been influenced by online delivery (versus face-to-face class), possible participation incentives, or the lure of discussing a taboo (not discussed at home or available in school) or fun (prospect of practice skills like condom application) topic.

Threats to Quality

Efforts made to minimize threat to project quality included the adherence to core curriculum elements and maintenance of small group design. An unanticipated threat to quality required delivery modifications to a fully online method due to COVID-19 social distancing requirements. While focus groups and individual counseling sessions were planned for online delivery that would support flexible scheduling and minimize transportation problems, overall program quality may have been threatened as the curricula was intentioned for face-to-face delivery. Furthermore, even though the education was delivered via a secured synchronous

platform, privacy could not be guaranteed outside of the church. Small groups of four to eight participants were planned and included separation of genders as indicated in the literature. Instrument validity was promoted by use of validated tools when available.

Project Budget

A total cost of $4802.00 was required to pilot this education program. Personnel costs accounted for 75% of the of the first-year total costs due that included consultation of an experienced STI educator and was based on hourly wages required per provider, per role. The $485.00 evidence-based curriculum, Project Image, was the next highest cost. The SP Expense Report (Appendix I) identifies other requirements including materials & supplies, incentives, and data collection. Subsequent outyear costs decreased to $1852.00 due to costs savings when embedded community nurses adopted the reusable curriculum. Appendix J shows pilot year and 2-3 year budget costs. In-kind donations were the primary SP revenue sources and resulted in a $0 pilot year operating income detailed in Appendix K, the statement of operations.

Sustainability

Sustainment of the sexual health education program at the church was initially considered by the embedded faith-based nurse and her employer. Unfortunately, the faith-based nurse position was vacated in March 2021 leaving the church without embedded nursing support. However, the former faith-based nurse remains a church congregant and remains supportive of the pilot. Other sustainment options remain under investigation, which includes future education or sponsorship by members of the church's Health & Wellness Committee and may use data derived from the SP to support their decision for program continuation.

Results

Steps of the Intervention

Volunteer participants were recruited from the church community in June 2021. Marketing flyers targeting potential participants at the neighborhood high school were shared by the principal and the school's social worker. Recruitment directly through the church was conducted project lead/DNP candidate and church member's familiar with the project. Interested participants contacted the project lead through phone and text messaging. Due to low interest, participant work schedules, and team teacher availability the initial plan for three single-day workshops in June and July was changed to a single workshop. By early July, four young women signed up for July 24, 2021.

Significant project dates, including initial workshop week modifications, are summarized in Appendix N. The team teacher and one participant began quarantine three days before the workshop for exposure to the COVID-19 infectious disease. Due to another participant already dropping earlier that week, a hybrid workshop was planned. The workshop delivery changed to facilitate at least two in-person participants while accommodating others via an online synchronous platform. On the morning of the workshop, another participant canceled attendance due to being kicked out of her house the night before and not having transportation to the church or internet access for virtual connection.

The first workshop on July 24, 2021, commenced in the church with 2 participants. An overview of the project, agenda for the day, and teaching team was provided once connection was secured with the virtual participant and team teacher. Participants used a QR (quick response) code to complete the pre-test questionnaire before starting the EB sexual health education workshop. Following pre-test questionnaires completion, the adapted Project Image curricula was delivered in a morning and afternoon session, separated by lunch. Based on Project Image's first workshop, the morning focused on participant STI awareness and risk

perception. The afternoon session followed Project Image's second workshop that focused on STI education and risk reduction strategies. Lecture, discussion, videos, worksheets, and experiential learning methods were used throughout the day. Another QR code linked to the post-test questionnaire was provided at the end of the workshop. The post-test questionnaire included two additional questions to the pre-test's 31 questions and once completed, signified the end of the full-day workshop. Participants were encouraged to take their workshop materials, extra informational materials, and a $25 grocery gift card.

Due to low initial participant turnout, a second split-day workshop was offered which was divided into two 4-hour sessions on back-to-back days and evenings for after work attendance. The project lead taught this workshop solo due to continued team teacher illness and non-availability. The first evening modeled the morning session whereas the second evening followed the initial afternoon workshop. Two participants chose the 2-day split programming delivered July 30 & 31, 2021. Although recruited by a church member, these participants were not previously associated with the school nor the church.

Details of the Process Measures and Outcomes

The Logic Model (Appendix D) guided process measures for the five short term outcomes evaluated. Table A summarizes the short-term outcomes results. Appendix O shows

Table A. Association between outcomes and interventions

Short-term Outcome	**Variable**	**Met/Unmet**
1. By May 2021, an EB sexual health education curriculum was adapted and approved for piloting.	Curriculum identification, acquisition, and adaption/approval	**Met**
2. By July 2021, at least one cohort of 4-8 students participated in piloting of EB sexual health education sponsored by the church.	Sign-in roster for in-person and online workshops	**Partially met**
3. By August 2021, 75% of participating students scored an at least an 80% or better	STD-KQ questionnaire	**Partially met**

in STI knowledge on the posttest questionnaire.		
4. By August 2021, 50% of unvaccinated participants expressed a positive attitude toward getting vaccinated against HPV.	Attitude toward HPV vaccination questions from THinK tool	**Met**
5. At least 50% of participants responded to a question on their likelihood to have unprotected sex after attending community program at the church by August 2021.	Personalized question made for church completed	**Met**

group summary data for pre and post results.

Adaption of an evidence based the sexual health education curriculum (Outcome 1) was supported by Dr. Jane Champion, the author of the selected EB curricula, *Project Image* (Appendix P). Her endorsement for adaption in a faith-based setting, versus a clinical setting, was received during initial discussions in June 2020. Other adaptions were made through Spring 2021. These included the removal of group and individual counseling sessions and online delivery considerations due to persistent pandemic social distancing measures.

Project workshops were delivered in July 2021. A total of two youth joined the initial summer workshop, with two more completing the second split-day workshop. Although the minimum target of at least four participants was reached, small group participation of 4-8 participants together was the target, based on curriculum guidelines (Outcome 2).

All four participants completed the pre and post questionnaire comprised of the questions in Appendix G and Appendix H. The questionnaire was comprised of questions in three topic areas. The first part of the questionnaire was the 27-question Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ), associated with Outcome 3. The goal for this outcome required that 75% of participants respond correctly to at least 22 of the 27 questions. Two participants met this goal (50%, $n = 4$) with another participant improving their score from 13 on

the pre-test to 17 correct answers on the post-test. Individual STD-KQ scores are noted in Appendix Q: Mean Scores and Differences. The pre and post workshop STD-KQ summary group mean scores of 16.5 and 20.75 are also noted in this appendix.

The three questions measuring "attitude to be vaccinated against HPV" taken from the vaccina*T*ion & *H*PV *K*nowledge (THinK) questionnaire were answered by all (100%, *n* = 4*)* participants before and after the workshop. Using the 5-point THinK Likert scale, an individual score of 3 or 4, or a group score of 9 or better, was considered a positive attitude. The target of at least 50% of participants reporting a positive attitude toward getting vaccinated against HPV (Outcome 4) was met before the workshop commenced and sustained after the workshop. Appendix R, HPV Charts, shows the data from each of the three HPV THinK questions with distinction between single day and split day workshops. One open-ended question asked participants to list obstacles preventing HPV vaccination. All participants responded and their unedited comments follow: People may not have the resources or information available to them, parental consent, lack of knowledge, getting judged, my car.

The final question was specific to the sponsoring faith-based stakeholder. Again, all four participants responded (Outcome 5). Analysis of this response revealed that all participants (100%, *n* = 4) were less likely to engage in unprotected sex after the education workshop as compared to before their workshop participation. These data are in Appendix S.

Outcomes Analysis

Questionnaire responses were analyzed by topic area. For the STI knowledge measured with the STD-KQ, pre and post data was analyzed for trends of correct responses. This data is noted in Appendix T, the STI Response Trend. The data demonstrates that on the pre-test only four times was there a unanimous (100%, *n* = 4) correct response. On the post-test, however,

fourteen questions were answered correctly by all four participants. This positive trend also reflected that while one question received zero correct responses before the workshop, all questions after the workshop had at least one participant correctly answer.

The responses measuring attitude toward the HPV vaccination were considered without regard to personal vaccination status. During discussion, however, at least two participations (50%, $n = 4$) revealed that they were unaware of any of their vaccination status, HPV specifically. Only the question (THinK Q16) asking if more information on the HPV vaccination was wanted garnered unanimous support on the pre and post questionnaire. The open-ended question responses revealed two knowledge obstacles, one resource obstacle, one transportation obstacle, one consent obstacle, and one stigma obstacle affecting to HPV vaccination.

Contextual Elements that Interacted with the Intervention

The most significant and unexpected factor that affected implementation of the EBP project was the COVID-19 pandemic. Shortly after selecting the project and identifying the target population, the global pandemic struck. The ensuing mandated social distancing immediately stopped church outreach activities. The church and school went entirely online, thereby severing the growing relationships between the church volunteers and students. Consequently, the pool of potential participants evaporated as a whole year passed without the weekly Lunch Bunch meetings between neighboring facilities. Social distancing was finally relaxed in late spring 2021, but hesitancy to return to routine church and modified outreach operations remained. When implementation was imminent, approval for small group gatherings was finally received, but online delivery remained supported. Hesitancy to return to pre-pandemic conditions inhibited reestablishment of the weekly meetings.

The second greatest difficulty was accessing target population even as social distancing

measures lifted. During early summer outreach to the target population via school administration, staff restrictions remained in place for sharing information about external activities. Consequently, recruitment through the school was unexpectedly delayed until the final week of school in mid-June. When recruitment did commence, transportation issues, lack of childcare, difficulty with work schedules, and general disinterest were noted obstacles. At least one recruit from the school reported that no childcare inhibited participation.

In the end, none of the participants were recruited from the school. Participants were recruited from the church collegiate bible study group and through church members. The second hybrid workshop was only possible by executing the two-day workshop plan around participant work schedules. Both attendees worked and both had transportation difficulties but were able to attend evening sessions by carpooling.

Some of the experiential activities were not conducted due to low participation and the hybrid nature of the workshop. One specific interactive activity intended to show how people can be unsuspectingly vulnerable to STI's. This card game required participants to talk to each other and negotiate card exchange but required a minimum four participants. This exercise was anticipated to be of high value by the teaching team, as it engaged negotiation skills.

Associations Between Outcomes, Interventions, and Contextual Outcomes

The education workshop intervention, consisting of the Project Image curriculum, was affected by multiple contextual elements affecting program outcomes including social distancing requirements, low participation, and technology mediated workshop delivery. Adaption of an evidence-based curriculum, Outcome 1, helped to overcome some of the other unexpected issues. Curriculum modifications included shortening overall length of program and support for online dissemination. Both adjustments supported education program completion and access for

those unable to participate in person. The disruptive social distancing precautions evaporated the participant pool and resulted in difficulty attaining Outcome 2. With four participants signed up for the initial workshop, only two (50%, $n = 4$) attended, enabled by the last-minute execution of the hybrid classroom that supported in-person and virtual delivery for the team teacher and one participant. Consequently, the small group dialogue and learning intended for participants was hindered as free communication between the two participants was mediated by technology and omnipresent teachers.

The knowledge and attitude outcomes associated with Outcomes 3, 4, and 5 were also affected by the contextual elements. Participant knowledge about STD/STIs increased despite low attendance and different in-person and online workshop delivery methods. Regarding the attitude toward HPV vaccination, which were generally positive, it is not known if participant attitudes were affected by concurrent attention on the revolutionary COVID-19 vaccination campaign. Participant knowledge about their own HPV vaccination status was also unknown. Even in the workshop delivered in two days, participants reported not having access to their medical records or otherwise were not confident of their status. Outcome 5 was overwhelmingly positive and in support of reducing self-destructive behaviors. Church sponsorship, which included navigating difficult or taboo topics from the church (in-person the church parlor or delivered online from the parlor), did not seem to deter the dialogue or affect the outcomes.

Unintended Consequences

The collegiate bible study group was an unexpected population interested in the workshop. Both participants from the first session learned about the workshop from this group, although only one was a regular member. In the end, all participants were recruited from the church network and not the neighboring high school, thus their high-risk classification and

socioeconomic status was not necessarily the same as the targeted population. In fact, during introductions, it was learned that both initial workshop participants were currently attending college. For the second workshop, one had already completed a baccalaureate degree while the other had just graduated high school and was planning to attend college in the fall.

Another unintended consequence was that recruitment required third party support and communication (i.e., school social worker or the pastoral staff). It is unknown if this extra layer of contact affected willingness to participate. Text messaging turned out to be participants preferred method of communication, versus email and phone calls. It is not known if this communication method affected participation, either enabling or deterring, or possibly simplifying cancellation.

The curriculum selected for the intervention, Project Image, was designed for young women. Although adapted for delivery in several other ways, female only workshops were retained. This resulted in exclusion of male participants, including those in collegiate bible study group who, per pastoral staff, were very interested in the workshop.

The validated STD-KQ and THinK questionnaires were selected before EB curriculum selection and acquisition was confirmed. Project Image is a cognitive-behavioral intervention previously not validated with either the STD-KQ or THinK questionnaire excerpts. While both STI knowledge and attitude toward HPV demonstrated improved knowledge or positive attitude outcomes may have been affected by this lack of symmetry.

Missing Data

Despite low participation, all questions were answered on each pre and post questionnaire. Outcome 4 was originally designed to measure attitude of unvaccinated participants, but without access to medical records and unreliable or unknown immunization

knowledge, vaccination status was not considered. Moreover, concurrent world issues involving the controversial treatment and attitude toward unvaccinated persons against the coronavirus deemed it prudent to maintain an unbiased and supportive learning environment for this project. No data were noted missing.

Actual Project Revenue & Expenses

Unexpected hybrid delivery and consumables varied actual costs of the project, but only slightly from initial estimates (Appendix I, J, K). Food was purchased at a cost of about $90 for all three sessions; breakfast and lunch for the full day workshop and dinner before each evening workshop during the split-day option. These unexpected costs were due to change in program delivery and decreased volunteer support anticipated during program planning. A $78 HDMI cord was required to support personal equipment that included a wide-screen television and computer when the old church equipment was unable to project videos and presentation slides. The split-day workshop revealed a knowledge gap for both participants that required purchase of a variety of period supplies including tampons and menstrual cups. This cost, on top of the supplemental teaching tools required for the curriculum but not included (condoms, personal lubrication, and birth control examples, etc.) increased the pilot cost by another $132. In total, this $300 unexpected cost was offset by $267 from the use of BSU Zoom and Qualtrics tools instead of other commercial products.

Summary

Project implementation was beneficial for multiple reasons despite numerous challenges. An extensive literature review identified the significance of curriculum and partnerships in the implementation of evidence based sexual health education for at-risk high school students. These factors were considered for curriculum selection which included author support and adaptability

for target population which facilitated achievement of Outcome 1. The importance of strong partnerships was another major finding in the evidence and was critical for project execution. Strengthening the partnership with the church, primarily with church-based nurse facilitated partial achievement of Outcome 2 as recruitment was extremely difficult. Perceived as the church's leader for outreach with this target population and wellness programming, the faith-based nurse's support with the project ensured achievement of minimum participants along with the pastoral staff who recruited participants from the collegiate bible study group. Ultimately no participants were associated with the target school population.

The four participants demonstrated a summary group mean increase in STI knowledge of 15% while the majority (75%, $n = 4$) improved their pre to post workshop scores by at least 4 correct questions answered. All participants (100%, $n = 4$) reported a positive attitude toward being vaccinated against HPV even before the workshop, resulting in early and unexpected achievement of Outcome 4. Dialogue during the workshop, however, revealed low self-awareness of vaccination status. All participants welcomed information on local vaccination information and sites as some felt like they needed to check their immunization history and might need to follow-up later to ensure HPV vaccination. One participant asked for all the resource information possible to share with friends and family. This positive attitude was maintained after the workshop. The overwhelming response (100%, $n = 4$) for the last, church specific, question is considered the most significant data point. Concerned with high-risk behaviors, church leadership sought to understand the impact of outreach effort. Only asked on the post workshop questionnaire, all four respondents reported that they were less likely to participate in unprotected sex after attending the workshop, validating the impact of the project.

The project lead currently has custody of the Project Image curriculum. The prior faith-based nurse/team teacher for the first workshop was promoted in Spring 2021 to another organization outside the church. While she remained committed to this project, the position was vacant until November 2021. A new faith-based nurse was hired, but program sustainment plans have not commenced as of January 2022. Future project growth and sustainment may include consideration of the collegiate bible study group, including males.

Interpretation

Association Between Interventions and Outcomes

After all workshops were delivered during the project implementation phase, 75% of participants improved their knowledge about sexually transmitted infections and 100% of them had both a positive attitude toward HPV vaccination as well as reported that they were less likely to engage in high-risk unprotected sex than before participating in the workshop. These results may have been affected by the pilot group's education and social status. Dialogue during workshops reinforced that none of the participants were at risk to not graduate from high school. All college educated or college bound, their openness for education may have influenced their desire to participate, learn, and plan to alter behavior based on new information. All recruited through the church, none of the participants had children and some participants admitted intentional sexual inexperience. It is possible that participants' sexual inexperience or their recruitment through the church network influenced their program participation.

Comparison of Results with Previous Findings

The planning phase of this project included a literature review, summarized in Appendix A. Low pre-workshop STD-KQ scores (61% summary group mean score) and rudimentary questions (will a tampon take away my virginity?) illustrated the overwhelming background

literature describing persistent barriers to sexual health resources. Numerous sources discuss barriers to education and care especially among adolescents and young adults including the CDC (2019a), WHO (2019), and studies by Keller (2020) and Rose (2017). Other results supported literature findings including the difficulty building rapport, employment of trusted healthcare professionals, and the significance of partnerships for project success. The project lead and team teacher were both registered nurses with at least some degree of familiarity with participants. Despite these known relationships, adapting the curriculum to enable rapport building for sensitive topic discussion was difficult, especially during the single, all-day workshop. Huelskamp & Catalano (2018) found the difficulty of rapport building across a wide age range of young women, especially in short-term projects. The medical experience of the teaching team was appreciated by the participants and supported by Lai et al.'s (2017) work reporting the significance of medical providers when implementing sexual health education in Hispanic and Latino communities. Partnering with the faith-based nurse for planning and implementation was critical to a successful pilot. Five studies (Lanzi et al., 2019; Chinman et al., 2015; Ott et al., 2011; Secor-Turner et al., 2017; and Lai et al., 2017) reported the significance of partnerships for nearly all project phases including implementation, delivery, and sustainment.

Impact of Project on People and Systems

The data clearly demonstrated a positive impact on the participants knowledge and intent to decrease high-risk activity. All four young adult female participants sustained their positive attitude toward vaccination against HPV and welcomed local resource information for potential future care. Their openness to share new knowledge with friends and family indicates continued impact through their individual social circles. This acceptance of the new knowledge and skills demonstrates growth from dependency to self-reliance and may indicate behavioral change

(Pender, 2011). If the program is sustained, continued positive impact on individual and community sexual health is anticipated.

Reasons for Differences Between Observed and Anticipated Outcomes

The overwhelming positive attitude toward HPV vaccination before the education intervention was implemented was unexpected. This positive attitude remained after the workshop but may have been influenced by external factors. A possible reason for this positive attitude toward vaccination may be due to simultaneous coronoavirus-2019 (COVID-19) global pandemic responsible for devastating illness and deaths worldwide. The rapid production, mass marketing, government support, or perceived effectiveness of the COVID-19 vaccine may have positively influenced participant attitude toward vaccinations in general. Another possible reason for this positive attitude, unrelated to this SP, was preexisting participant education. All SP participants were either enrolled in college or in one case, graduated. It can therefore be assumed that baseline health status was at least fair to good since health care coverage and some vaccinations are required for entry into undergraduate academic institutions.

Costs and Strategic Trade-Offs

Project implementation costs are believed to be well worth the cost as the impact improved the individual health of four young women. Despite the multiple challenges and contextual elements preventing church to school outreach where a larger pool of participants was expected, refraining from including male participants from the collegiate bible study to join the pilot was sustained. This trade-off resulted in low participation but retained the integrity of gender specific cohorts as intended by the EB curriculum.

Policy Implications

The policy implications for this SP EB pilot program implementation are predominantly at the local and potentially at the organizational level. In alignment with the church's outreach ministry, pilot implementation was supported by the current pastoral staff and previous embedded faith-based nurse. The pandemic caused physical and social interruption of the church-community relationship and subsequent pilot adaptions exposed a need to consider a change in scope and population for future programming and potential policy development.

Based on SP project results indicating improved STI knowledge and decreased likelihood to have unprotected sex, future workshops are anticipated. Policy considerations, however, may target internal participants first, like the collegiate bible study group. As evidence of the actual project executed amid the pandemic, this approach reduced access barriers to the external target population and still offered EB health education support to a community where gaps may exist.

Policy development is influenced by participant age no matter the vulnerability status (i.e., low socioeconomic class, disabled, etc.) of the target population. While the selected curriculum was created for those as young as 14 years old, only those age 18 and over were targeted for this project due to parental or guardian consent requirements for the underaged. If minors are included in future workshops, additional authorizations are expected to ensure their ethical treatment and protection. These additional authorizations are likely to differ dependent on internal (church youth) or external (neighborhood high school students) youth targets. For minors within the church, additional steps may be required to ensure compliance with the church's affiliated conference policy on programs dealing with youth and vulnerable adults (Rio Texas Conference United Methodist Church, n.d.). Engaging minors from the neighborhood high school has not been explored but due to controversial views on public school sexual health education policy and the lack of formal agreement between the school and church, this

population is not likely to be included soon. Emancipation status may help policy development for those under 18.

Another organizational level policy consideration includes assessing support for program sustainment. Identifying supportive nurses or healthcare professionals vested in EB practice influences policy development. For program sustainment, adding Project Image to the new embedded faith-based nurse's health and wellness portfolio is ideal. However, this approach is expected to minimally require a Memorandum of Understanding (MOU) with the parent organization of the embedded faith-based nurse.

Limitations

Small sample size is a limitation of this project. With only two participants in each workshop, these statistics are not statistically significant, nor generalizable. Also, while transportation issues affected 50% of participants, they were able to find a solution to easily overcome this obstacle indicating the sample's moderate socioeconomic status and lack of diversity. A significant limitation was the lack of interaction with target population or other potential participants in need of this education. Restricted mostly by the pandemic, recruitment and scheduling/rescheduling required more program adaptions and manpower hours.

Conclusions

Usefulness of the Work

With more than 50% of the more than 20 million newly diagnosed STI's affecting America's youth ages 15-24 (CDC, 2019a), any community supported EB sexual health education among this population benefits population health. Community based education is especially critical in areas where schools do not include comprehensive health or support EB sexual health education, as in the community schools surrounding the church. The fact that

STI's disproportionately affect minority populations (Mermelstein & Plax, 2016) and young women (Slater & Robinson, 2014) under age 20 due to their undeveloped immune system (Keller, 2020; Slater & Robinson, 2014) is another reason why this work is useful even for small groups. Future workshops will continue to strengthen individual and community health.

Sustainability

The new faith-based nurse was hired November 2021. Her onboarding and orientation to the role and various responsibilities within the church is expected to progress through April 2022, at which time program planning can resume.

Potential for Spread to Other Contexts

There are no other known faith-based organizations in Bexar County or the Methodist Texas Rio Conference supporting EB sexual health education programs. This pilot program and the impact it had for community youth may provide other churches with a guide on how to establish or support sexual health education efforts that improve the health of their congregation and community youth.

Implications for Practice and Further Study

Expanding recruitment efforts and opening workshops to other populations are needed for future programming. Beginning with males in the collegiate bible study group and then possibly broadening participation to younger age groups within the church congregations are the most accessible populations. Including other interested participants through social networking is also feasible. When church-based community outreach activities resume, community recruitment may return and include the original target population attending the alternative/drop-out prevention school across the street from the church. Other implications for future practice

may include revision or adaption of another EB or evidence-informed curricula that addresses the needs of a wider audience.

Increasing partnerships with other family planning organizations like Planned Parenthood who has an EB sexual health educator or local academic institutions supporting sexual health research efforts may also increase or improve practice application.

Next Steps and Dissemination

Continued assessment of data, study of policy implications, and preparation of initial findings for sharing with stakeholders are planned through December 2021. Initial findings are planned for presentation to the church stakeholders including the pastoral staff and the faith-based nurse, if one is rehired, no later than January 2022. Sustainment planning will also be reengaged when feasible with the new embedded faith-based nurse. Practice project dissemination efforts will commence once the scholarly project report is completed. A final project report, planned for March 2022, will be delivered to faculty, and invited stakeholders. Once approved, final report edits will be completed, and poster presentation or article preparation can commence.

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Appendix A

Literature Review Summary Table

	Title of Article	Authors	Research Question or Aim of the Article	Type of Study (Design)	Level of Evidence	Description Of Sample (if applicable)	Outcome Measures	Results/Key Findings
	Background Evidence							
1	Global health sector strategy on Sexually Transmitted Infections (STI) 2016- 2021	World Health Organization, (2016)	The strategy aims to drastically decrease new STIs and related deaths while improving individual health and well-being of all people	Global strategy/ Consensus position	IVA	All populations discussed, but young people, adolescents, women, mobile populations, and homeless children and young people especially vulnerable	Global targets: -90% reduction in N. gonorrhea -≤ 50cases of congenital syphilis/100,000 live births in 80% of countries -Sustain 90% national coverage in countries w/ HPV vaccine in their vaccine program	Strategic Direction: Interventions for impact -Prevent STI's by focusing on vulnerable populations and strengthen community knowledge -Comprehensive health ed. for adolescents -Ensure HPV vaccine access
2	2019 Bexar County & Atascosa County Community Health Needs Assessment Report	The Health Collaborative, (2019)	To identify health disparities to enable community action toward improving health equity and outcomes in Bexar and Atascosa Counties	Community needs assessment using mixed methods	VB	Bexar County residents (Atascosa County data excluded)	N/A *STIs and vaccination rates/trends included	-HPV vaccination rates remain low w/ 46.4% of 13-17 yr. old vaccinated and those with 2nd or 3rd doses only 55.6% for girls and 37.2% for boys ages 13-17. -Chlamydia (637/100k) and gonorrhea (223/100k) consistently higher in Bexar Co. than Texas -Bexar Co. syphilis 36% higher than TX and 259% greater than US rate

								-Bexar Co. HIV slowly decreasing, but rates highest in ages 18-29
3	Cooper Academy 2019-2020 Campus Improvement Plan	San Antonio Independent School District, (2020)	Describes the students and their needs	Comprehensive needs assessment	VB	384 students ages 15-25 who have previously dropped out of school or are at-risk for dropping out of school	N/A *Problem statements and root causes described	-Student population is 91% Hispanic/Latino; Black 5%: White 3%: with remaining reported as mixed -94% of student pop. is socioeconomically disadvantaged -insufficient access to medical care
4	Mothers' human papilloma virus knowledge and willingness to vaccinate their adolescent daughters in Lagos, Nigeria	Ezenwa et al., (2013)	To assess mothers; HPV knowledge and their wiliness to vaccinate their adolescent daughters	Community-based descriptive cross-sectional	IIIB	290 mothers of adolescent girls ages 10-19	Pre-test, interviews, and questionnaires used -data analyzed with Epi Info v7	-Low awareness for HPV (27.9%) and HPV vaccines (19.7%) -High awareness for cervical cancer but not linked to HPV -awareness and HPV vaccination willingness increased ($P<0.05$) with education -Access and affordability of vaccines noted as poss. obstacle
5	High school dropouts and sexually transmitted infections	Anderson, & Pörtner, (2014)	To examine the impact of dropping out of school and the likelihood of contracting a STI	Quantitative, descriptive	IIIB	Adolescent's grades 7-12 (ages 15-19) From 132 U.S. schools from Add Health database	In-home surveys for descriptive data sets administered in two phases	All high school dropouts are at high-risk for contracting an STI, but females have highest risk.
6	The protective effects of religious beliefs on behavioral health factors among low-income African American	Kim et al., (2018)	Contribute to and expand on previous mixed findings of religiosity and risk for risky sexual behaviors	Cohort Study, descriptive	IIIB	638 low-income Black adolescents in Chicago (ages 12-22) from 3 highs schools, a church youth	Univariate analyses for overall sample Bivariate analyses for relationships among major variables and	Religious involvement is associated with lower levels of substance use and sexual risk.

	adolescents in Chicago					group, 2 community programs and 4 public sites	logistical regression for school failure, substance abuse, and sexual risk behaviors	
7	Substance use and sexual risk behaviors among American Indian and Alaska Native high school students	De Ravello et al., (2014)	Describes the prevalence of behaviors that puts American Indian and Alaska Native (AI/AN) HS students at risk for STIs	Quantitative, descriptive database sampling	IIIB	2007 & 2009 National Youth Risk Behavior Survey data from grades 9-12. 2007 = 14,041 surveys and 2009 yielded 16,410 surveys	Youth Risk Behavior Survey (YRBS) sampling: Dating violence, forced sex, alcohol use, drug use, and sexual risk behaviors.	AI/AN students are at higher risk for STI/HIV and require targeted, adolescent specific interventions
8	Awareness and knowledge of sexually transmitted diseases (STDs) among school-going adolescents in Europe: A systematic review of published literature.	Samkange-Zeeb, (2011)	Determine the awareness and knowledge of school-going male and female adolescents in Europe of STDs and their perceived risk of STD contraction.	Systematic literature Review	IIB	15 cross-sectional survey studies of knowledge and awareness of STI's in European adolescents (ages 13-20 range)	-all 15 studies were quasi-experimental -Studies did not use same questions	- General awareness and knowledge varied among adolescents was low except for HIV/AIDS (over 90% awareness) - Condoms viewed as interim contraception before using the pill -Sex ed critical for STI prevention
Curriculum Evidence								
9	The implementation of a culturally based HIV sexual risk reduction program for Latino youth in a Denver area high school	Mueller, et al., (2009)	Describes efforts to implement a culturally based curriculum ¡Cuídate!	Case Study	VB	9th,, 10th, 11th, and 12th graders at a predominantly Latino urban high school in Denver, CO	No data gathered; the study intent was to pilot intervention materials	Curriculum was successfully adapted and implemented in the high school.
10	Effectiveness of health education teacher and school	Borawski et al., (2015)	Examine whether effectiveness of a well-established	Quantitative: Group randomized	IIB	9th and 10th grade high school students	Sex related cognitive mediators:	-Health educators are skilled at imparting knowledge

	nurses teaching sexually transmitted infections/human immunodeficiency virus prevention knowledge and skills in high school		HIV/STI prevention curriculum Be Proud, Be Responsible! (BPBR) differed based on facilitator	control intervention		enrolled in mandatory health education; 88% Black,	-knowledge (two domains) -efficacy -participants beliefs -perceived peer beliefs -behavioral intentions	-Nurses more likely to effect significant and sustainable behavioral changes esp. with skills training (i.e., condoms)
11	Effects of an adolescent sexual and reproductive health intervention on health service usage by young people in Northern Ghana: A community-randomized trial.	Aninanya et al., (2015)	Assess if a community-based adolescent sexual & reproductive health (ASRH) intervention increased usage of selected health services.	Quasi-Experimental; community-randomized trial	IIB	2,664 adolescents (ages 15-17) in 26 Northern Ghana communities (13 intervention and 13 control communities)	-usage of STI management, HIV counseling and testing, antenatal/perinatal services, and reported satisfaction via cohort surveys, interviews, and questionnaires. Data analyzed with Stata 12.0	-comprehensive sex education, which included school-based curricula, afterschool outreach, community mobilization, and health worker training in youth friendly, was more effective than community mobilization and youth friendly clinics alone
12	Bringing evidence-based sexual health programs to adolescents in Black Churches: applying knowledge from systematic adaption frameworks	Weeks, (2016)	Examined ways two intervention adaption frameworks reflected key components of a church-based sex health program	Qualitative: Community-based participatory research	IIIB	Four cohorts from nine Black Christian churches; senior pastors, youth ministers, youth ages 13-19, and their parents	Semi-structured interviews and focus group protocols -transcripts analyzed with Atlas.ti software and followed a content analytic approach with a codebook	-Engage stakeholders early, in planning process -identify the EB intervention for local adaption -Adapt the EBI and integrate content into community -Equip and train community members, implement, and conduct rigorous evaluation
13	Lessons learned from implementation and evaluation of an evidence-based sex	Huelskamp & Catalano, (2018)	To share lessons learned from comprehensive sex education pilot program	Non-experimental, pre & post design	IIIB	7 sexually inexperienced minority (Black, Hispanic, Caribbean/West	-Be Proud, Be Responsible (BPBR) curricula closely followed	-Community-based programs can improve safer sex knowledge, beliefs, and intentions. Lessons Learned:

	education pilot program for minority adolescent females		implementation for a small cohort in a community b-based setting (CBS)			Indian, and American Indian/Alaska Native) girls (ages 13-18).	-Likert scale used for pre/post tests - paired-samples t-tests used for comparison from pre to post test	1. Establish rapport with target pop. 2. Increase sessions to fit student needs and to build rapport 3. Consider age separation 15 and younger versus 16 and older
Curriculum & Partnerships Evidence								
14	A cluster-randomized trial of *Getting to Outcomes*' impact on sexual health outcomes in community-based settings	Chinman et al., (2018)	Assess if Getting to Outcomes (GTO), a implementation support strategy, helped community-based providers achieve higher outcomes	Cluster RCT	IB	11–13-year old's attending 32 Boys and Girls Clubs in GA (16 clubs control, 16 GTO intervention)	-14 mediators of sexual behavior -attitudes toward condom use and abstinence (5 pt. response scale)	-Community based programs need ongoing support for EBP STI implementation -EBP curricula is sufficient to yield some STI improvements
15	*Love with No Exceptions*: A statewide faith-based, university-community partnership for faith-based HIV training and assessment of needs in the Deep South.	Lanzi et al., (2019)	Discuss partnership development and its contribution to a faith-based training model	Mixed method evaluation: Quantitative analysis used	IIIB	146 clergy and laity in the African Methodist Episcopal (AME) church across five state regions in Alabama	-Community engagement principles - t tests for descriptive data while free text interviews were analyzed using NVivo 11 thematic analysis software	-Partnerships between academic institutions and churches can positively impact STI education and outcomes -STI knowledge increased significantly in pre- to post test
16	Community-level successes and challenges to implementing adolescent sex education programs.	Ott et al., (2011)	Describe the successes and challenges faced by community orgs. In selection, implementation, adaption, and evaluation of adolescent sex ed. programs	Qualitative research: face-to-face and telephone interviews using semi-structured interview guide.	IIIB	17 Directors of Indiana state funded sex ed/teen pregnancy prevention programs	Thematic analysis of interviews, observations (tone), and field notes: -experienced events -level of events -causal level leading to events	-Funding and technical assistance needed for program adaption -OTS curricula obstacles include need for cultural adaption and stakeholder input - collaboration between school, public health community is critical

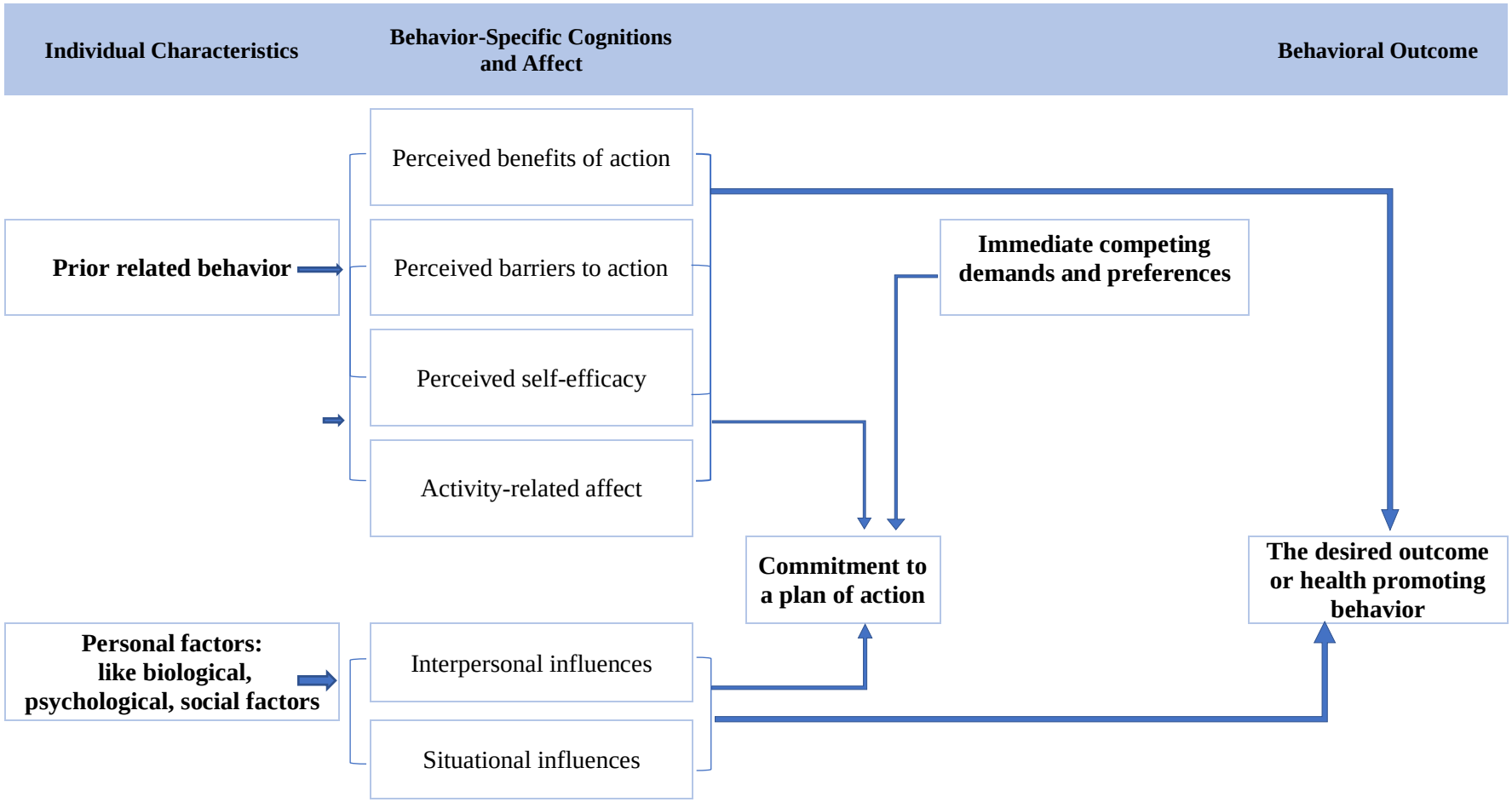
17	Implementing community-based comprehensive sexuality education with high-risk youth in a conservative environment: lessons learned.	Sector-Turner et al., (2017)	Describe implementation of community-based comprehensive sex ed for high-risk young people	Program implementation and evaluation (Case Study)	VB	386 at-risk North Dakotan youth ages 18-24	N/A	-Program adaption for community needs - face-to-face mtgs with partner orgs critical for recruitment, local legitimacy, and sustainment
Partnerships								
18	Diverse families' experiences with HPV vaccine information sources: a community-based participatory approach.	Lai et al., (2017)	Describe the associations between sociodemographic and acculturation c traits and exposure to HPV vaccination rates and knowledge	Mixed Method: Non-experimental descriptive survey instrument and qualitative focus groups	IIIB	93 participants in 10 focus groups representing 5 ethnic minority subpopulations (including Hispanic or Latino) in Utah	Marin's Short Acculturation Scale for Hispanics (SASH) used for language survey questions. -Fishers Exact Test for Count Data used for comparative distribution -Focus group data triangulated w/ survey data	-HPV vaccination knowledge and awareness low -Current HPV vaccine information insufficient for minorities, especially non-native English speakers -Cultural and linguistically appropriate education material improves outcomes -Healthcare providers most trusted source

Appendix B

Theoretical Model

Figure 1

Diagram of Pender's Health Promotion Model, adapted from Pender et al. (2002)



Appendix C

Memorandum of Understanding

Memorandum of Understanding

Memorandum of Understanding

Between

Neva Fuentes, Doctor of Nursing Practice (DNP) student

Boise State University

and

La Trinidad United Methodist Church

This Memorandum of Understanding (MOU) outlines the terms and understanding between Neva Fuentes, a DNP student at Boise State University, and La Trinidad United Methodist Church to pilot evidence based sexual health education for high school students at risk for contracting sexually transmitted infections.

Background

Sexually transmitted infections (STI) are a global issue that persist even in industrialized nations like the United States, causing significant negative health outcomes for adolescents and young adults (World Health Organization, 2019). Cancer, adverse reproductive outcomes including infertility, and death are some of the most significant STI consequences that disproportionately affect young women, adolescents minority populations, and high school dropouts. Females under age 20 are especially susceptible to STI damage due to their genital tract's undeveloped immune system which would otherwise help fight infection. In America, 50% of the more than 20 million newly diagnosed STI's are attributed to high school aged young adults. Factors that could decrease the prevalence of STI's in adolescents and young adults include access to comprehensive sexual health education and vaccinations. Yet, the list of barriers facing adolescent and young adults to these resources is extensive. In San Antonio, Texas, a community health needs assessment cited STI knowledge gaps among youth, which may be attributed to the local school districts lack of sexual health education curriculum. For high school students attending a dropout prevention and recovery school where 90% of the student population is socioeconomically disadvantaged and 96% are minorities, learning about STI's and vaccinations is further hindered by poor healthcare access and unreliable transportation.

Purpose

The goal of this project is to implement an evidence based sexual health education curriculum that will improve the health outcomes of adolescent and young adults especially vulnerable for STI contraction. Specifically, this project is designed to implement an evidence based sexual

health education program and improve student knowledge of STI's and encourage them to get the human papillomavirus (HPV) vaccination. Due to existing obstacles, reaching and supporting students via a community partner is proposed as nurses are well suited to improve adolescent health through dissemination of sexual health education in the community.

Intended Project Outcomes

- Improved knowledge about sexually transmitted infections
- Improved attitude toward getting vaccinated against human papillomavirus (HPV)
- Identify obstacles preventing HPV vaccination
- Decrease likelihood of engaging in unprotected sex
- Generate knowledge about the influence of community outreach programs

Duration

Scholarly Project planning will begin January 2021 and include coalition building, partner reinforcement, as well as other implementation preparation procedures. The implementation phase (with data collection) is scheduled for May – July 2021, but may include August, pending participation demand. Data analysis will begin August 2021 and continue through the dissemination phase, with the project conclusion scheduled for May 2022.

Reporting

The DNP Scholarly Project will include a final report, an abstract, an oral presentation of the report and potential publication. The oral report will be presented in March 2022 and the final report to be completed by May 2022. The Final Project Report will be submitted for publication in ScholarWorks. ScholarWorks is a collection of services designed to capture and showcase all scholarly output by the Boise State University community, including doctoral dissertations and doctoral project reports.

No personal identifiers will be included and all data will be reported in aggregate form. The author welcomes any comments or suggestions from La Trinidad United Methodist Church but reserves the right to publish findings and analysis according to professional standards and principles of academic freedom. For any work of a scholarly nature, the author agrees to follow the organization(s) preferences in how it is to be named (or not) in the work.

Agency preferences for how they are named/referred to within the student's work:

For purposes of the oral report and the student's Final Report:

- La Trinidad United Methodist Church in San Antonio, TX or,
- La Trinidad UMC

For an abstract and professional presentations or publications:

- La Trinidad United Methodist Church (UMC), San Antonio, TX

Written notification of professional presentations and/or publications of scholarly project work is requested for inclusion in the church records. When possible, a copy of the published works is also requested for church records.

Support Anticipated

- Curriculum support
- Medium to deliver project, likely computer/online network support in lieu of physical space due to social distancing restrictions from pandemic outbreak
- Marketing support
- Incentive support

Student Contact Information
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Date: 1/14/2021
(DNP Student signature)
Neva Fuentes, Boise State University DNP student

Date: 14 January 2021
(Organizational Contact signature)
John Feagins, Senior Pastor, La Trinidad United Methodist Church

Appendix D

Logic Model

Scholarly Project (SP) Title: Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project

Resources/Inputs	Activities	Outputs		Outcomes: Short term	Outcomes: Intermediate	Outcomes: Long term
- Curriculum funding - MOU with partners - Evidence-based (EB) sexual health education curriculum with support tools (handouts, videos, etc.) - Trained facilitator - Marketing materials - Community & volunteer partner support for implementation and sustainment	-Adapted EB sexual health education curriculum for local needs -Created Scholarly Project (SP) implementation schedule that is approved at least one month before the end of the school year	- 1- 2 facilitators completed training to deliver EB sexual health education curriculum - 80% of other volunteers (not facilitators) received project overview before implementation - Alternative curriculum delivery plan created for synchronous online delivery (i.e., Zoom) to overcome access issues (i.e., transportation problems or social distancing requirements)	- 4-8 community students, ages 18-25	**1.** By May 2021, an EB sexual health education curriculum was adapted for piloting. (PO)	**6.** By June 2022, EB sexual health education was implemented	**11.** The sexual and reproductive health of high school students improved in San Antonio.
- Marketing campaign - Evidence-based (EB) sexual health education curriculum supplies (worksheets, quizzes, videos, etc.) - Trained facilitators - Community & volunteer partner support -Facility needs secured (online platform, supplies for possible mailing etc.) -Food or participation incentive -Sustainment funding and programming considered	-Adapted or created attendance tracker - Selected or created knowledge measurement tools - Secured safe space for small group learning	-Marketing flyers and sign-up rosters - Intervention schedule -Consent or Assent forms completed -Knowledge measurement tools to gauge pre and post program STI knowledge and attitude toward vaccination against HPV - Adapted curriculum with educator and student materials	- 4-8 community students, ages 18-25. *Potentially 3 sessions: pending gender identity: female, male, or LGBTQ	2. By July 2021, at least one cohort of 4-8 students participated in piloting of EB sexual health education sponsored by Church (LTUMC). (CO)	**7.** By October 2021, at least 2 students requested information about future EB sexual health education (PO).	**11.** The sexual and reproductive health of high school students improved in San Antonio.

- Evidence-based (EB) sexual health education curriculum supplies (worksheets, quizzes, videos, etc.) - Trained facilitators - Community & volunteer partner support -Facility needs secured (online platform, supplies for possible mailing etc.) -Participation incentive	- Selected or created knowledge measurement tools - Provided interactive sessions that promoted information sharing and venue to ask difficult/sensitive questions	-Knowledge measurement tools to gauge pre and post program STI knowledge - Adapted curriculum with educator and student materials - Implementation plan	- 4-8 community students, ages 18-25.	3. By August 2021, 75% of participating students scored at least an 80% or better in STI knowledge on the posttest questionnaire. (CO)	8. By June 2022, 25% of students recognized STI risks and strategies to reduce unsafe sexual behavior (CO).	11. The sexual and reproductive health of high school students improved in San Antonio.
- Trained facilitators - Handouts - Community & volunteer partner support -Vaccination vouchers	-Community resources canvassed for HPV education and vaccination services - Lists compiled and handouts created of HPV vaccination clinics with low-cost or free services	-HPV and vaccination education distributed to 100% of participating youth. -List of local low-cost or free HPV vaccinations provided to 100% of participating youth.	- 4-8 community students, ages 18-25.	4. By August 2021, 50% of unvaccinated participants expressed a positive attitude toward getting vaccinated against HPV. (CO)	9. By December 2022, HPV vaccinations increased 5% among adolescent and youth in Bexar County as reported in The Health Collaborative annual report. (CO)	12. Infections caused by the human papillomavirus were reduced in San Antonian high school students.
- Youth program volunteers - 1 health educator or coordinator - informational materials (program calendar and list of resources/partners) - survey materials (electronic or online)	- Continued health and wellness programming for community youth year-round. -Included education and resource support for various health topics throughout the calendar year.	-Solicited input from youth for desired health and wellness topics -Calendar of events including health and wellness related topics created and posted in gymnasium or online	-Community youth that participated in project	5. At Least 50% of participants responded to a question on their likelihood to have unprotected sex after attending community program at Church (LTUMC) by August 2021. (CO)	10. By June 2022 at least 10% of participating youth reported participation in LTUMC's programs for the health promotion benefits. (CO)	13. LTUMC's community outreach programs improved the health of high school students in San Antonio.

Adapted from: Logic Model Foundation Development Guide, pg. 4. http://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide

Appendix E

Timeline

Fuentes DNP Scholarly Project

Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project												
	Month & Year											
	JUN 20	JUL 20	AUG 20	SEP 20	OCT 20	NOV 20	DEC 20	JAN 21	FEB 21	MAR 21	APR 21	MAY 21
Activity	601 & 614		Fall 618 & 622					Spring 610 & 603				
PLANNING												
Complete sections 1-9 for SP Draft												
Identify EB sex/ed curriculum												
Identify HPV options to determine aim (knowledge, intent, actual vaccination)												
Adapt curriculum to local needs, and considering possible social distancing protocols and technology needs due to pandemic precautions												
Identify evaluation methods												
Identify or develop measurement tools (pre/post test												
Establish partnership/relationships with community resources for potential sustainment												
Develop marketing & communication plan												
MOUs with partners signed												
Financial Plan w/ Resources allocated												
Complete training/certification required for curriculum use/adaption												
IRB approved												
SP Proposal approved												

Appendix E

Timeline

Fuentes DNP Scholarly Project

Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project												
	Month & Year											
	JUN 21	JUL 21	AUG 21	SEP 21	OCT 21	NOV 21	DEC 21	JAN 22	FEB 22	MAR 22	APR 22	MAY 22
Activity	Summer 605			Fall 608 & 609				Finale Spring 612 & 621				
IMPLEMENTATION												
Disseminate marketing materials for participation recruitment.	Start May											
Conduct EB education												
DATA COLLECTION												
Disseminate and recover pre/posttests or other evaluation tools												
Provide incentive for returned data												
DATA ANALYSIS												
Analyze data: pre/posttest & questionnaires												
Share initial findings with stakeholders informally (verbal)												
DISSEMINATION												
Complete final SP Report												
Deliver Final Report at Last Executive Session												
Prepare poster presentation/article for publishing												
Final Report												

Appendix F

Outcomes Evaluation Table

Outcome	Data Collection Instrument /Data	Analysis Goal	Analytic Technique
1. By May 2021, an EB sexual health education curriculum was adapted and approved for piloting. (PO)	Data Collection is not required for this outcome. Curriculum selection and adaption is required. Project Image is the evidence-based sexual health curriculum chosen for this SP. Originally designed for minority girls in the San Antonio Metropolitan Health area, Project Image consists of workshops, support group sessions, and individual counseling sessions. Original author was contacted and volunteered to help adapt the curriculum (based on participant needs, considering social distancing measures) and participate in the educational session.	1. Curriculum was identified, adapted for online delivery, and approved by author or sponsoring organization.	Met/Unmet
2. By July 2021, at least one cohort of 4-8 students participated in piloting of EB sexual health education sponsored by Church (LTUMC) (CO)	Sign-in roster recorded by instructor/facilitator as online delivery will reduce wet signature capability.	2. Minimum number of 4 participants met. If more than 8 volunteers, then multiple cohorts will be scheduled to maintain small 4-8 person groups, gender specific. If less than 4 participants are met, audience parameters may be broadened to recruit more participants. This might include church congregants or other community groups in same target age.	Met/Unmet
3. By August 2021, 75% of participating students scored an at least an 80% **or better** in STI knowledge on the posttest questionnaire. (CO)	**Quantitative** Data instrument: The Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ) is a 27-item validated STI/STD knowledge tool using a scale of True/False/Don't Know. The STD-KQ covers a wide range of bacterial and viral STI's including four questions about the human papillomavirus (HPV) and will be delivered pre and post intervention. A sample of the questions are:	3a. To measure participant knowledge about STD/STI's. 3b. To compare STI knowledge before the educational intervention and after the intervention. 3c. To determine if the educational intervention was effective.	Quantitative descriptive statistics: Pre-test scores were noted to be baseline knowledge scores and compared to post-test scores following the intervention.

	– Genital Herpes is caused by the same virus as HIV. – HPV is caused by the same virus that causes HIV. – There is a cure for Chlamydia. – A woman who has Genital Herpes can pass the infection to her baby during childbirth. – HPV can lead to cancer in women. – STDs can lead to health problems that are usually more serious for men than women. – A woman can tell that she has Chlamydia if she has a bad smelling odor from her vagina. – If a person had Gonorrhea in the past, he or she is immune (protected) from getting it again. Methods: The original one-page questionnaire was uploaded into on an online survey tool (e.g., Qualtrics) to decrease manual data transcription for analysis delivered pre and post intervention. Distinctive labels for the pre and post questionnaires were required to ensure that they were distinguishable from each other (e.g., KQ-A vs KQ-B). Mean scores were calculated for pre and post questionnaires, separated by cohorts (if multiple).		
4. By August 2021, 50% of unvaccinated participants expressed a positive attitude toward getting vaccinated against HPV. (CO)	**Quantitative** Data instrument: The 16-item vaccina*T*ion & *H*pv *K*nowledge (THinK) questionnaire uses a 5-level Likert scale (Yes, Much, Somewhat, Little, No). Only the 3 following THinK questions were used: – Q 14. Would you be willing to get vaccinated against HPV? – Q 15. Do you consider it useful asking your partner to get vaccinated against HPV? – Q16. Do you want to receive information about HPV vaccinations? These three questions were found, in an exploratory factor analysis, to measure the domain of attitude to be vaccinated against HPV. Questions measuring the other two domains, knowledge of HPV infection and	4a. To measure attitude to be vaccinated against HPV. 4b. To identify obstacles preventing HPV vaccination.	Quantitative descriptive statistics Quantitative: The THinK questionnaire questions selected provided descriptive statistics that measured participants attitude, to get vaccinated against HPV. This data, collected following the intervention, will provide amplifying HPV data not included in the STD-KQ. This might be the first use of the THinK validated tool in a practice-based SP. Qualitative: The added open-ended question will provide clarifying

	knowledge about vaccines were excluded to keep the total number of questions to a reasonable number. Methods: THinK question set was administered at the end of the project following the educational intervention. Questions were loaded into an electronic survey system to decrease manual data entry and analysis and titled "THinK Survey" so that it was separate from the STD-KQ tool. **Qualitativ**e Data instrument: the following original open-ended question, designed to explore obstacles or variables preventing HPV vaccination: – What are the obstacles preventing HPV vaccination? Methods: Participants will be encouraged to list as many obstacles as necessary when the question is administered only after the intervention, with data captured on a 3x5 index card, provided in project box prior to project commencement. Responses made by participants concerning someone they know, like a family member or friend, will be included. This will be collected (flashed onscreen for immediate sharing, but also requested to be mailed back with self-addressed stamped envelope), entered in a database, and grouped into descriptive categories like socioeconomic, transportation, or cultural/ethical beliefs.		descriptive details on influences affecting HPV vaccination.
5. At Least 50% of participants responded to a question on their likelihood to have unprotected sex after attending community program at Church (LTUMC) by August 2021.	**Quantitative** Data instrument: No validated tool was used as this question was original and specific to the sponsoring faith-based organization. Designed to measure the likelihood to engage in unprotected sex before and after the program, one question used the following three descriptive words: more, same, less. The question will be delivered at the conclusion of education program:	5a. To determine participants' likelihood to engage in a self-destructive behavior. 5b. To generate knowledge about the influence of participation in a community outreach program hosted at the faith-based organization.	Quantitative descriptive statistics: Data was calculated and separated by cohorts (as needed). Results were displayed for ease of stakeholder use.

	Compared to having unprotected sex before this program, I am _____ likely to engage in unprotected sex. *Choose one: LESS, SAME, MORE Methods: The sponsor specific question was added to the post-test questionnaire using that same online tool to that decreased manual data transcription.	5c. To provide customized feedback to the hosting stakeholder on the impact of the SP.	

Appendix G

The Sexually Transmitted Disease Knowledge Questionnaire (STD-KQ)

The Sexually Transmitted Disease Knowledge Questionnaire
(STD-KQ; Jaworski & Carey, 2007)

Instructions: For each statement below, please circle true (T), false (F), or I don't know (DK). If you don't know, please do not guess; instead, please circle DK.

		True	False	Don't Know
1.	Genital Herpes is caused by the same virus as HIV.	T	F	DK
2.	Frequent urinary infections can cause Chlamydia.	T	F	DK
3.	There is a cure for Gonorrhea.	T	F	DK
4.	It is easier to get HIV if a person has another Sexually Transmitted Disease.	T	F	DK
5.	Human Papillomavirus (HPV) is caused by the same virus that causes HIV.	T	F	DK
6.	Having anal sex increases a person's risk of getting Hepatitis B.	T	F	DK
7.	Soon after infection with HIV a person develops open sores on his or her genitals (penis or vagina).	T	F	DK
8.	There is a cure for Chlamydia.	T	F	DK
9.	A woman who has Genital Herpes can pass the infection to her baby during childbirth.	T	F	DK
10.	A woman can look at her body and tell if she has Gonorrhea.	T	F	DK
11.	The same virus causes all of the Sexually Transmitted Diseases.	T	F	DK
12.	Human Papillomavirus (HPV) can cause Genital Warts.	T	F	DK
13.	Using a natural skin (lambskin) condom can protect a person from getting HIV.	T	F	DK
14.	Human Papillomavirus (HPV) can lead to cancer in women.	T	F	DK
15.	A man must have vaginal sex to get Genital Warts.	T	F	DK
16.	Sexually Transmitted Diseases can lead to health problems that are usually more serious for men than women.	T	F	DK
17.	A woman can tell that she has Chlamydia if she has a bad smelling odor from her vagina.	T	F	DK
18.	If a person tests positive for HIV the test can tell how sick the person will become.	T	F	DK
19.	There is a vaccine available to prevent a person from getting Gonorrhea.	T	F	DK
20.	A woman can tell by the way her body feels if she has a Sexually Transmitted Disease.	T	F	DK
21.	A person who has Genital Herpes must have open sores to give the infection to his or her sexual partner.	T	F	DK
22.	There is a vaccine that prevents a person from getting Chlamydia.	T	F	DK
23.	A man can tell by the way his body feels if he has Hepatitis B.	T	F	DK
24.	If a person had Gonorrhea in the past he or she is immune (protected) from getting it again.	T	F	DK
25.	Human Papillomavirus (HPV) can cause HIV.	T	F	DK
26.	A man can protect himself from getting Genital Warts by washing his genitals after sex.	T	F	DK
27.	There is a vaccine that can protect a person from getting Hepatitis B.	T	F	DK

Appendix H

Measurement Questions

ST #4: Questions measuring attitude toward HpV vaccination: Questions 14-16 from the vaccina*T*ion & *H*pv *K*nowledge (THinK) questionnaire (Matranga et al., 2019)	**ST #5:** Personalized question developed for the church
14. Would you be willing to get vaccinated against HPV? ▪ Yes ▪ Much ▪ Somewhat ▪ Little ▪ No 15. Do you consider useful asking your partner to get vaccinated against HPV? ▪ Yes ▪ Much ▪ Somewhat ▪ Little ▪ No 16. Do you want to receive information about HPV vaccination? ▪ Yes ▪ Much ▪ Somewhat ▪ Little ▪ No	1. Compared to having unprotected sex before this program, I am _____ likely to engage in unprotected sex. Circle one: LESS SAME MORE

Appendix I

Scholarly Project Expense Report

					Grand Total	($	4,802.00)
Expense Category	**Expense Description**	**Explanation of Expense**	**Type of Cost (variable/fixed)**	**Volume**	**Cost per Unit**		**Total**
Personnel	Project Leader	1 project leader responsible for oversight and execution of SP, including serving as secondary educator for two-person team. Hourly rate based on average rate of embedded nurse in the church.	Variable	80 hrs X 1 RNs=80 hrs	$35/hr	($	2,800.00)
Personnel	RN Educator wages	1 educator that will be providing EB comprehensive sexual health curriculum. Hourly rate based on experienced educator rate.	Variable	15 hrs X 1 educator	$50/hr	($	750.00)
Personnel	Support Staff	1-2 volunteers to assist with marketing Wage based on TX minimum wage ($7.25)	Variable	4 hrs x 2 cooks	$8/hr	($	64.00)
Material & Supplies	Curriculum	. Project Image -Basic Set	Fixed	1 basic set	$449.99/set	($	450.00)
Material & Supplies	Office consumables: paper, pens, markers, sticky notes	Basic supplies for use before and during intervention.	Fixed	1 ream of paper, 2 packs	$35/set	($	35.00)
Space	Facility Use Fee	Classroom or lounge space for face-to-face sessions, based on hourly rental fee. Includes AV equipment use.	Fixed	6 hrs	$50/hr	($	300.00)
IT Platform	Synchronous online service	Alternate plan due to pandemic: use online platform to teach classes virtually using online platform.	Fixed	1 service fee, with secured coverage	$50/service	($	50.00)
Marketing/Advertising	Email notices /website ads	Emails based on distrolist, ads added to church pages. Created by project leader or volunteer based on TX minimum wage.	Fixed	2 hours for creation and	$8/hr	($	16.00)
Incentive	Food	1 meal for the in-person sessions, can be up to 2 workshops, 3 focus groups (if F2F allowed)	Variable	1-4 meals	$30/meal	($	120.00)
Data Collection	Online survey tool	Possibly Survey Monkey for data collection, or other like product.	Variable	6 months	$23/month	($	138.00)
Data Collection	Secured storage	cloud based service for maintaining data, based on flat fee for annual subscription	Fixed	1/yr.	$79/yr.	($	79.00)

Appendix J

Scholarly Project 3-Year Budget Plan

Yearly Totals:	**$ 4,802.00**	**$ 1,852.00**	**$ 1,852.00**	
Expense Category	**Year 1**	**Year 2**	**Year 3**	
Personnel	$ 3,614.00	$ 1,114.00	$ 1,114.00	Pilot yr. 1 with 1 RN (Church Nurse equivalent @$35/hr rate for x80 hours) and 1 experienced STI educator (@$50/hr rate for 15 hours), plus support staff. Follow on years with 2&3 RN/Church nurse staff equivalents (35/hr x 15hours) + support staff.
Material & Supplies	$ 485.00	$ 35.00	$ 35.00	Curriculum already purchased. Refill packs (condom, pamphlets in 50 pack, not expected until year 4 or later due to small cohort expected)
Space	$ 300.00	$ 300.00	$ 300.00	Fixed fee for in person classes. Online courses negate space fee for years delivered online.
IT Platform	$ 50.00	$ 50.00	$ 50.00	fixed fee for online and optional follow-on sessions
Marketing/Advertising	$ 16.00	$ 16.00	$ 16.00	fixed fee, may decrease if social medial used
Incentive	$ 120.00	$ 120.00	$ 120.00	fixed fee for food, in case of f2f classes
Data Collection	$ 217.00	$ 217.00	$ 217.00	Fixed fee assumed same reporting costs to report to stakeholders and supports publication.

Appendix K

Statement of Operations

Statement of Operations		
Operating Income		**$ -**
	Revenue Total	**$ 4,802.00**
Source	**Description**	**Amount**
Volunteers- individual hourly wage	In kind support of 1 RN, and 2 cooks	$ 814.00
Grant or individual donor	EB curricula developed in Metro San Antonio for similar population ($450) and food ($120)	$ 570.00
DNP Candidate	Time/wage, office supplies, marketing, data collection	$ 3,068.00
Church	Facilities	$ 300.00
Embedded faith-based nurses (part of larger healthcare system)	IT platform (HIPPA compliant/secured)	$ 50.00
	Expenses Total	**$ 4,802.00**
Expenses	**Description**	**Amount**
Personnel	1 RN, 1 educator, 2 cooks (hourly wage)	$ 3,614.00
Material & Supplies	curriculum & supplies	$ 485.00
Space	church facilities	$ 300.00
IT Platform	secured, synchronous platform	$ 50.00
Marketing/Advertising	flyers/newsletter, likely online	$ 16.00
Incentive	food	$ 120.00
Data Collection	survey tool & storage	$ 217.00

Appendix L

IRB Letter of Determination

BOISE STATE UNIVERSITY
RESEARCH AND ECONOMIC DEVELOPMENT
Research Compliance

Date: April 23, 2021

To: Cara Gallegos **cc:** Neva R. Fuentes

From: Social & Behavioral Insitutional Review Board (SB-IRB)
c/o Office of Research Compliance (ORC)

Subject: SB-IRB Notification of Approval - Original - 186-SB21-075
Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project

The Boise State University IRB has approved your protocol submission. Your protocol is in compliance with this institution's Federal Wide Assurance (#0000097) and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Protocol Number: 186-SB21-075	Received: 4/21/2021	Review:	Expedited
Expires: 4/22/2022	Approved: 4/23/2021	Category:	6, 7

Your approved protocol is effective until 4/22/2022. To remain open, your protocol must be renewed on an annual basis and cannot be renewed beyond 4/22/2024. For the activities to continue beyond 4/22/2024, a new protocol application must be submitted.

ORC will notify you of the protocol's upcoming expiration roughly 30 days prior to 4/22/2022. You, as the PI, have the primary responsibility to ensure any forms are submitted in a timely manner for the approved activities to continue. If the protocol is not renewed before 4/22/2022, the protocol will be closed. If you wish to continue the activities after the protocol is closed, you must submit a new protocol application for SB-IRB review and approval.

You must notify the SB-IRB of any changes to your approved protocol and the committee must review and approve these changes prior to their commencement. You should also notify the committee if your activities are complete or discontinued.

Current forms are available on the ORC website at http://goo.gl/D2FYTV

Please direct any questions or concerns to ORC at 426-5401 or humansubjects@boisestate.edu.

Thank you and good luck with your research.

1910 University Drive Boise, Idaho 83725-1139
Phone (208) 426-5401 orc@boisestate.edu

Appendix M

IRB Modification

BOISE STATE UNIVERSITY
RESEARCH AND ECONOMIC DEVELOPMENT
Research Compliance

Date: July 22, 2021

To: Cara Gallegos cc: Neva R. Fuentes

From: Social & Behavioral Insitutional Review Board (SB-IRB)
c/o Office of Research Compliance (ORC)

Subject: SB-IRB Notification of Approval - Modification - 186-SB21-075
Implementing Sexual Health Education for At-Risk High School Students in a Faith-Based Setting: A Pilot Project

The Boise State University IRB has approved your proposed modifications to your protocol application. Your protocol is still in compliance with this institution's Federal Wide Assurance (#0000097) and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Protocol Number: 186-SB21-075 Received: 7/16/2021 Review: Expedited
Expires: 4/22/2022 Approved: 7/22/2021

This approval does not extend or change your protocol's current expiration date noted above.

You must notify the SB-IRB of any additional changes to your approved protocol using the Biosafety Protocol Update form. The SB-IRB must review and approve the modifications before they can begin.

All forms are available on the ORC website at http://goo.gl/D2FYTV

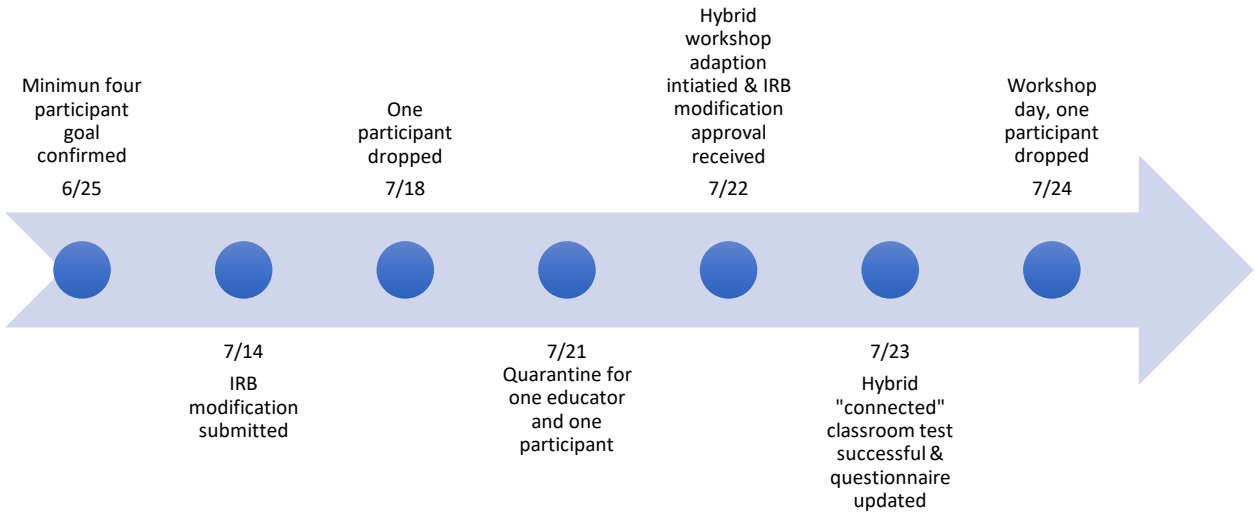
Please direct any questions or concerns to ORC at 426-5401 or humansubjects@boisestate.edu.

Thank you and good luck with your research.

1910 University Drive Boise, Idaho 83725-1139
Phone (208) 426-5401 orc@boisestate.edu

Appendix N

Significant Project Dates



Appendix O

Group Summary All Data

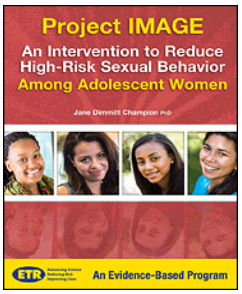
Group Summary Data - Pre-Post Project Image Pilot Results

			Pre-Test (*n* = 4)		Post-Test (*n* = 4)	
Variable	**Items & Scale**	**Possible Scoring**	**M**	**SD**	**M**	**SD**
Knowledge about sexually transmitted infections (STD-KQ questionnaire)	27 items, True/False/Don't know questions; Correct answers coded as 1, incorrect coded as 0, Don't Know coded as 0, Blank coded as 0	0-27	**16.50**	**2.65**	**20.75**	**4.11**
Attitude toward vaccination against HPV (three questions from THinK questionnaire)	3 items, Yes/Much/Somewhat/ Little/No questions; Yes, coded as 4, Much coded as 3, Somewhat coded as 2, Little coded as 1, No coded as 0, blank coded as 0	0-12	**11.5**	**1**	**11**	**2**
Likelihood to engage in unprotected sex	1 item, Less/Same/ More question; Less answers coded as 1, Same coded as 0, More coded as 0, blank coded as 0	0-1	N/A	N/A	**1**	**0**

Appendix P

Project Image Curriculum

Project IMAGE



Project IMAGE is a cognitive-behavioral intervention intended to reduce high-risk sexual behavior and sexually transmitted infections (STIs) among ethnic minority adolescent women with a history of psychological, sexual or physical abuse and STIs. The intervention draws on health-promoting elements of African- and Mexican-American culture to help adolescents recognize the risks of STI acquisition and learn strategies to reduce sexual risk behavior. The program is comprised of workshops, support group sessions and individual counseling sessions.

Category	Program Features
Setting	Clinic based
Program Length	12.5–18 hours/year | 1 year 2 workshop sessions, 3 group sessions, 2 individual counseling sessions
Age Group	Ages 14–18 May be used with ages 12–13 who meet population criteria
Look Inside	Table of Contents Sample Activity BUY NOW

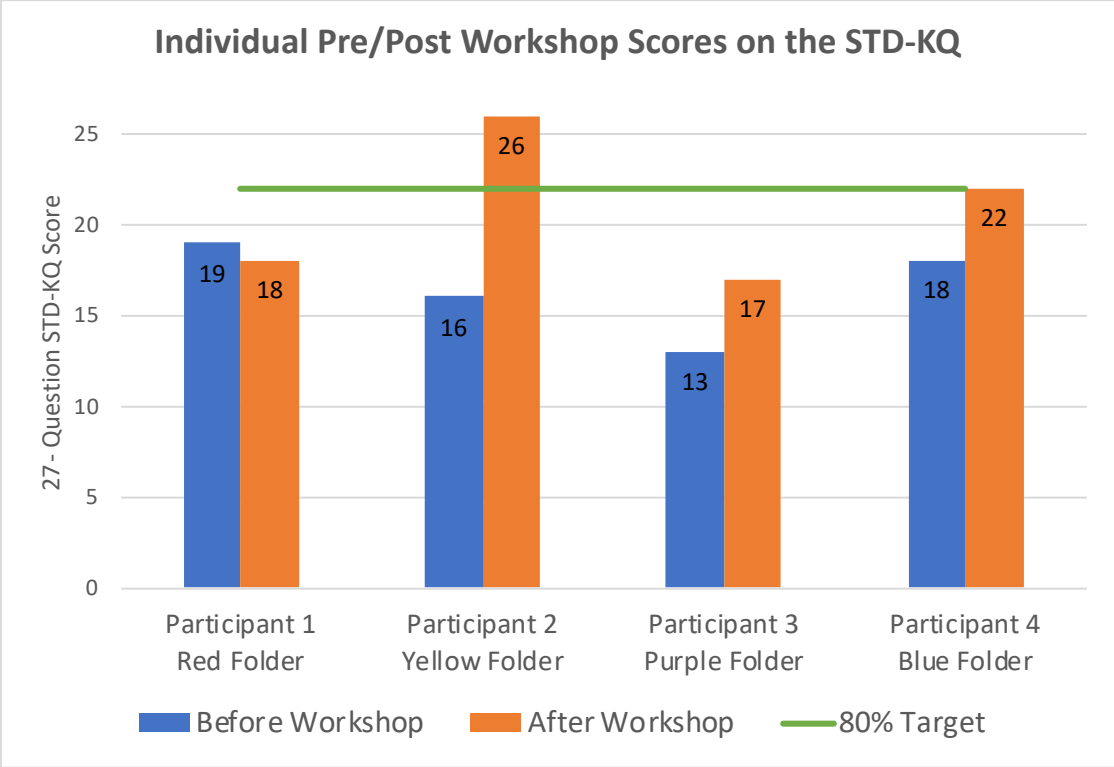
Description

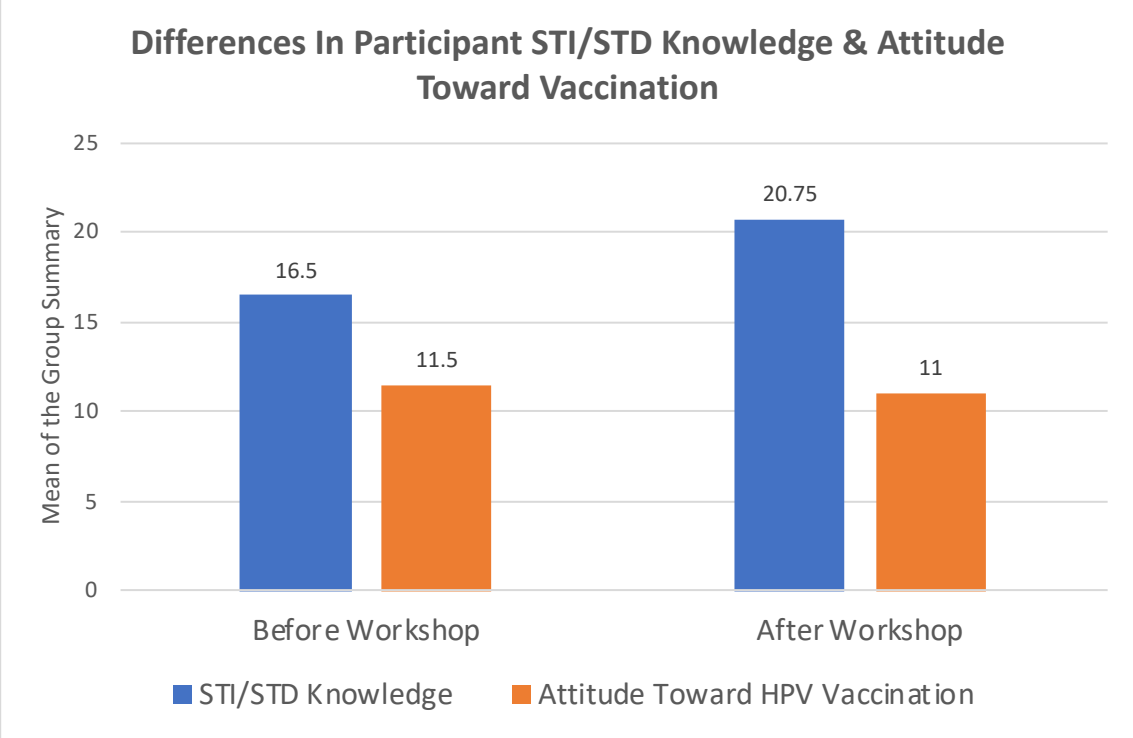
The *Project IMAGE* adaptation is for use with adolescents with a history of STIs and abuse, and draws on health-promoting elements of African- and Mexican-American culture to help adolescents recognize the risks of STI acquisition and learn strategies to reduce sexual risk behavior. The intervention includes three components:

1. **Workshop Sessions**— Each of the two workshop sessions lasts 3 to 4 hours and is delivered to small groups of four to eight adolescent females by a trained facilitator. The workshop sessions are conducted using the principles of motivational interviewing and focus on the following topics:
   - *Session 1: Awareness and Perception of Risk* helps participants recognize the risks of STIs. They receive information on disease transmission and protection methods and strategies.
   - *Session 2: Commitment to Change: Strategies to Reduce Risk Behavior* provides participants with information on sex, drugs, STIs, HIV, contraception, and how to prevent infection and unintended pregnancy. They also learn how to make decisions about sex and improve communication skills.
2. **Support Group Sessions**—About a week after completing the two workshop sessions, participants are invited to attend a series of three support group sessions. The weekly 1.5- to 2-hour sessions are led by a trained facilitator who uses principles of motivational interviewing to discuss topics such as interpersonal relationships, contraceptive use, and health risk behaviors. The topics and discussion are tailored to the particular needs of each group.
3. **Individual Counseling Sessions**—In addition to participating in the group-based workshops and support group sessions, each program participant may receive two or more individual counseling sessions. These individual sessions are initiated by the participant and conducted by a trained facilitator. Each session focuses on the expressed needs of the participant and may include referral to other services.

Appendix Q

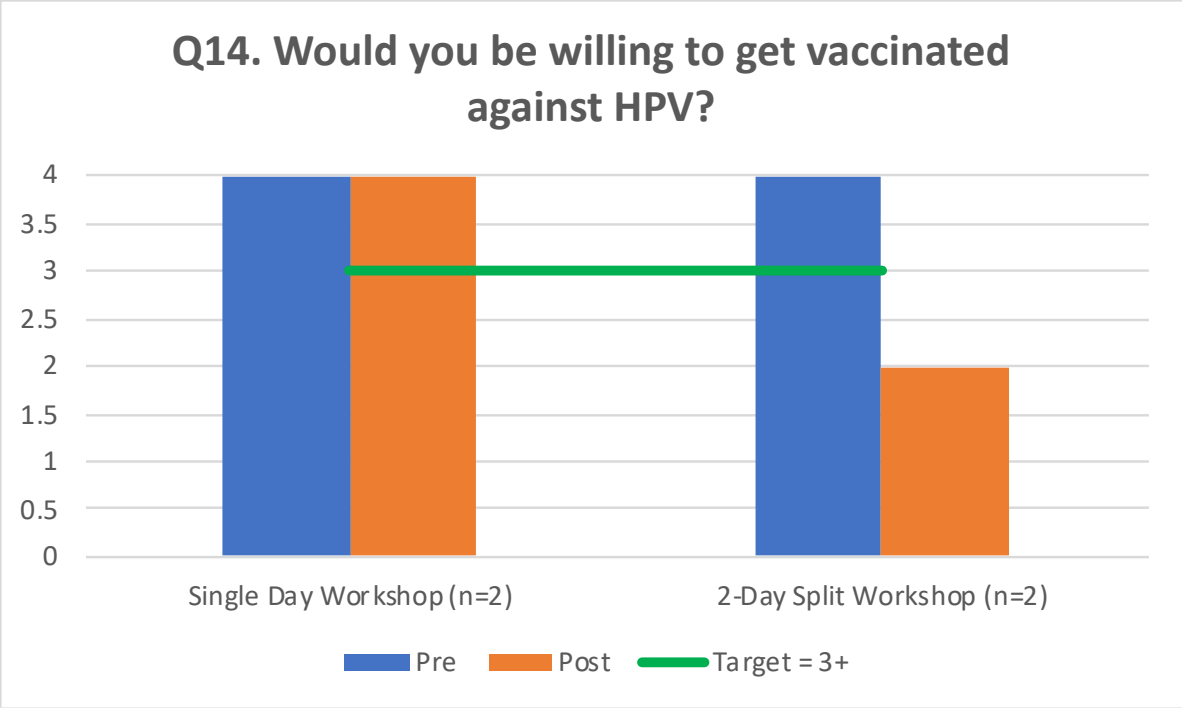
Mean Scores & Differences

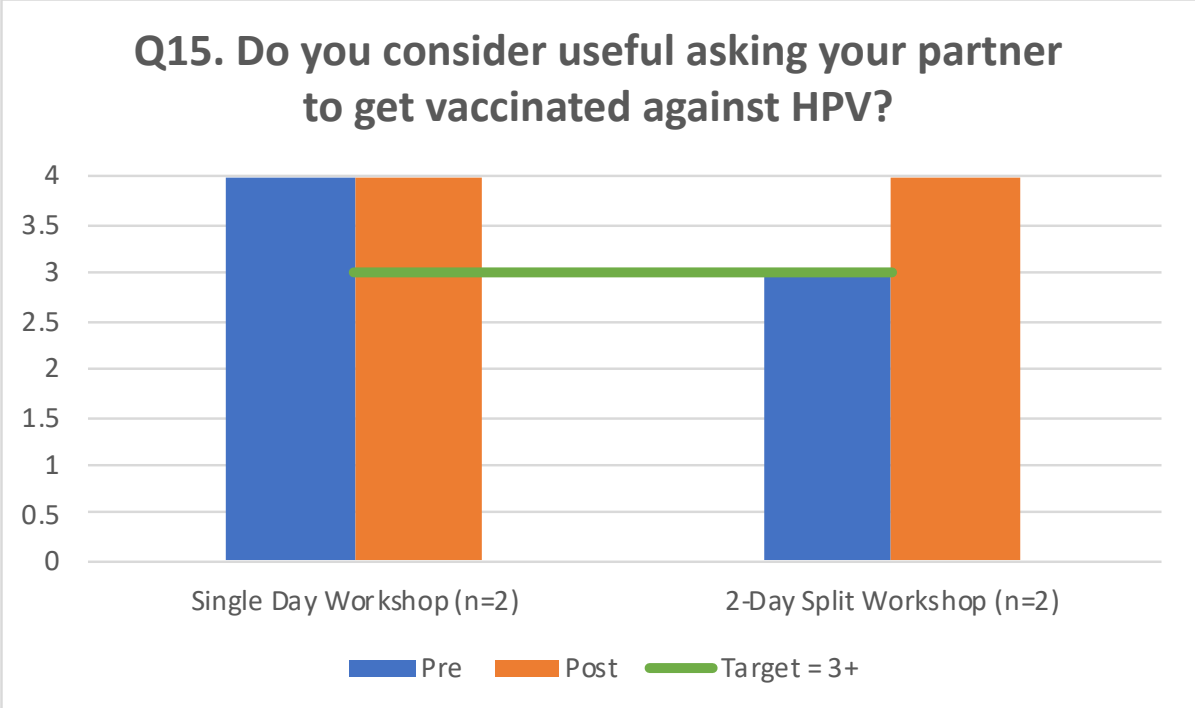




Appendix R

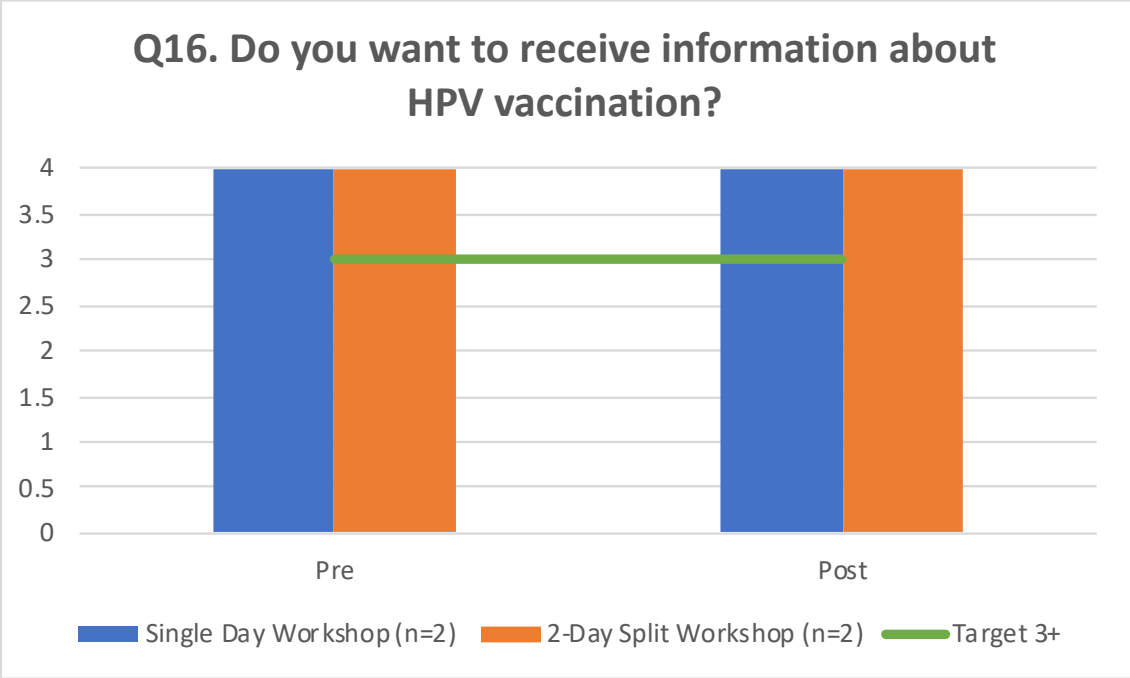
HPV Charts

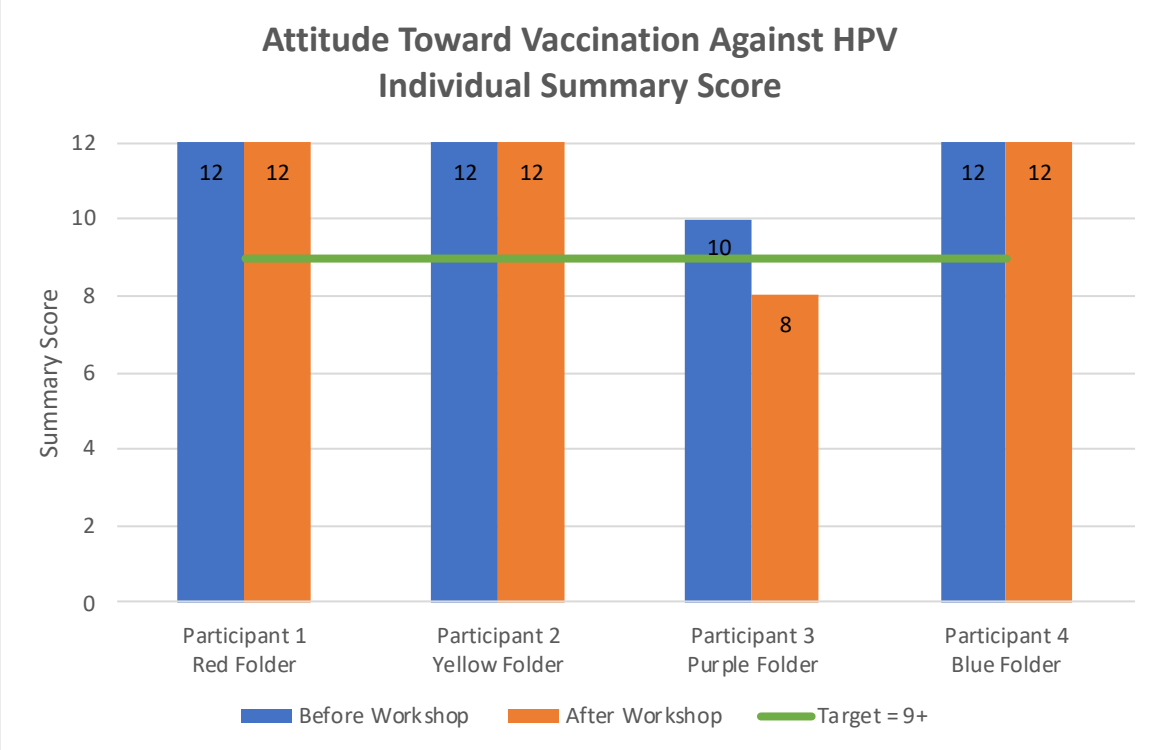




Appendix R (Continued)

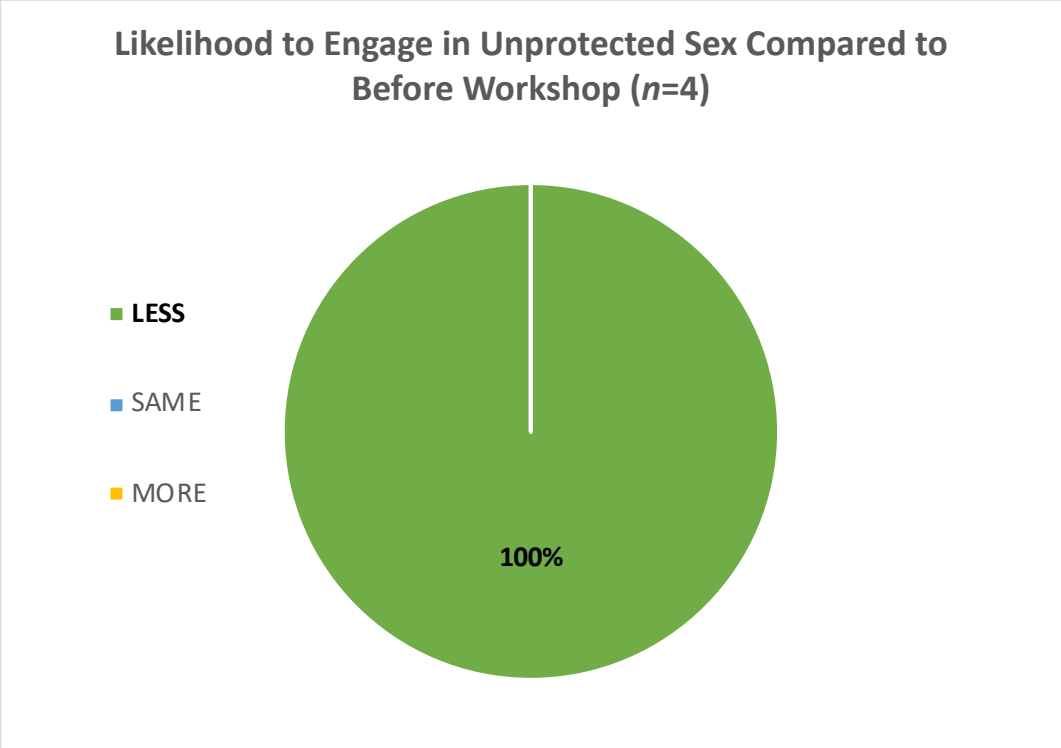
HPV Charts





Appendix S

Question for the Stakeholder



Appendix T

STI Response Trend