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Support for Comprehensive Sexuality Education and Adolescent Access to Condoms and Contraceptions in South Carolina

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SUPPORT FOR COMPREHENSIVE SEXUALITY EDUCATION AND ADOLESCENT ACCESS TO
CONDOMS AND CONTRACEPTION IN SOUTH CAROLINA

by

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DEDICATION

This dissertation is dedicated to all of my family, friends and mentors who supported me, loved me, pushed me, cried with me, and poured me wine throughout this long process. I will never be able to express my gratitude sufficiently. All of my love.

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I would like to thank my heavenly Father for guiding me through this process and giving me the strength to persevere; it is because of Him that all of this is possible.

To my husband, Lee, you have been my rock, my best friend, and partner-in-crime since we were 15, thank you for believing in me when I didn't believe in myself.

To my sweet baby boy, Mac, you can do anything you set your big head to do. You're stubborn like your mama and don't let anyone tell you otherwise. Never give up.

To my "mumma," you are the best friend that every girl dreams of and the mother that every girl prays for. Thank you for all the hours on "Mac Duty" when I needed to write and thank you for your unconditional love and support.

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ABSTRACT

A statewide random-digit dialed telephone survey was administered to residents of a historically conservative southern state to 1) assess the level of support for comprehensive sexuality education (CSE) in public schools, 2) assess the support for availability to condoms and contraception as an effective strategy for reducing unintended pregnancies and sexually transmitted (STIs) among adolescents and 3) assess the perceived view of reproductive health as a moral or public health issue.

Survey data were obtained from 841 South Carolina residents May through June 2013. Findings from the study revealed that the majority (90%) of South Carolina residents support CSE in public schools, and 71% support access to birth control and condoms as an effective strategy for decreasing pregnancies and STIs among adolescents. Data were analyzed to determine characteristics of the population in support of CSE and adolescent availability to condoms and contraception as a prevention strategy to reduce pregnancies and STIs. Results demonstrated that the largest percentage (33%) of respondents viewed the issue of reproductive health as a moral issue instead of a public health.

These research findings underscore the importance of health promotion strategies to inform the general public on the effectiveness of CSE and increasing access to reliable forms of contraception for sexually active adolescents. Using data-driven health promotion strategies to educate the general public about the effectiveness of these strategies can influence the level of support for these strategies and ultimately impact policies that will help to decrease the rates of unplanned pregnancy among adolescents.

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CHAPTER 1

INTRODUCTION

Over the last few decades, legislators have increasingly enacted policies that aim to reduce risky behaviors that are associated with chronic infections and conditions such as smoking cessation programs and seatbelt laws (Baum & Fisher, 2014). In spite of this progress, there are several policies and concomitant funding streams that support contradictory approaches (i.e., the support of abstinence-only programs versus Comprehensive Sexuality programs) to reduce risky sexual behaviors among adolescents.

Comprehensive Sexuality Education (CSE) is defined as “programs which teach about abstinence as the best method for avoiding sexually transmitted infections (STIs) and unintended pregnancy, but also provide medically accurate information about contraceptives and condoms, thus promoting abstinence along with protective behaviors to reduce the risk of unintended pregnancy and infection with STIs, including HIV” (Advocates for Youth, 2001; Eisenberg, Bernat, Bearinger, & Resnick, 2008).

Whereas, *Abstinence Only until Marriage Education* (“*abstinence-only*”) is defined as “programs which teach abstinence as the only morally correct option of sexual expression for teenagers” (Advocates for Youth, 2001). Abstinence-only education refers to HIV and STIs as reasons to abstain from sex but does not discuss any other ways to prevent the spread of infections (Collins, Alagiri & Summers, 2002). Only a few abstinence-only curricula have demonstrated positive behavioral findings and even fewer studies have met the federal Title V guidelines of the Social Security Act which

established a new funding stream to provide grants for abstinence-only-until-marriage programs (Bleakley, Hennessey & Fishbein, 2006; Jemmott, Jemmott & Fong, 2010; Waxman, 2004). Abstinence-only programs tend to censor information about contraception and condoms for the prevention of unintended pregnancy and STIs (Advocates for Youth, 2001). Further, research has shown that the content of abstinence-only curricula has been demonstrated to include inaccurate information about contraception, harmful gender stereotypes, false information about abortion, and blurs the line between religious beliefs and factual science (Waxman, 2004).

South Carolina should be applauded for being one of only twenty-two states that mandates sex and HIV education in schools since the development of the Comprehensive Health Education Act (CHEA) in 1988 (Guttmacher, 2015). However, the CHEA does not require education to be: medically accurate, culturally appropriate and unbiased, or free of religious doctrine which results in variations in content among the 86 school districts in the state (Guttmacher, 2015).

South Carolina currently receives federal funding for both abstinence-only programs and CSE programs in schools. Research is quite clear that CSE does not encourage sexual activity and, in fact, delays the onset of first intercourse (Kirby, 2001, 2007; Manlove, Papillo, & Ikramullah, 2004). To date, only a few abstinence-only programs have shown to delay first intercourse (Jemmott et al., 2010). Therefore, these opposing approaches send mixed messages to young people and to the general public.

While South Carolina receives over \$4 million annually to successfully implement CSE programs in communities and public schools (OAH, 2013), 75% of public schools in the state are not in compliance with at least one of the six measurable

requirements of the reproductive health education components of the CHEA due to local control and supervision (Wiley, Wilson & Zenger, 2013). Research has continued to document that CSE programs can delay initiation of sex, reduce frequency of sex, reduce the frequency of unprotected sex and reduce the number of sexual partners (Kirby, 2001, 2007; Manlove et al., 2004).

Synthesis of the literature suggests research is needed to further investigate factors informing advocacy and policy efforts related to adolescent reproductive health, the purpose of this study is to investigate whether South Carolina residents' public preferences are represented in current policy by assessing 1) the level of support for CSE, 2) the level of support for availability to condoms and contraception in communities and schools, and 3) the general public's perceived view of reproductive health. The research questions were as follows: 1) how do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians support for CSE?, 2) how do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs?, and 3) how do personal values correlate with the view of reproductive health?

This study is organized into five chapters to include: review of literature (Chapter 2), research design and methodology grounded in the Thermostatic Model of Public Opinion (Chapter 3), analyses of research questions presented in two manuscripts (Chapter 4), and implications based on findings (Chapter 5).

Study findings will be useful for supporting the current CHEA policy and policies regarding adolescent availability to condoms and contraception. Findings should be used

to inform policy makers, key stakeholders and community advocates, to support the reformation of policies so that public opinion is accurately represented in current policies. Results can be used to evaluate current policies and tailor health advocacy strategies to fit the preferences of the general public. Additionally, data should be used to inform the general public about these issues so that policies can be developed and supported to address the factors related to adolescent pregnancy and the transmission of HIV/STIs.

CHAPTER 2

BACKGROUND AND SIGNIFICANCE

2.1 PROBLEM STATEMENT: EPIDEMIOLOGY OF TEEN BIRTHS

Adolescent risk-taking and sexual risk-taking can have serious implications for HIV, STI transmission and unintended pregnancy. Although the most recent teen birth rate has reached a historic low, the U.S. teen birth rate remains one of the highest rates among other industrialized countries (Hamilton & Ventura, 2014). The most recent national data (2013) indicate that 274,641 infants were born to teens age 15 to 19, yielding a live birth rate of 26.6 per 1,000 population (Ventura, Hamilton, & Mathews, 2014).

In South Carolina, despite a 54% decline in the overall teen birth rate since 1992 and a 68% decline among younger teens (15-17 year olds) since 1992, the state still ranks 13th in the nation for the rate of births among adolescents (defined as teens age 15-19 years old), yielding a birth rate of 31.6 per 1,000 females (SC DHEC, 2014). Approximately 4,759 teens (age 15-19) in South Carolina gave birth in 2013 and 25% of all births were repeat births (SC DHEC, 2014).

According to the 2013 South Carolina Youth Risk Behavior Survey (YRBS), high school students were slightly more likely to engage in sexual intercourse (47.5%) compared to youth nationally (46.8%) (CDC, 2014). Risky sexual behaviors can not only lead to unwanted pregnancies, but also to the acquisition of HIV/STIs (Kirby, 2007; National Campaign, 2005; Romero, Galbraith, Wilson-Williams, & Gloppen, 2011).

Of the total 15 million new cases of STIs diagnosed each year in the United States, a disturbing 10 million occurred among the adolescent age group (Sales et al., 2012). STI's have been linked to an increased risk of infertility, miscarriages, cervical cancer, and HIV transmission (Trenholm et al., 2007).

Additional factors associated with unplanned pregnancy among adolescents include low socio-economic status, family structure, peer norms, and relationship type (American Academy of Pediatrics, 2013; Prather et al., 2006). Low-income females are less likely to use condoms than females with higher incomes, which may be attributable to a lack of affordability among this population (Wingood & DiClemente, 2000). Limited availability and availability to condoms and contraception are factors related to the high rates of unplanned pregnancies (Guttmacher, 2011; Hamilton & Ventura, 2014;). Lack of access to comprehensive health care may also increase these adolescent's exposure to STI's and HIV (CDC, 2011).

2.2 PROBLEM STATEMENT: PROBLEMS ASSOCIATED WITH TEEN BIRTHS

Unintended births among adolescents lead to a myriad of negative outcomes related to health, education and economic well-being (National Campaign, 2012). Teen mothers have higher rates of low birth weight babies and an increased rate of infant mortality than older mothers (National Campaign, 2012). The impact is also negative in terms of educational attainment; only 38% of teen mothers will receive a high school diploma by the time they are 22 years old (National Campaign, 2012). Children born to teen mothers are also at an increased risk of being less prepared to enter school and score significantly worse on measures of school readiness, including math and reading tests (National Campaign, 2012).

These births not only impact the well-being of the teen parent but also the economic well-being of the community; the cost of teen child-bearing in 2013 totaled \$166 million (SC DHEC, 2014). Over 60% of teen mothers receive public assistance benefits within the first year after their children was born, resulting in increased costs to taxpayers (National Campaign, 2012). Nationally, the total medical cost to taxpayers of unintended pregnancies ranges between \$9.6 and \$12.6 billion annually (National Campaign, 2012). From 1991-2008, South Carolina acquired approximately \$4.1 billion in direct costs for providing the following services to children born to teenage mothers; TANF, food stamps, housing assistance, foster care, juvenile justice (National Campaign, 2012). Due to the 27% reduction in teen childbearing between 1991 and 2008, taxpayers saved a total of \$127 million (National Campaign, 2012).

2.3 PREVENTION STRATEGIES

Despite recent data indicating the decrease in teen births, the current rates of sexual activity and negative health outcomes of risky sexual behaviors remains a significant public health concern (American Academy of Pediatrics, 2013). There are multiple factors associated with the issue of teen pregnancy (Kirby, 2007; Kirby & Lepore, 2007). Research recognizes that there are over 400 factors that influence teen sexual behavior leading to STIs, pregnancy and childbearing (Kirby, 2007; Kirby & Lepore, 2007). While it is impossible to address all 400 identified factors in one study, this study assessed public support for CSE and support for availability to condoms and contraception in communities and schools, given that both of these factors can be addressed through policy reform. The initiation of sexual activity at a younger age, in combination with the lack of effective training on how to properly use condoms when

engaging in sexual behaviors, are leading antecedents to unplanned pregnancy and the transmission of HIV/STIs (The National Campaign, 2006).

Numerous studies document the most effective way to reduce rates of STI's and unplanned pregnancy is to increase the intention to delay the onset of sexual behavior and to increase the percent of teens using condoms while engaging in sexual behaviors (Collins et al., 2002; Siebenbruner, Zimmer-Gembeck & Egeland, 2007; Talashek, Alba & Patel, 2005). Adolescents need relevant, medically accurate, age-appropriate information in order to have the capacity to make healthy responsible decisions about their sexual behaviors (Landry, Darroch, Singh & Higgins, 2003).

The steady decline in the teen pregnancy rate has been attributed to interventions focusing on delaying the initiation of sexual intercourse coupled with education about effective contraceptive techniques (Collins et al., 2002; The National Campaign, 2006). Since the peak of teen pregnancy in the United States in the early 1990's, interventions focusing on the importance of delaying sexual intercourse, negotiation skills, and skills to effectively use condoms have all contributed to the decline in the teen pregnancy rate over the last decade (Collins et al., 2002; Guttmacher, 2011).

2.4 HEALTH PROMOTION: DEFINITION, HISTORY AND PURPOSE

The Institute of Medicine (IOM) defines public health as “what we, as a society, do collectively to assure the conditions in which people can be healthy” (Faden & Shebaya, 2010; IOM, 2001). *Health Promotion*, a specialty within public health, has been defined as “the art and science of helping people discover the synergies between their core passions and optimal health, enhancing their motivation to strive for optimal health, and supporting them in changing their lifestyle to move toward a state of optimal health”

(O'Donnell, 2009). One specific type of health promotion is *behavioral health promotion*, which strategies are aimed at addressing a particular widely recognized behavior known to increase negative health outcomes, including smoking, excessive use of alcohol or other drugs, or engaging in risky sexual behaviors leading to STIs and unintended pregnancy (Davies & Macdowall, 2006).

In 1988, McLeroy and colleagues noted the dramatic increase in the public's interest to prevent disability and death by changing individual behaviors (McLeroy, Bibeau, Steckler & Glanz, 1988). However, this view was criticized as “victim-blaming” and accused of neglecting the importance of social influences on health among a population (McLeroy et. al, 1988). Green & Kreuter (2005) later concluded that in order to achieve health policies which impact the health of a population, both sides (individual-level factors and community-level factors) must be engaged.

There are at least four strategies within health promotion that address teen pregnancy and STIs/HIV: 1) abstinence-only education, 2) comprehensive sexuality education, 3) increased availability to condoms and contraception, and 4) health policy.

Abstinence-Only Education

Abstinence-only education is more modest and often times presents information that is biased, misleading and inaccurate (Collins et al., 2002). It incorporates discussion of values, character building and refusal skills. This type of education promotes abstinence-only behaviors and does not acknowledge that teens are having sex or will be having sex in the future (Collins et al., 2002). It does not discuss any contraception or abortion (Collins et al., 2002). Abstinence-only education refers to HIV and STI's as

reasons to abstain from sex but does not discuss any other ways to prevent the spread of infections (Collins et al., 2002).

Abstinence-only education has a lack of support among the scientific researchers due to the fact that this type of education has shown no significant decrease in teenage pregnancies, HIV/AIDS rates, and STIs (Bleakley et al., 2006). Only a few abstinence-only curricula have been evaluated and even fewer studies have met the Title V guidelines of the Social Security Act which established a new funding stream to provide grants for abstinence-only-until-marriage programs (Bleakley et al., 2006; Jemmott, Jemmott & Fong, 1998).

Abstinence-only programs have been evaluated substantially less than more CSE approaches (Bleakley et al., 2006). A review of abstinence-only programs concluded “there do not currently exist any abstinence-only programs with strong evidence that they either delay sex or reduce teen pregnancy” (Kirby, 2002). Cost, social environment, and a perceived “prejudice” against messages that only emphasize abstinence (e.g., religious/faith messages) are all reasons cited for the lack of more rigorous evaluations conducted to assess abstinence-only education (Bleakley et al., 2006). However, a randomized controlled trial of an abstinence-only curriculum indicated effects for delaying the initiation of sex 3 months post-intervention, but those effects disappeared by 6 months (Jemmott et al., 1998). Another study concluded that adolescents who committed to virginity pledges (i.e., commitments to remain abstinent until marriage based on religious beliefs about virginity) experienced a delayed onset of sexual behaviors but reported lower frequency of condom use at first intercourse (Bruckner & Bearman, 2005). These adolescents were also more likely to engage in oral and/or anal

sex instead of vaginal sex, and experienced the same rates of STIs as non-pledgers (Bruckner & Bearman, 2005). There are only a few abstinence-only programs that have significantly strong evidence of success and would be able to be generalized to a larger population (Jemmott et al., 1998; Kirby, 2006).

Comprehensive Sex Education

Research in the field suggests that abstinence-only education policy is ineffective in decreasing risky sexual behaviors (Kirby 2001, 2007; Trenholm et al. 2007), yet historically governmental funding have supported these programs (i.e., Community-Based Abstinence Education under the Bush administration in 2001). The recent large decline (68% since 1992) among school age adolescents (15-17 years old) underscores the positive impact that CSE is having on the sexual behaviors of adolescents (Kirby, 2001, 2007).

Given the recent funding allotted in 2010 for evidence-based teen pregnancy prevention initiatives by the Office of Adolescent Health (OAH), youth serving agencies have had the capacity to address adolescent sexual behaviors through medically accurate, age-appropriate CSE programs with fidelity (OAH, 2015). The OAH operates the Teen Pregnancy Prevention Program which supports replication of evidence-based teen pregnancy prevention programs as well as the development and evaluation of new and innovative approaches to prevent teen pregnancy (OAH, 2015).

The 35 programs listed on the OAH “approved list” have been shown, in at least one program evaluation, to have a positive impact on preventing teen pregnancies, STIs and/or sexual risk behaviors (OAH, 2015). Of the 35 programs on the list, only three are considered “abstinence education” while the remaining 32 are considered CSE and/or

youth development programs (OAH, 2015). The programs included on the list have multiple approaches, serve varying populations of adolescents in multiple settings and vary in the frequency and duration of lessons (OAH, 2015).

Each evidence-based TPP program was identified by the U.S. Department of Health and Human Services (HHS) TPP Evidence Review that used a systematic process for reviewing evaluation studies against a rigorous standard (OAH, 2015). The evidence review, first conducted in 2009 and most recently updated in February 2015, is led by the HHS Office of the Assistant Secretary for Planning and Evaluation (OAH, 2015). Once a program is added to the list, it still has to undergo a medical accuracy review to assess the medical validity of the content and ensure that the content is up to date (OAH, 2015). To date, only two of the three abstinence-only curricula has been reviewed for medical accuracy (OAH, 2015).

In 2001, the former US Surgeon General David Satcher brought much attention to this debate with a *Call to Action to Promote Sexual Health and Responsible Sexual Behavior* (US Public Health Service, 2001). This report underscored the importance of involving communities and individuals in a dialogue about sexuality and increasing educational interventions targeting responsible sexual behaviors (US Public Health Service, 2001). One essential component of this call to action was the need for CSE, specifically noting that programs need to include information on abstinence and contraception (IOM, 2001; Santelli & Ott, 2006). Moreover, CSE emphasizes abstinence from sexual behaviors and encourages students to delay sexual behaviors but also provides information on contraception, condoms and ways to prevent STIs and HIV (Kirby, 2001, 2007; Landry et al., 2003; Manlove et al., 2004).

Some form of sexual education is taught in almost every (93%) public school in the country and more than 95% of young adults age 15-19 report receiving some level of sexual education (Landry et al., 2003). However, the content of the sexuality education and whether the education would be considered abstinence-only versus comprehensive, varies widely (Landry et al., 2003). A study conducted in 2000 found that one in four teachers facilitating a sexuality education program had been instructed *not* to teach about contraception in their classes (Darroch, Landry, & Singh, 2000). Therefore, one-quarter of adolescents had not been informed on birth control methods and how to protect themselves against STIs and unplanned pregnancy.

Sex education often plays a significant role in building the capacity of adolescents to make healthy and responsible decisions about sexual behaviors, by providing them with the skills and knowledge they need to delay sexual initiation, to protect themselves and their partners when they do choose to become sexually active, and to engage in respecting relationships (Guttmacher, 2002). CSE first promotes abstinence from sex but acknowledges the reality that the majority of teens report being currently sexually active or will soon be sexually active (Collins et al., 2002). This type of education discusses values and decision making skills important to reducing risky sexual behaviors, in addition to contraception, condom use, STIs and HIV/AIDS (Collins et al., 2002). Research has shown that adolescents who received CSE were more likely to use a condom at first intercourse (American Academy of Pediatrics, 2013; Ellen, Adler, Gurvey, Millstein & Tschann, 2002).

CSE has been shown to be effective in decreasing STI's, delaying sexual intercourse and reducing the number of sexual partners (Collins et al., 2002, Kirby,

2002). CSE programs have been evaluated and have shown repeatedly the positive effects on sexual behaviors and decision making (Kirby, Laris, & Rolleri, 2005). Positive findings supported in rigorous evaluation of these curricula include: delay of sexual initiation, decrease in the number of sexual partners, reduce the frequency of sexual behaviors, increased use of condoms and contraception, reduction in teen pregnancy rates and reduction in STI rates among adolescents (Kirby et al., 2005). Research has shown that the level of support for a CSE program is correlated with the success of these programs (Rienzo, 1989).

One of the arguments used against CSE is that this form of education promotes sexual behaviors, however the evidence clearly supports that these programs do not increase sexual behaviors, even though they do encourage condom and contraceptive use (Kirby et al., 2005). Moreover, national organizations such as the American Academy of Pediatrics, American Medical Association and the National Academy of Sciences have all recommended that CSE be taught in schools (Landry et al., 2003). This form of education not only emphasizes abstinence as the most effective way to prevent unplanned pregnancy and STIs, but it also provides students with the knowledge and skills needed to protect themselves against negative health outcomes when they do become sexually active (Landry et al., 2003).

Availability of Condoms and Contraception

Although abstinence from sexual behaviors is the only completely successful method to avoid unplanned pregnancy and transmission of STIs, young people should be adequately prepared to protect themselves from these negative health outcomes when they do become sexually active (American Academy of Pediatrics, 2013). Condom

availability has been positively correlated with condom use and widespread distribution programs are being recommended by the Centers for Disease Control and Prevention (CDC) as a way to decreased teen births and the acquisition of STIs among teens (American Academy of Pediatrics, 2013). Research has shown that adolescents are more likely to use condoms consistently when condoms are perceived to be readily available (Ellen et al., 2002).

Rates of condom use have been strongly correlated with the enabling environmental factors of availability and accessibility (Hamilton & Ventura, 2014; Guttmacher, 2011). Programs aimed at increasing the availability of condoms have been reviewed in a variety of settings. In one study implemented in a Massachusetts high school, adolescents in schools where condoms were readily available were less likely to report lifetime or recent sexual intercourse, and sexually active adolescents were twice as likely to use condoms during their most recent sexual encounter (Blake et al., 2003). Further, clinic based interventions have been shown to increase condom use and decrease the prevalence of STIs among adolescents (Crosby, DiClemente, Charnigo, Snow & Troutman, 2009; DiClemente et al., 2009).

While the factors associated with condom use among adolescents are varied and complex, research has shown that one predictor is the adolescent's ability to easily obtain a condom prior to sexual behaviors (Bryan, Fisher & Fisher, 2002; Empelen & Kok, 2006; Maxwell, Bastani & Warda, 1999). However, condoms have been described as a "socially sensitive product," whereas adolescents feel embarrassment when purchasing, which can lead to decreased use (Dahl, Gorn & Weinberg, 1998). Research has shown that adolescents prefer to purchase condoms from places where condoms are clearly

visible and quickly attainable, even when given a cheaper option (Dahl, Gorn & Weinberg, 1996; Klein et al., 2001).

Studies have focused on the psycho-social variables associated with condoms use but a limited number of studies have assessed the relationship between geographic access to family planning centers and reproductive health behaviors, yielding a mixed collection of findings. (Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Corcoran, 1999; Huebner & Howell, 2003; Kotchick, Shaffer, Forehand, & Miller, 2001; Lammers, Ireland, Resnick, & Blum., 2000; Paul, Fitzjohn, Herbison, & Dickson, 2000; Resnick et al., 1997). One study found that the risk of sexual initiation among white adolescents was correlated with an increased number of family planning centers at the county level (Brewster, Billy, & Grady, 1995). Another study showed that the number of family planning centers was positively associated with effective contraception use among married white women (Grady, Klepinger, & Billy, 1993). Another more recent study found that the per capita number of family planning centers was inversely associated with sexual debut among adolescents and the number of sexual partners (Bishai, Mercer, & Tapales, 2005). Particularly, risk behaviors among older youth have been positively impacted by the proximity of family planning centers whereas family planning centers have a protective effect on risky sexual behaviors among this population (Bersamin, Todd, & Remer, 2010). Lastly, one study found converse results as those mentioned above, showing that adolescents for whom availability was higher were at a greater risk of getting pregnant (Goodman, Klerman, Johnson, Chang, & Marth, 2007).

A meta-analysis was recently conducted reviewing the findings of national and international studies of structural-level condom distribution interventions (Charania et al.,

2007). The analysis found significant effects on increased condom use, condom carrying, condom acquisition, reduced incidence of STIs and delayed sexual debut (Charania et al., 2007). The condom availability interventions are most effective when combined with health programming efforts in the community, school or other small group settings, such as implementation of CSE programs in school (Charania et al., 2007).

Based on these findings, the American Academy of Pediatrics recommended the following: 1) abstaining from sexual intercourse should be encouraged for adolescents as the most effective way to prevent STIs, HIV and unintended pregnancy, 2) health care providers should actively support and encourage the consistent and correct use of condoms as well as other reliable contraception as part of anticipatory guidance with adolescents who are sexually active or considering sexual activity, 3) health care providers are encouraged to promote communication between parents and adolescents about healthy sexual development and sexuality including the use and effectiveness of condoms, 4) restrictions and barriers to condoms should be removed, given the research that demonstrates that increased availability of condoms facilitates use. Beyond retail distribution of condoms, sexually active adolescents should have ready availability to condoms at free or low cost. Pediatricians and other health care providers are encouraged to provide condoms to support availability within their communities, 5) condom availability programs should be developed through a collaborative community process and accompanied by sequential CSE that is integrated within the school system, 6) schools should be considered appropriate sites for the availability of condoms because they often contain the largest population of adolescents in a community, 7) health care providers should actively help raise awareness among parents and communities that

making condoms available to young people does not increase the onset of sexual behaviors or frequency of sexual activity, 8) health care providers should provide and support parental education programs that help parents develop communication skills with their adolescent children around prevention of STIs and condom use, and lastly 9) the American Academy of Pediatrics should encourage additional research to identify strategies to increase continued condom use in established relationships and strategies for dual protection with condoms aimed at prevention of STIs and a second form of contraceptive method for the most effective prevention of pregnancy (American Academy of Pediatrics, 2013).

Although the teen birth rate has declined over the past few decades, the percentage of unintended pregnancies among teens remains high and South Carolina still ranks in the top 15 states for the highest teen birth rate (SC DHEC, 2014). Adolescents remain an important target group for improving availability to condoms and contraception given their challenges to easily accessing contraception coupled with their incidence of risky sexual behaviors (Goodman et al., 2007). Less than half of all public schools in the country offer information on how to obtain birth control (Starkman & Rajani, 2002). However, even when information is provided, less than 1% of middle schools and 4.5% of high schools nationally offer condoms to students on campus, so availability of condoms and contraception is still a barrier (Eisenberg, Bernat, Bearinger, & Resnick, 2009).

Health Policy

The Centers for Disease Control and Prevention (CDC) defines *policy* as “a law, regulation, procedure, administrative action, incentive, or voluntary practice of

governments and other institutions.” The history of public health policy is characterized by two central views of how the health of the general population may be improved through either 1) preventing risky behaviors and/or 2) promoting positive behaviors, which both ultimately lead to a decrease in negative health outcomes (Baum & Fisher, 2014). Policies impact the health of a nation through either 1) controlling the distribution of harmful substances, such as alcohol or tobacco, or 2) by addressing a specific population, such as school-age youth, by enacting school nutrition policies that directly impact the availability of healthier meals provided in schools.

Unplanned pregnancy among adolescents is avertible through a change in behaviors and the rate of teen pregnancy can be decreased with better programs and policies targeting the factors that are correlated with teen pregnancy, including increased availability of condoms and contraception for sexually active youth (National Campaign, 2012). Increasing access to contraception does involve some cost but the evidence overwhelmingly supports that the costs are significantly offset by the savings that result from preventing unplanned pregnancies (National Campaign, 2012). In the absence of contraceptive services provided through Title-X centers in South Carolina, the level of teen pregnancy would be 38% higher, yielding an increased cost to taxpayers (National Campaign, 2012). An investment in teen pregnancy prevention, through supporting policies to increase access to contraception, will ultimately have a ripple effect on multiple social issues that will consequently save taxpayers millions of dollars every year (National Campaign, 2012).

Although, all representatives of the political spectrum tend to agree that fewer teen births and a decrease in the incidence of STIs is a benefit to the general population,

disagreement arises when policy-makers cannot agree on the message to use to prevent these negative health outcomes (i.e., policies to support abstinence-only education versus policies to support CSE). Given the distribution of the two opposing funding streams to support both abstinence-education-until-marriage and CSE programming, the mixed messaging regarding sex is particularly evident in South Carolina (Bleakley, Hennessey & Fishbein, 2006; Waxman, 2004). The discussion around this issue is often wrought with conflict given the deeply seeded moral perspectives around adolescent sexual behaviors (Waxman, 2004). Often embedded in this debate are personal values, social mores and religious beliefs that either support or oppose CSE, leading to a severe polarization of political parties.

Often times, policies are enacted as a way of addressing an overall health issue such as bans on smoking to reduce the frequency of second-hand smoke on the general population. These policies fall within the category of health promotion because of the overarching goal of attempting to increase the overall health of a population. Over the past decade, the topics of sexual education and adolescents' access to contraception have posed a particularly heated debate and a challenge for policy makers and public health professionals (Eisenberg et al., 2008; Macinko & Silver, 2012).

Historically, states and local districts were given the right to decide what approach worked best in their community until 1996 when the Federal government became involved with sexuality education through the Adolescent Family Life Act administered by the Office of Adolescent Pregnancy Programs (OAPP) (Denny & Young, 2006; Eisenberg et al., 2008). A provision was added to the Welfare Reform Act that provided substantial funding to abstinence-only programs (Denny & Young, 2006;

Guttmacher, 2002; Landry et al., 2003). This provision also introduced a federal definition of abstinence education which emphasized teaching abstinence from all sexual behaviors outside of marriage (Denny & Young, 2006; Landry et al., 2003). These programs taught that sexual intercourse outside of marriage was morally wrong and harmful for adolescents (Guttmacher, 2012). Therefore these programs often denied young people complete and accurate information about condoms and contraception (Guttmacher, 2002).

This debate was later ignited in 1998 due to Section 510 of the Social Security Act that allocated \$50 million in grants for abstinence-only education, to be matched with \$37.5 million annual in state funds (Eisenberg et al., 2008; Landry et al., 2003). Since Section 510 was established, two other federal funding programs: 1) the Adolescent Family Life Act and 2) the maternal and child health block grant's Special Projects of Regional and National Significance, required that these funds may not support instruction on contraception, except to emphasize failure rates (Landry et al., 2003).

During this time, the debate about sexuality education was magnified and polarized the general public (Guttmacher, 2002). However, this debate frequently focused on the moral opposition of CSE rather than considering the research and results from sound evidence-based programming (Guttmacher, 2002). Even with the abundance of evidence showing a lack of support for the effectiveness of abstinence-only education programs (Kirby 2001, 2007; Trenholm et al., 2007), the federal government has historically continued to enact policies that provide financial support to these programs.

In 2010, for the first time in recent history, cuts were made to abstinence-only education, allowing funds to be released to support CSE (OAH, 2013). During this year,

Community-Based Abstinence Education was eliminated altogether and replaced with the Teen Pregnancy Prevention Initiative (TPPI) funded by the newly created Office of Adolescent Health (OAH) and the Personal Responsibility Education Program (PREP) (OAH, 2013). Combined, these initiatives provided \$180 million annually to promote evidence-based, medically accurate, age teen pregnancy prevention programs (OAH, 2013). The TPPI bill appropriated \$114.5 million through a discretionary funding stream that distributed \$110 million to grantees to implement TPPI initiatives including \$75 million to replicate evidence-based program that have been proven effective through rigorous evaluation to reduce teenage pregnancy and behavioral risk factors associated with teen pregnancy, \$25 million for innovative strategies to demonstrate, refine and test models for preventing teen pregnancy, and \$5 million for program evaluation of teen pregnancy prevention programs (OAH, 2013).

Efforts by the current Obama administration have been a shift in the appropriate direction, distributing millions of dollars in grants to support the replication of evidence-based rigorously-evaluated teen pregnancy prevention programs across the country (OAH, 2013). However, the debate between CSE and abstinence-only education still exists given the moral beliefs and values that this discussion often solicits from policy makers. These policies often polarize political parties because of the individual religious and moral beliefs around sexual health for young people.

A basic goal of any public health policy is to inform and change behaviors of a population to increase positive health outcomes (Faden & Shebaya, 2010). Conversely, the health of a population often informs policy such as recent laws aimed at reducing the prevalence of the obesity epidemic (Faden & Shebaya, 2010). The goal of public health is

to promote and protect the general population which often requires the involvement of government action or policies (Faden & Shebaya, 2010).

There are numerous ways that policies affect public health including, at the most distal level, “incidental” laws that impact income, education, housing or other factors that indirectly affect health, for example zoning ordinances that mandate specific areas of a neighborhood to only be considered as residential areas instead of commercial (Macinko & Silver, 2012). Secondly, “infrastructure” laws authorize the development of programs or financing of programs to improve the health of the public through increasing access to social services (Macinko & Silver, 2012). Lastly at the most proximate level, the “interventional” approaches meant to directly impact the health of the public by limiting exposure to harmful materials, discouraging unhealthy behaviors and encouraging healthy behaviors such as seat belt laws or laws banning smoking in public places (Macinko & Silver, 2012).

The debate over CSE and adolescents’ access to contraception is often a heated debate among policy makers given the beliefs regarding this topic rooted in individual morals and values (Alton, Valois, Oldendick & Drane, 2009). Meanwhile, adolescents continue to engage in sexual risk-taking behaviors. Further, adolescents often receive mixed messages about the role of sexuality on their personal development with some messaging rooted in morality and religious beliefs, while others messages encourage the accessibility of condoms to promote healthy sexual behaviors. This underscores the need for consistent policies that enforce messages and programs to decrease the incidence of negative health outcomes including unintended pregnancies, STIs and HIV. While several studies have assessed South Carolina registered voters’ support for CSE, no

research has been conducted to assess the level of support for adolescents' availability of condoms and contraception in communities and schools in South Carolina (Alton et al., 2009; Lindley et al., 1998).

The evolution of health policy and health programs aimed at influencing health education and health promotion swings like a pendulum (Green & Kreuter, 2005). At one point in time it is focused heavily on the responsibility of central government to promote healthy lifestyles through policy change and then at another point in time, it relies solely on individual behavior change (Green & Kreuter, 2005). Attempts to shift the focus from one side to the other are often met with resistance from either the individual or the centralized governmental agencies (Green & Kreuter, 2005). Shifts in focus also change with changes in the political landscape, such as when the House majority changes from one political party to the contrasting political party (Green & Kreuter, 2005).

Due to the cyclical nature of the relationship between public opinion and public policy, the opinion of a population must be continuously assessed to determine whether these components are congruent and to ensure that policies are addressing the needs of the population being served (Wlezien, 1995, 2004). In order to effectively address negative health behaviors of a community, lawmakers need to gauge the pulse of the general public to ensure that appropriate health behaviors are being addressed through current policies.

2.5 PUBLIC OPINION AND HEALTH POLICY

As described above, one effective strategy to address the health outcomes of a population is through policies to address negative health behaviors (Carlisle, 2000; McLeroy & Crump, 1994). Individual beliefs about humanity, the community and public

affairs influence personal views on political issues (Goren, 2005). These beliefs form a foundation for how the public constructs policy preferences, evaluates public officials and informs voting behavior (Goren, 2005). Policy has been defined as a “strategically crafted argument, designed to create paradoxes and resolve them in a particular direction” (Stone, 2013). Public health policy incorporates numerous issues that are highly debated because of ethical concerns and confidentiality. However the topic of sexual education may pose the one of the most heated debates and the biggest challenge for policy makers.

Research has demonstrated that public opinion and policy exhibit a dynamic relationship theorized to act similar to a thermostat (Eichenburg & Stoll, 2003; Erikson, MacKuen & Stimson, 2002; Johnson, Brace & Arceneaux, 2005; Soroka & Wlezien, 2004, 2005; Wlezien, 1995, 2004). The *thermostatic model of policy responsiveness* hypothesizes that policy changes follow changes in public opinion; although public opinion also reacts to policy changes across time (Wlezien, 1995, 2004). The result is a dynamic and cyclical relationship where policy impacts opinion, and opinion influences policy (Wlezien, 1995, 2004). This ongoing feedback loop between public opinion and policy is necessary for an effective democracy so that the public feels that their views are represented in policies (Soroka & Wlezien, 2003; Stimson, 1999). A responsive public has been described as a working thermostat whereas the public adjusts its preferences for “more” or “less” policy in response to policymakers’ actions (Soroka & Wlezien, 2003; Stimson, 1999; Wlezien, 1995).

Policy is informed by public opinion and public opinion is often informed by policy (Childs, 1965; Stimson, 1999). For instance, once a decision about policy has been made, there is a tendency for the population to accept the policy and therefore hold

a supportive opinion about the policy (Childs, 1965). Although, as policies become more widely understood and implemented public opinion may change to be either more supportive or completely oppose the policy (Childs, 1965). A number of policies have followed an incremental path whereby states initially adopt modest changes to laws before gaining support from the public before subsequently developing a more comprehensive approach to the problem (Macinko & Silver, 2012).

Among one of the more complex issues for judicial scholars is the role of public opinion in the Supreme Court (McGuire & Stimson, 2004). Research has shown that citizens desire their preferences and opinions to be reflected in public policy (Stimson, MacKuen & Erikson, 1994). However, for years political scientists have debated whether and how public preferences and voter attitudes are translated into judicial policy (McGuire & Stimson, 2004). This linkage of public opinion to policy faces formidable problems including the following: 1) policy making is highly specific and detailed, and 2) the majority of the public do not pay close enough attention to politics to be able to develop preferences that are specific and detailed (Stimson et al., 1994).

Most research has shown that policy makers tend to follow public opinion (Monroe, 1979; Page & Shapiro, 1992; Stimson, 1999, 2004). However, some research has shown that public opinion is ignored by policy makers (Korpi, 1989; Schwartz, 1995) while other studies have shown that policy makers drive public opinion to be more parallel with their own (Kingdon, 2003; Zaller, 1992). Moreover, some researchers believe that the concept of “public opinion” is an artifact of measurement and does not really exist (Bishop, 2005).

No matter what the belief, the accurate perception of public opinion and beliefs is a challenging task for legislatures (Norrande & Wilcox, 1999). Flemming and Wood (1997) found that while individual justices respond to public sentiment, the extent to which the policies represent the opinions and beliefs of the public is indeterminate at best (Erikson et al., 2002; Flemming & Wood, 1997; Stimson, MacKuen, and Erikson, 1995). One of the first studies to measure the influence of public opinion on policy was conducted by Miller and Stokes who compared votes of Congress members with their constituent's opinions (Miller & Stokes, 1963). Findings from this study showed that public opinion changed based on the issues being discussed (Miller & Stokes, 1963). For example, with the issue of civil rights, the Congress member often voted based on their perceptions of public opinion whereas in the field of social welfare, the Congress member voted according to their political party affiliation (Miller & Stokes, 1963).

Page and Shapiro (1992) found that there was a substantial correlation between public opinion and policy particularly when the opinion was sustained (i.e., long lasting and unchanged) and the issues were salient to the general population. Historical events (e.g., World Wars) can have an effect on policy opinion but often the impact on policy is not sustained (Miller & Stokes, 1963). Policy is often changed as a result of the changes in the majority of the House and Senate so as the majority changes, often times policy changes. The results of this study found that there was congruence between opinion change and policy 66% of the time and increased to 90% of the time when the opinion change was large and sustained over a period of time (Miller & Stokes, 1963). In 1979, Monroe added to this research by concluding that saliency of an issue is a key factor in

producing policy change and that only issues of high saliency will be addressed by lawmakers (Monroe, 1979).

Monroe (1979) concluded that an issue must be perceived as highly important and must remain on the forefront of the public agenda (including lawmakers, politicians, etc.) over a long period of time in order for it to impact policy. However, the sustainability of public opinion (i.e., extent to which an opinion is held over a long period of time) is often influenced by factors outside of one's control such as international warfare and economic crises. Childs (1965) concluded that "the relationship between public opinion and public policy varies greatly from issue to issue. The influence of public opinion varies from virtually no influence to enormous influence. Influence may be exerted quickly or slowly, it may change over time or remain constant, and its impact may be direct or indirect."

The above mentioned research notes that the extent of influence is contingent on numerous factors including: the degree of agreement within the population, the intensity of the opinions held by the population; and the degree to which the support is organized for or against the public position (Childs, 1965).

The debate over CSE is an example of a *morality policy*, given that the foundation for how one perceives CSE is often grounded in personal religious beliefs, values and morals, all of which are based on individual feelings (Norrander & Wilcox, 1999). Historically in the United States, there has been an increase in the discussion of *morality policies* because of the broad reach of these debates (i.e., a debate regarding abortion often sparks interest from both liberals and conservatives due to the broad discussion about life and conception) (Norrander & Wilcox, 1999). Since morality policies often

evoke preferences rooted in religion, emotions and values, it is difficult to conclude a “correct response” because of the subjectivity of beliefs (Norrander & Wilcox, 1999).

Public opinion has the greatest impact on morality policies when opinions of individuals and communities are relatively stable, are represented by organized interest, and when political parties take reasonably distinct and separate positions (Norrander & Wilcox, 1999). Often times, the public opinion on an issue is unknown until voters feel oppressed by the government on issues such as gun control or reproductive health rights (Stimson et al., 1994). For example, voters may have strong opinions that lay dormant (i.e., gun control) until an historical event occurs that causes them to feel attacked or oppressed by policies such as the impact the Connecticut school shooting had on the issue of gun control and concealed weapons. These opinions are what are often referred to as “public mood” and are defined as standing predispositions towards the role of government (Stimson et al., 1994). The mood of the public is changeable over time and experiences (Stimson et al., 1994).

Given that these policies are often in response to controversial current issues, the issues stay at the forefront of debates during an election year (i.e., women’s reproductive rights). According to democratic theory (which include the guiding principles of a democracy), policies should reflect the beliefs of the community (Weber & Shaffer, 1972). It has been argued that public opinion has a strong impact on morality policies and that citizens have more stable opinions on these issues (Norrander & Wilcox, 1999).

2.6 SUPPORT FOR COMPREHENSIVE SEX EDUCATION

While the majority of adults in South Carolina (95%) and across the country (93%) identify teen pregnancy as an important issue and think that prevention efforts are

needed to address the issue (National Campaign, 2010; Oldendick, 2011). There is a gross misperception of others' level of support for CSE (Oldendick, 2011). While almost 85% of South Carolinians support CSE in schools, only 60% think their neighbors and other community members support it (Oldendick, 2011). This misperception in support for CSE may prevent some school officials and parents from advocating for effective sexual health education. Twenty percent of South Carolinians indicate that they simply don't know if others support sex education (Oldendick, 2011). Additionally, the amount of perceived opposition to sex education is nearly twice the amount of actual opposition (Oldendick, 2011). These differences may lead to lower school and administrative support, and therefore a lack of policies to support CSE.

Research on public support has shown that the majority of Americans are supportive of CSE in public schools which includes science-based information about condoms and contraception (Bleakley et al., 2006; Eisenberg et al., 2008; Haffner & Wagoner, 1999). It is also important to note that the level of support is not limited to certain parts of the country; support has been shown in conservation southern states such as North Carolina, South Carolina and Texas (Kirby, 2006). The level of support among South Carolinians remained over 80% since early 2000's (Alton et al., 2009; Lindley et al., 1998). The general public does not only support CSE but some research has found that half of the general population actually opposes abstinence-only education and over half believe that abstinence-only education is not an effective method to preventing unplanned teen pregnancy (Kirby, 2006).

Bleakley and colleagues (2006) assessed the level of support for CSE programs among adults in the country and found that the majority of adults were incredibly

supportive of CSE programs, including education on condoms and contraception (Bleakley et al., 2006). These results underscore the results of numerous similar surveys that have been conducted for decades demonstrating such support. As far back as 1943, the Gallup Poll found that 68% of adults supported implementation of sex education in school (Gallup, 1972). By 1985, the support for CSE programs had increased to 85% (Kirby, 2002). Moreover, for decades these polls have demonstrated that adults across the country want sex education instruction to include both abstinence, condoms and other methods of contraception (Kirby, 2002). Notably, this support is not limited to only certain parts of the country; similar surveys in more religiously-based, conservative southern states, such as North Carolina, South Carolina, and Texas, have demonstrated strong support for CSE programs that encourage abstinence but also encourage the use of condoms and other contraceptives among sexually active students (Alton et al., 2001; Howard-Barr, Moore, Weiss & Jobli, 2011; Ito et al., 2006).

Previous studies conducted in the Southern region of the country, and more specifically in South Carolina, have found several variables to be significantly related to the level of support for CSE. Age and outcome expectations regarding CSE were the only variables that showed significant differences in support of CSE in South Carolina (Alton et al., 2009). Younger respondents were nearly twice as likely to support CSE compared to respondents in the older age categories (Alton et al., 2009). Those respondents who believed that CSE was an effective strategy to reduce teen pregnancies were more likely to support CSE in schools; these respondents were over six times as likely to support CSE in schools (Alton et al., 2009). The research concluded that five variables were

shown to be significantly correlated with support for CSE age, race, region of the state, political party, and belief that CSE was effective (Alton et al., 2009).

A similar survey conducted in a South Florida county found that most respondents were in favor of an abstinence-based approach versus an abstinence-only approach to reproductive health education (Howard-Barr et al., 2011). This same study showed that there were some demographic differences in the level of support. African-Americans were more likely than their white counterparts to choose an abstinence-only approach and more likely to support the idea that teaching about birth control lead to an increase of sexual behaviors (Howard-Barr et al., 2011). Males were also more likely than females to support an abstinence-only approach and more likely to believe that providing birth control information encouraged sexual behaviors (Howard-Barr et al., 2011).

Similar to the studies mentioned above conducted in South Carolina and Florida, a study (n=1,306) conducted in North Carolina found that the majority (91%) of respondents supported sexuality education be taught in public schools (Ito et al., 2006). Mothers were slightly more likely than fathers to support sexuality education in school but no other differences in demographic characteristics were found, including gender, age, race, education, geographic region and grade level of children (Ito et al., 2006).

Years of national and state level data has repeatedly shown the majority of the public overwhelmingly supports CSE being taught in the schools, and include information on abstinence and contraception (Bleakley et al., 2006; Eisenberg et al., 2008; Eisenberg et al., 2009; Kirby, 2007;). Even with support of these programs, there is no federal mandate to teach CSE in schools. Thus, there is no standard to what is being taught across the country and therefore no monitoring of what information students are

being taught in schools (Guttmacher, 2012). States are not required to mandate sexuality education by the federal government because this type of decision is locally controlled, and specifically in South Carolina, it is mandated at the district level. South Carolina is one of only twenty-two states in the country with a Comprehensive Health Education Act (CHEA), which ensures students are taught about pregnancy and STI prevention (SC Campaign, 2012). Moreover, South Carolina is one of only seventeen states that require contraception to be taught in sexuality education courses (Guttmacher, 2012).

2.7 VALUES, POLITICS AND POLICY

As previously noted, the debate over CSE is an example of a *morality policy* given the values, morals and individual beliefs that are evoked when considering an opinion about this issue (Norrander & Wilcox, 1999). Although debates over topics such as the economy (i.e., tax increases) are often solved with compromises in addendums, greater difficulty is faced when policies involve regulation over abortion, sex education in schools and drug laws (Norrander & Wilcox, 1999). Since morality policies often yield public opinion and beliefs that are rooted in religion, morals and values, it is difficult to determine an absolute “right” or “wrong” opinion because these values are incredibly polarizing (Norrander & Wilcox, 1999).

Values are often rooted in culture and personal beliefs, thus they are only slightly impacted by political strategies (Stimson, 1999). Since values remain constant over time, it is very unlikely that discussions on an issue change one’s values (Stimson, 1999). Often times, political debates on issues require trade-offs of alternative values which requires a prioritizing of values and beliefs (Stimson, 1999). For example, the issue of reproductive health is often rooted in personal values regarding health but also rooted in

religious beliefs about premarital sex. Therefore, one must decide to prioritize health or religious beliefs, since these values may lead to conflicting opinions about an issue.

Henry and Reyna (2007) conclude that values often act as a guide for judging whether society is performing in a manner that is viewed as right or wrong. Values are often employed to determine the morality of a behavior or social appropriateness of behaviors or outcomes (Henry & Reyna, 2007). When using values in this fashion, Henry & Reyna (2007) defined this as judgmental expression of values. Value-based judgments are often at the foundation of morality policies that evoke value based judgments such as policies regarding same-sex marriage or access to birth control (Henry & Reyna, 2007). Since the conservative party generally opposes behaviors such as pre-marital sex, members of this party tend to oppose policies that are believed to promote this behavior, even though research does not support the notion that CSE increases sexual activity (Kirby, 2006). Therefore, there may be a values trade-off to prioritize beliefs regarding premarital sex that decreases the value placed on access to health (Stimson, 1999). This values trade-off most often occurs when prioritizing health benefits and financial cost of the issue (i.e., choosing to spend less money and eating only fast food versus spending more money to eat all organic foods).

Shifts and changes in public opinion have been demonstrated to be the most important factor in American politics (Stimson, 1999, 2015). However, not all changes in public opinion occur at the same rate, some changes occur rapidly after a national crisis and other change is slow occurring almost glacier in pace (Stimson, 2015). Given the relative relationship between public opinion and policy, and the variable rate of change in

which opinions change, it is critical to continually assess public opinion to determine if public opinion is being accurately represented in policies (Stimson, 2015).

Morality policies by definition are those issues with high importance to the public (Bowen, 2012; Gormley, 1986). These are highly important because they are rooted in religious beliefs, values and morals, which are all based on personal feelings of an individual (Norrander & Wilcox, 1999). Thus, it is essential to better understand the public's stance on these policies (Norrander & Wilcox, 1999). The policies around sexual education and adolescents' access to contraception have posed a particularly heated debate and a challenge for policy makers and public health professionals (Eisenberg et al., 2008; Macinko & Silver, 2012).

Historically, the federal government has held states responsible for determining what is best for their population. This concept is a core component of democracy and has been the foundation of most of the laws and policies in the United States. However, Congress has developed three programs that allocate funding for abstinence-only sexuality education only: 1) the Adolescent Family Life Act (AFLA); 2) targeted abstinence-only funding through 1996 through welfare reform legislation; and 3) the Special Projects of Regional and National Significance Community-Based Abstinence Education (SPRANS-CBAE) grant program (Collins et al., 2002). Congress created these funding streams as a macro-level approach to address teen pregnancy due to the relationship with other social, academic and economic issues that have a larger impact on the entire population. However, the content of sex education continued to be a state and local matter (Collins et al., 2002).

Schools are often given wide latitude in determining the content of the sexuality provided (Collins et al., 2002). Most (86%) public school districts with a sexuality education policy require promotion of abstinence (Collins et al., 2002). A little over half (51%) require that abstinence be taught as the preferred method but allow the discussion of contraception as an effective strategy for protecting against unintended pregnancy and STIs (Collins et al., 2002). Only 14% of school districts nationwide have policies that are truly comprehensive and teach both contraception and abstinence (Collins et al., 2002).

Central to the political belief system are two core components: party identification and values (Goren, 2005). Often the public will identify with a political party because of the social image that the party portrays (Campbell, Converse, Miller & Stokes, 1960). For example, the closer one feels toward social groups seen as “Republicans” such as conservative Christians, the more strongly one feels about identifying with that particular party (Goren, 2005). The key conceptual attributes of party identification are social identification and partisan affect (Goren, 2005). For example, if one identifies as a Republican and the Republican Party maintains consistent beliefs, it is likely that individuals within the Republican Party will continue to identify as Republican.

However, political values reflect individual beliefs about humanity, the community and public affairs (Goren, 2005). These components form a foundation for how the public constructs policy preferences, evaluates public officials and informs voting behavior (Goren, 2005). Those who identify as “conservative” often believe in individual responsibility when it comes to issues such as poverty and socio-economic status (Henry & Reyna, 2007). Whereas, those who identify as “liberal” often see the

community as the culprit for negative outcomes related to socio-economic status and financial well-being (Henry & Reyna, 2007).

Henry and Reyna (2007) found that opposing positions regarding responsibility are rooted in the moral beliefs and values of each political party. Values may be expressed in multiple ways, with each expression yielding a different impact on political views. Henry and Reyna concluded two types of overarching types of value expressions: abstract value expressions and judgment value expressions. Abstract value expressions are defined as those values that represent ideals that guide how a person or society should act in their lives such as the ideal that “one should be nice to others”. These values are simply an expectation of how one should conduct their lives and do not hold judgment against those who choose not to conduct themselves in these ideal expectations.

Due to the underlying values of individuals, the policies around sexual education and adolescents’ access to contraception have posed a particularly heated debate and a challenge for policy makers (Eisenberg et al., 2008; Macinko & Silver, 2012). There are several distinct characteristics of morality policies: the issues are not complex technically, the issues are significantly relevant to the public, and the policy debates evoke participation from diverse groups in the community (Gormley, 1986). Gormley found that morality policies are classified as such based on their salience and complexity (Bowen, 2012; Gormley, 1986). For example, the debate over the debt crisis is complex and requires a deeper understanding about the debt ceiling, taxes and economics. Thus, the debt crisis is not considered a moral policy because even though it is salient to the public, it is extremely complex and often rooted in logic and not individual values.

Morality policies are issues that are highly salient to a wide range of the people and hold meaning to a diverse group of people (Bowen, 2012; Gormley, 1986). The saliency of an issue is determined by a number of factors including the degree to which the public perceives the issue to be “actionable” and important (Macinko & Silver, 2012). In addition, morality policies can be understood by a wide range of people and therefore are not considered complex issues (Bowen, 2012; Gormley, 1986).

In debates about morality issues the role of experts and scientific data is decreased and there is a greater emphasis on values and emotions (Bowen, 2012; Gormley, 1986). Judgment of values violations play a central role in issues that often are at the root of a morality policy because of their implications for justice (Henry & Reyna, 2007). Those who work hard for an intended outcome are considered ideal and thus deserve the benefits of society (Henry & Reyna, 2007). Whereas, those who violate certain held values are seen as making harmful decisions and thus are not deserving of positive outcomes (Henry & Reyna, 2007). For example, the debate about access to contraception is often rooted in the belief that teens should not be engaging in sexual behaviors and therefore do not deserve to have access to contraception or at least the general public (taxpayers) should not “pay for teens to have sex.” These beliefs are rooted in judgment based values and are often expressed in debates about morality policies because of the beliefs about what behaviors are constituted as “right” and what behaviors are constituted as “wrong.”

Regardless of the classification of values, research has concluded that all values share five conceptual characteristics; values 1) are abstract beliefs, 2) are about desirable

behaviors, 3) transcend specific situations, 4) guide behavior and evaluation of behaviors, and 5) can be rank-ordered in terms of importance (Schwartz, 1995).

One hypothesis explaining the relationship between values and party identification is the “partisan influence” hypothesis which suggests that party identification impacts value positions (Goren, 2005). Campbell and colleagues (1960) concluded that party identification “raises a perceptual screen through which the individual tends to see what is favorable to his partisan orientation. The stronger the party bond, the more exaggerated the process of selection and perceptual distortion will be.” Thus, partisan bias plays a critical role in perpetuating and exaggerating the sharp differences in opinion between political parties (Goren, 2005). Because of this relationship, the field of political psychology has paid special attention to the relationship between abstract value expressions and voting behavior (Henry & Reyna, 2007).

Opposition to policies are often based on the perception that the group helped by the said policy is violating a particular value that is relevant to the policy, such as availability of condoms and contraception for sexually active teens (Henry & Reyna, 2007). Several studies have shown that beliefs in morals and/or values, like the example above, are strong predictors of policy attitudes and thus impact health policy (Henry & Reyna, 2007; Sears & Henry, 2003; Sears, Henry, & Kosterman, 2000).

Moreover, the impact of voter opinion and beliefs on morality policies varies across issues such as gun regulation, sex education and access to contraception (Norrander & Wilcox, 1999). Voter opinion can be impacted by historical events (i.e., Zimmerman trial, Boston Marathon bombing) or by personal experiences of the voter (i.e., change in health status) (Norrander & Wilcox, 1999). Given the fluctuating impact

of voter opinion on policy, particularly opinions based on morals and values, it is necessary to gauge the pulse of a population frequently to determine if policies are in fact congruent with voter beliefs. If policies are not parallel with voter beliefs, health advocacy can be used to promote voter beliefs and subsequently garner attention from policy makers (Bowen, 2012; Gormley, 1986; Soroka & Wlezien, 2010).

2.8 SOUTH CAROLINA COMPREHENSIVE HEALTH EDUCATION ACT

South Carolina is 1 of only 21 states that mandate sexual education in public schools and 1 of only 17 states that require contraception to be taught in sexual education courses, through the enactment of the SC CHEA in 1988 (Guttmacher Institute, 2012).

Specifically, the SC CHEA includes the following terms:

- *Comprehensive Health Education* – encompasses all aspects of a young person’s life, not just sexuality. Included are, among other things: skills, attitudes, and practices of children and youth that are conducive to their good health and that promote wellness, health maintenance, and disease prevention.
- *Reproductive Health Education* – “Instruction in human physiology, conception, prenatal care and development, childbirth, and postnatal care. Does not include instruction concerning sexual practices outside marriage or those unrelated to reproduction – except within context of disease. Abstinence and the risks associated with sexual activity outside of marriage must be strongly emphasized.”
- *Pregnancy Prevention Education* – must a) stress the importance of abstaining from sexual activity; b) help students develop skills to resist

peer pressure; and c) explain methods of contraception and the risks and benefits of each method. Contraceptive education must be given in the context of future, marriage-based, family planning.

- *Family Life Education* – intended to a) develop an understanding of the physical, mental, emotional, social, economic, and psychological aspects of close personal relationships and an understanding of the physiological, psychological, and cultural foundations of human development; b) provide instruction that will support the development of responsible personal values and behavior and aid in establishing a strong family life for themselves in the future and emphasize the responsibilities of marriage; c) provide instruction as to the laws of this State relating to the sexual conduct of minors, including criminal sexual conduct.

The SC CHEA mandates that students are taught the following:

- *Grades Kindergarten through Five (elementary school)*: Topics included in comprehensive health education are, among other things: community health, nutrition, personal health, dental health, growth and development, and accident prevention. Age-appropriate instruction in reproductive health may be included at the discretion of the local school board. Discussion of the methods of contraception before the sixth grade is not permitted.
- *Grades Six through Eight (middle school)*: Health education **MUST** include all topics included in grades kindergarten through five in addition to environmental health, substance abuse, mental and emotional health,

and reproductive health education. Information on sexually transmitted diseases is to be included. The local school board, guided by their local CHEA Advisory Committee may include instruction on family life education or pregnancy prevention.

- *Grades Nine through Twelve (high school):* One time during their four years of high school, each student shall receive at least 12 ½ hours (750 minutes) of reproductive health education and pregnancy prevention education as defined above.

The SC CHEA is locally controlled by a 13 member committee to assist with the selection, approval and adoption of all curricula and materials (SC Campaign, 2012). The committee must contain: parents (2), clergy (3), health professionals (2), teachers (2), students (2) one being the president of a high school's student body, and non-school employees (2) (SC Campaign, 2012). Parents must be notified in advance of a student's enrollment in reproductive health or pregnancy prevention courses, and given the opportunity to preview all materials and exempt their children from programming (SC Campaign, 2012). Educational personnel teaching any parts of the CHE program must be appropriately trained (SC Campaign, 2012).

Research conducted by Bleakley and colleagues (2006) provides strong evidence that a large majority of adults in this country support CSE programs that teach about abstinence in combination with other methods of preventing pregnancy and STIs, whereas only a minority of adults supports the teaching of abstinence-only programs (Bleakley et al., 2006). However, even with the overwhelming support for CSE, one study found that among districts with a sexual education policy, districts located in the

South were significantly more likely than other districts to require abstinence-only education (Landry et al., 2003). Analyses conducted by the General Social Survey indicated that residents in the South have less permissive attitudes about sexuality compared to adults living in other areas of the country (Landry et al., 2003). However, over 80% of residents in South Carolina were supportive of CSE (Alton et al., 2009).

2.9 ADVOCACY

Health advocacy has often been used to address health disparities and must acknowledge that barriers to positive health can lie beyond individuals' controls and that structural factors need to be addressed to reduce health inequalities (Carlisle, 2000). Due to the macro impact that advocacy can have on an entire population or community, advocacy strategies are often used to address a large group of people targeting the same behavioral outcome such as smoking cessation programs or seatbelt campaigns to increase seatbelt use (Carlisle, 2000). Advocacy, particularly around sensitive issues, may operate as a conduit, mediating and negotiating between opposing viewpoints in the interests of positive health outcomes, neglecting adversarial positions to ensure that a common agenda is developed and goals are mutually achievable (Carlisle, 2000). The aim of public health is to improve the health of communities via several health strategies including advocating for public health policies (Carlisle, 2000).

Research has an important role to play in advising policymakers, lawmakers, stakeholders and community advocates on crafting effective responses to social problems through health advocacy strategies (Shonkoff & Bales, 2011). Three approaches have been recognized as major strategies for achieving health promotion; 1) advocacy, 2) enablement, and 3) mediation (WHO, 1986). Furthermore, the World Health

Organization describes health advocacy as a “combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health goal or programme” (WHO, 1995). Health advocacy is used to achieve two main goals: 1) protecting people who are vulnerable or discriminated against, and 2) empowering people who need a stronger voice by enabling them to voice their needs and make their own decisions (Carlisle, 2000).

Health education strategies should take into account how information is received by the general public (e.g., value-based strategies such as using the church to message to the public or strictly educational strategies such as presenting data to the public) and what types of strategies are most effective at influencing voting behavior.

Research has shown that the general public often make mental “shortcuts” to make sense of how they perceive the world (Hastie, 1986; Taylor & Crocker, 1981; Sherman, Judd, & Park, 1989; Wyer & Srull, 1984). Organizing knowledge into general categories is an efficient way for the general public to make judgments about specific issues. Furthermore, the content or nature of the incoming information determines which values are used in the decision making process (Cantor & Mischel, 1979; Conover & Feldman, 1989; Miller, Wattenberg, & Malanchuk, 1986; Morgan & Schwalbe, 1990; Tannen, 1993). This concept of *framing* is significant because how people think about issues impacts whether one will support or oppose a policy (Lakoff, 1996; Lippman, 1921). Thus, how an issue is framed in advocacy efforts will impact the values that are elicited and overall perception of the issue. The act of framing an issue by using known values of a population can predispose voters to prioritize issues in different ways (e.g., voters may choose reduced taxes instead of increasing access to health care services).

Advocacy efforts could use findings from this study to either support current supporters of CSE to be agents of change and local advocates to ensure that CSE is being implemented with fidelity at local school districts, or to show that support for CSE no longer exists and policies should be changed to match the current preferences of the general public. Additionally, advocacy efforts could include the values associated with the perception of reproductive health in order to help frame the message and thus influence opinion about reproductive health issues (i.e., availability of condoms and contraception, implementation of CSE in schools).

2.10 THEORY AND CONCEPTUAL FRAMEWORK

The thermostatic model has been used to explain the cyclical relationship between public policy and opinion in the United Kingdom and Canada across a multitude of issues including education, defense, health and welfare (Soroka & Wlezien, 2010). However, less is known about whether this model is applicable in the United States (Johnson et al., 2005). The paucity of research that has been conducted in the United States has been cross-sectional or used only limited data points in time (Camobreco & Barnello, 2008; Erikson, Wright & McIver, 1993; Johnson et al, 2005). Even though this research design is also cross-sectional, this study will use previously used survey items so general comparisons can be made to previous research.

The thermostatic model was developed to illustrate the dual direction of the relationship between policy and public opinion (Soroka & Wlezien, 2003). This concept of responsiveness is one key characteristic of a representative democracy, which aims for government policies and public preferences to be closely parallel (Dahl, 1971; Lijphart, 1984). Democratic responsiveness is one measure of the quality of a

representative well-functioning democracy; other concepts include accountability, equality and freedom (Thomas, 2010).

This model suggests that policymakers develop policies based on public preferences and that public preferences inform policy (Soroka & Wlezien, 2003). This ongoing feedback loop between public opinion and policy is necessary for an effective democracy so that the public feels that their views are best represented in current policies (Soroka & Wlezien, 2003). This relationship is best illustrated as a working thermostat whereas the public adjusts its preferences policy in response to policymakers' actions (Soroka & Wlezien, 2003; Wlezien, 1995).

Similar to a thermostat, the relationship between public preferences and policy must be balanced so that the public is satisfied with the policies and the policymakers are satisfied with the preferences of the public (Soroka & Wlezien, 2003). This conceptualization of public opinion is based in political science, including Easton's (1965) depiction of the political system and Deutsch's (1963) models of "control" (Soroka & Wlezien, 2003). For example, if a policy is too strict, the public will respond with low support and policymakers are challenged to revise the policy to be congruent with the public opinion. However, like a thermostat that has been adjusted when it is too cold, the changes may be too severe. Therefore it will need to be manually adjusted to meet the needs of the public. Similar to a thermostat in the home, saliency around an issue can be shaped by external factors (external to the policy) including those factors at the micro-level such as values and those factors at the macro-level such as the current economic crisis, terrorist attacks and health care reform.

The proposed study will be guided by the conceptual framework, diagrammed in Figure 2.1. Synthesis of the literature suggests research is needed to further investigate factors informing advocacy and policy efforts related to adolescent reproductive health, the purpose of this study is to investigate whether South Carolina residents' public preferences are represented in current policy by assessing 1) the level of support for CSE, 2) the level of support for availability of condoms and contraception in communities and schools, and 3) the general public's perceived view of reproductive health.

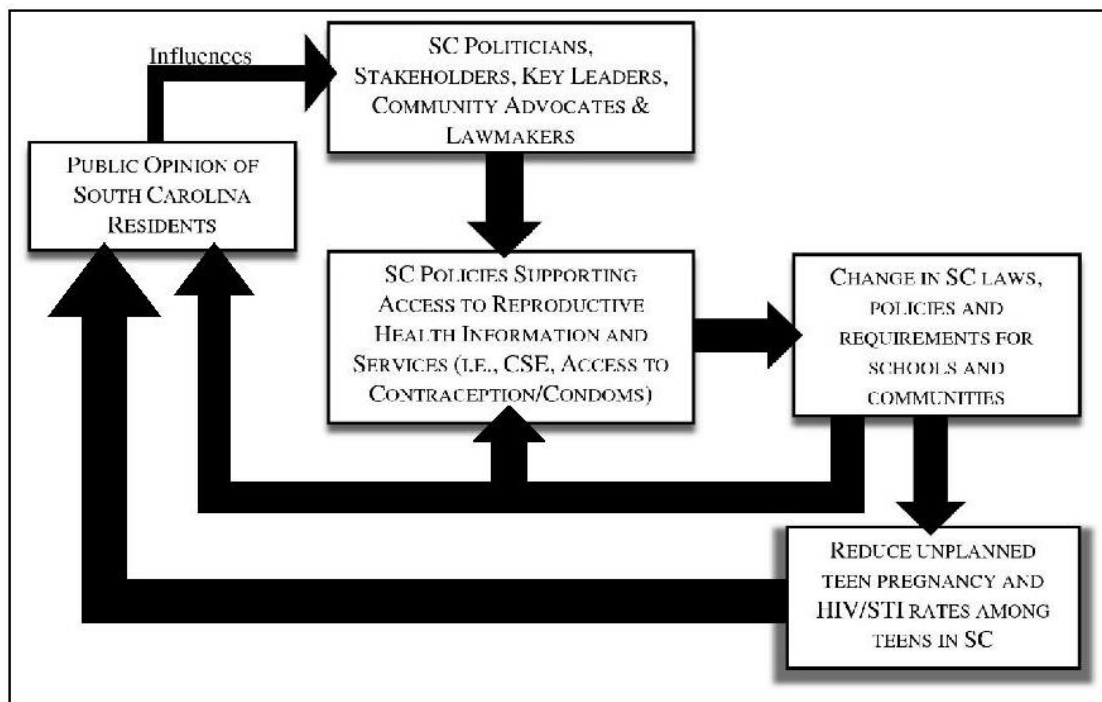


FIGURE 2.1 CONCEPTUAL FRAMEWORK

Given the fluctuation in public opinion on morality policies and the lack of federal mandates for sexuality education, it is critical to gauge the perception of the public on issues that impact the health of an entire population. Without knowing the

opinion of the public on these issues, it is unclear as to whether policies are in fact parallel with public opinion and representing the needs of a population.

2.11 PURPOSE

Given the lack of knowledge about the public's level of support for comprehensive health education programs and adolescent's access to preventative health care services, the proposed research aims to assess the level of support for these strategies in an effort to inform policies to ultimately reduce unintended teen births.

Determining the particular mood of the public on a specific issue is difficult; it requires that the general public pay more attention to the specific regulations and stances of government (Stimson et al., 1994). Given that the majority of the public does not devote this amount of attention to government, it is necessary to often predict potential public opinion on an issue (Stimson et al., 1994). However, for most policy choices this potential is not realized and attempts to measure it has been difficult (Stimson et al., 1994). It is critical to gauge public opinion often, since it is changeable by history and experiences, to determine if policies reflect public opinion. If public opinion is determined for a specific issue and policies are changed due to the public opinion, it is then possible to track public opinion through the changes in policy that is responsive to public mood (Stimson et al., 1994). Earlier research conducted by Childs (1965) concluded that: "the general public is especially competent, probably more competent than any other group—elitist, expert, or otherwise—to determine the basic ends of public policy, to choose top policy-makers, to appraise the results of public policy, and to say what, in the final analysis is fair, just, and moral. On the other hand, the general public is not competent to determine the best means for attaining specific goals, to answer

technical questions, to prescribe remedies for political, social, and economic ills, and to deal with specialized issues far removed from the everyday experience and understanding of the people in general.”

Childs (1965) concluded that the public is competent enough to identify their own values and determine their stance on public policies. However, this research also concluded that the general public does not have the capacity for determining how to achieve those policies and impact the health of an entire population. For example, most of the public believes that teen pregnancy is not an ideal outcome for young people but there is less agreement about how to prevent teen pregnancy. Research has shown that policy makers can improve their knowledge of public opinion by increasing their knowledge about the general beliefs of the public so that they can reliably infer specific opinions from the general preferences (Stimson et al., 1994).

The purpose of this study is to investigate whether South Carolina residents’ public preferences are represented in current policy by assessing 1) the level of support for CSE, 2) the level of support for availability of condoms and contraception in communities and schools, and 3) the general public’s perceived view of reproductive health.

The proposed research will build on past research assessing the public support for CSE and will assess the public’s support for adolescents’ access to contraception (Alton et al., 2009; Lindley et al., 1998). The purpose of the proposed study is to determine South Carolinians level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs. This study will also determine if there is a difference in the public support for CSE and the public support for making condoms

and contraception available to teens as a way of decreasing pregnancy and STIs.

Additionally the proposed study will assess whether South Carolinians perceive the issue of teen reproductive health as a moral issue or a public health issue, and thus determine how the issue of teen reproductive health is perceived.

2.12 RESEARCH QUESTIONS

The following research questions were developed as a result of the preceding review of the literature.

- I. How do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians support for CSE?
 - a. Is age related to support for CSE after controlling for gender and race?
 - b. Is income related to support for CSE after controlling for gender and race?
 - c. Is voting status (registered vs. non-registered) related to support for CSE after controlling for gender and race?
 - d. Is political party related to support for CSE after controlling for gender and race?
- II. How do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs?
 - a. Is age related to support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs after controlling for gender and race?

- b. Is income related to support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs after controlling for gender and race?
- c. Is voting status (registered vs. non-registered) related to support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs after controlling for gender and race?
- d. Is political party related to support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs after controlling for gender and race?

III. How do personal values correlate with the view of reproductive health?

- a. Is the view of reproductive health (moral vs. public health issue) related to support for CSE?

CHAPTER 3:
RESEARCH DESIGN AND METHODS

3.1 STUDY DESIGN AND PURPOSE

This study used a cross-sectional survey design to assess South Carolinian's: 1) support for CSE, 2) for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs, and 3) perceived view of reproductive health as a moral issue or a public health issue.

3.2 BACKGROUND

This study used secondary data obtained from the South Carolina State Survey (SCSS). The SCSS is a random probability telephone survey of residents age eighteen and older administered by trained interviewers twice annually since 1990. SCSS allows policy makers, researchers, state agencies (e.g. Department of Revenue, Department of Health and Environmental Control) and organizations (such as non-profit organizations) the opportunity to gather reliable data across a multitude of topic areas (e.g. road conditions, taxation).

To better understand support for CSE among South Carolinians, survey questions were developed by staff at the SC Campaign to Prevent Teen Pregnancy (SC Campaign) and then added to the existing survey in 2013.

Any state agency or organization is eligible to submit questions to the SCSS by paying a fee of \$850 per question and working with the University of South Carolina, Office of Research and Statistics (USC ORS) to edit the questions as needed after the pilot-test. Historically, dozens of agencies have submitted questions to SCSS including the South Carolina Department of Revenue (SC DOR) and the New Morning Foundation. The SC Campaign purchased eight survey questions for the 2013 SCSS for a total fee of \$6,800. The SCSS allows policy makers, researchers, state agencies and other interested organizations an opportunity to gather reliable data in a timely and cost-effective manner across a multitude of topic areas (e.g. road conditions, taxation).

In June 2013, the University of South Carolina Institutional Review Board (IRB) approved the SCSS. Since this study used secondary data from the SCSS, it was considered exempt from human subject approval and further IRB review.

3.3 STUDY METHOD

Telephone Survey

This data collection method has several advantages and disadvantages. Telephone surveys are often less time intensive to collect data than mail-in surveys given that the data are retrieved in real-time and immediately entered into the database by a trained interviewer. Telephone surveys are also more adaptable given that the participant can ask questions or get clarification from the trained interviewer while participating in the survey.

Telephone surveys, however, can be seen as a limitation given that not all residents of South Carolina have telephones. Even though cell phones and landlines were used to contact residents, not all residents have either of these options. However,

approximately less than 3% of households in South Carolina have no telephone service including landline and wireless service) (Blumberg & Luke, 2014). Telephone surveys are also generally limited to about 15 minutes given that the participant is less likely to continue participating on the phone for any time longer. Survey items on a telephone survey must also be clear and concise, given that the survey will be limited to 15 minutes, it is important that questions are written in a way that is easily understood so the participant does not feel any added burden to completing the survey.

3.4 PROCEDURES

Instrumentation and pilot test

Survey questions purchased by the SC Campaign were constructed in consultation with the USC ORS staff. Two questions (i.e., Q16 and Q17) on previous surveys were kept to assess current level of support for CSE and perceived level of effectiveness of CSE respectively. Six new questions were investigator developed (Q18 – Q23) to: 1) measure support for availability of condoms and contraception (Q18, Q19 & Q20); 2) measure support for state funding availability of condoms and contraception (Q21 & Q22); and, 3) measure respondents perceptions of the issue of teen pregnancy as a moral issue or public health issue (Q23). The full survey consisted of 36 items, 8 of which listed above, purchased by the SC Campaign (see Appendix A for Public Opinion Survey). These investigator developed survey questions were developed through the adaption of items from previous studies and the development of new items based on the review of literature. The demographic questions of the questionnaire were developed by SCSS staff.

The research instrument was pretested to determine if: 1) the questions could be easily understood by respondents; 2) the order of the questions seemed logical to the

interviewers and respondents; and, 3) if it contained other identifiable weaknesses. The USC ORS conducted a pretest in late spring 2013 using four senior trained interviewers with a convenience sample of 30 respondents. The feedback from pilot-test respondents yielded two major issues that needed to be addressed to increase understandability of the survey items. One question was divided into two questions to assess: perceived effectiveness of contraception for preventing HIV/STIs and perceived effectiveness of contraception for preventing pregnancy.

The USC ORS team also recommended that two questions be moved within the survey to minimize potential question order effects which occur when prior questions may influence responses to subsequent questions (Bradburn & Mason, 1964).

Specifically, items Q5 and Q6 were rotated, so that half of the respondents were asked Q5 followed by Q6; the other half of the respondents were asked these questions in reversed order. The rotation of these questions increased reliability of the survey and decreased any bias introduced with question order effects.

Interviewer Training

Even though many of the interviewers had conducted several similar telephone interviews and participated in other data collection procedures in their role at USC ORS prior to the current study, interviewers were trained to administer the study questions of the current study. Prior to data collection, a team of 25 interviewers were trained by a senior interviewer. Interviewers were trained on how to ask the survey items in a manner that is considered non-biased and/or leading. Interviewers were also instructed on how to enter the coded data into the statistical software during the survey to document responses. Interviewers were given the opportunity to make comments or ask clarifying questions

about the content and wording of the instrument. After the completion of the training, interviewers developed a schedule to administer the survey over a period of 3-4 weeks.

3.5 INCLUSION CRITERIA

The landline and cell phone samples were independent. If a household was reached on a landline, a respondent within that household was selected to participate. When a person was reached on cell phone, they were asked if they also had a landline and, if so, what percentage of their calls they received on their cell phone. If this percentage was less than 90%, these data were not included in the cell phone sample. When contact was made with an individual, they were asked a series of questions to determine eligibility, including the following inclusion criteria: 1) confirm the number reached was for a cell phone or landline, 2) individual who answered was 18 years of age or older, and 3) confirm that they were a resident of South Carolina.

3.6 DATA COLLECTION

The phone interviews were conducted between May 13 and June 20, 2013. Calls were made from 9:00 AM to 9:30 PM Monday through Friday, from 10:00 AM to 4:00 PM on Saturday, and 3:00 PM to 8:00 PM on Sunday. Interviews were approximately 15 minutes in length. Respondents verbally answered each question and the interviewer directly entered responses into the Computer-Assisted Telephone-Interviewing (CATI) system. After the interviews were completed, open-ended questions were coded.

Sample

In the landline component of this study, a total of 595 fully completed interviews and 29 partially completed interviews were conducted, while the cell phone component consisted of 209 completed interviews and eight partial completions. If the respondent

answered more than 50% of the questions, their responses were included in the data. The overall response rate was 22.1% (841/3801): 28.0% for landline (624/2229) and 13.8% for the cell phone component (217/1572) (Oldendick, 2013).

Sampling Error

The survey has a potential for sampling error given that not all residents of the state were interviewed. For questions answered by eight hundred (800) respondents the potential for error is +/- 3.5% (Oldendick, 2013). Results for questions answered by significantly fewer than 800 respondents and results for subgroups of the population have a potential for larger variation than those for the entire sample (Oldendick, 2013).

Weighting the Sample

Several weighting variables for the survey data were created to adjust for biases in the data. The first was a weight to adjust for households that can be reached on more than one telephone number. This weight was developed so that such households are not overrepresented in the sample. This weight was applied to the data whenever households are the desired unit of analysis.

The second weighting variable adjusted for the fact that the sampling unit in the survey was the household rather than the individual respondent. It also adjusts for multiple telephone households. When the individual is the appropriate unit of analysis rather than the household, this weight was used.

The third weighting variable made additional adjustments to the individual weight for underrepresentation of various demographic groups in the population due to either nonresponse or to the fact that certain households do not have a telephone. The degree of underrepresentation was assessed by comparing the demographic data from the survey with

population estimates provided by the U.S. Census Bureau. This weight was used to ensure that a representative sample for making estimates of the true population figures for South Carolina.

3.7 RESEARCH QUESTIONS

The study's research questions were:

- I. What is the current level of support for CSE among South Carolinians?
- II. How do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians support for CSE
- III. What is the current level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs among South Carolinians?
- IV. How do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs?
- V. How do personal values correlated with the view of reproductive health?

3.8 OPERATIONALIZATION OF VARIABLES

In order to answer the research questions, the study variables were operationalized as follows:

Dependent Variables

The dependent variables in this investigation addressed the level of support for CSE among South Carolinians, level of support for availability of condoms and contraception in schools and communities; and, perceptions of reproductive health as a moral issue or a public health issue.

Support for CSE. One question assessed respondents' support for CSE, "Do you think that comprehensive sexuality education which emphasizes abstinence as the first and best option for young people, but also teaches youth about the benefits and importance of using contraception to prevent pregnancy and/or sexually transmitted diseases should be taught in public schools?" Response choices were: "Yes"; "No"; "It Depends"; or "Don't Know".

Support for Condoms and Contraception in Schools and Communities. The following two questions were collapsed into one item to measure the level of support for availability of condoms and contraception in communities and schools: "The next questions are about resources in your community that are not specific to schools", 1) "Making condoms available to teens helps decrease the rate of pregnancy and sexually transmitted diseases". Response choices were: "Strongly Agree"; "Agree"; "Disagree"; "Strongly Disagree"; or "Don't know", and 2) "Making contraception (such as the birth control pill) available to teens helps decrease the rate of pregnancy." Response choices were: "Strongly Agree"; "Agree"; "Disagree"; "Strongly Disagree"; or "Don't know".

Perception of Reproductive Health. This variable was measured with one item; "For some people, the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue. For other people, the issue of teen reproductive health including teen pregnancy and access to contraception is a public health issue. What about you...do you think that the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue, public health issue, both a moral and public health issue, or neither?" Response choices were: "moral issue", "both; more of a moral issue", "both moral and public health (equal)", "both; more of a public health

issue”, “public health issue”, “neither a moral nor public health issue” or “don’t know”. If respondents said “both”, interviewers probed “would you say this was more of a moral issue or public health issue?”

Demographics. Demographic variables included respondents’ age, gender, race, political affiliation, income, education level, parental status, region of residence, urban/rural area of state and voting status.

The 12 independent variables included: 1) support for state funding to distribute condoms and contraception to teens; 2) beliefs regarding the issue of teen reproductive health; 3) age; 4) gender; 5) race; 6) political affiliation; 7) income; 8) education level; 9) parental status; 10) zip code/residence; 11) urban/rural area of state and, 12) voting status.

Dependent and independent variables, and their respective survey items, and variable characteristics are included in Appendix B.

3.9 SAMPLING FRAMEWORK

A dual sampling frame approach, one based on landline telephone exchanges and the second based on cell phone telephone numbers, was used in selecting respondents for this study. For the landline component, respondents were selected from a random sample of households with telephones in the state. Respondents in the cell phone sample were randomly selected from a list of all possible cell phone exchanges in South Carolina. The first three digits of all cell and landline numbers are listed in the database. The software selects one of these “extensions” and then randomly dials the last 4 numbers from 0001 to 9999 so that number is randomly generated. To obtain a completion rate of around 650 surveys, it was necessary to generate approximately 5,000 landline numbers and to obtain a completion rate of around 150 surveys from cell numbers, it was necessary to generate

approximately 2,000 phone numbers. If a person has a landline and a cell phone, the person will only be surveyed using one line (either cell or landline).

Each of these numbers was called by the survey interviewers. Businesses, institutions, not-in-service, or not-assigned numbers were excluded. The remaining numbers resulted in contacts to residences in the landline component and with individuals in the cell phone component. When contact was made with a residence in the landline component, a respondent, 18 years of age or older, was randomly chosen from the household's occupants by the interviewer asking to speak with the occupant in the household with the next birthday. This was done so that the person answering the phone is not always the person taking the survey since women and older people would be over-sampled because they are usually the people that answer the phone. So using the next birthday is a non-invasive way to represent the general population. If a respondent hangs up, the interviewer attempts to call them back one time (Alton et al., 2009; Lindley et al., 1998). The landline and cell phone samples were independent. If a household was reached on a landline, a respondent within that household was selected to participate. When a purpose was reached on cell phone, they were asked if they also had a landline and, if so, what percentage of their calls they received on their cell phone. If this percentage was less than 90%, these data were not included in the cell phone sample.

3.10 ANALYSIS

Data Management and Data Cleaning

The raw data for the study were provided after the interviewing concluded and all responses were entered into a statistical package. USC ORS reviewed the data for data-

entry errors and made corrections. ORS provided the data file in Microsoft Excel format. Data were saved in a secure file and password protected for security.

Missing Data

Several steps were used to increase respondents' response rate to every question (i.e., minimizing survey length). However, there were refusals and incomplete surveys resulting in missing data. If the respondent completed at least half of the survey then the data were included in the results, if the respondent completed less than half of the survey then the data were not included in the results. For questions for which there was missing data (e.g., the person refused to answer), the information for that question was not included in the analysis. Therefore the sample size for each question varied depending on the survey completion rate for each participant.

Statistical Method

The dataset was weighted to adjust for underrepresentation of various demographic groups in the population, nonresponse, and for households that do not have a telephone (Oldendick, 2013). Statistical Package for the Social Sciences (SPSS) v23 (IBM, 2014) was used to perform all analyses for this study. Univariate analyses on all variables were performed to determine if the data were normally distributed and to describe the sample. Frequencies, means ranges, and standard deviations (for ordinal level variables) were calculated for each study variable to check for missing responses, potential outliers and variance. Bivariate analyses were conducted using Chi-square (nominal by nominal), Lambda (nominal by ordinal) and Gamma (ordinal/ratio by ordinal) tests to determine if significant associations existed among dependent and independent variables.

Depending on the distribution of the data and level of measures, multivariate procedures (e.g., Logistic regression, ANOVA, and multiple comparison tests, using the pairwise comparison test) were conducted to explain variance in the dependent variables. A probability value of 0.05 and smaller was considered statistically significant.

Statistical tests were conducted to measure validity and reliability of the survey items and scales. Cronbach's alpha (a widely used measure of a scale's internal consistency) were performed on all scales. Hypotheses and analyses plan for each research question are illustrated in Table 2.1.

TABLE 2.1 HYPOTHESES AND ANALYSIS

Research Question 1: How do selected demographic variables (i.e., age, race, gender, income, voting status, political party) correlate with South Carolinians support for comprehensive sex education?					
Hypothesis	Sample	Type of Measure	N	Dependent Measure	Analysis
A. There is no difference in the level of support for comprehensive sex education based on the below factors: <ul style="list-style-type: none"> • Age • Race • Gender • Income • Voting status • Political party 	Cross Sectional (South Carolina residents)	Categorical	832	Should comprehensive sex ed be taught in SC public schools? (Q16)	χ^2 ; ANOVA

Research Question 2: How do selected demographic variables (i.e., age, race, gender, income, voting status, political party) correlate with South Carolinians level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs?

Hypothesis	Sample	Type of Measure	N	Dependent Measure	Analysis
<p>A. There is no difference in the level of support for making condoms and contraception available to teens.</p> <ul style="list-style-type: none"> • Age • Race • Gender • Income • Voting status • Political party 	Cross Sectional (South Carolina residents)	Categorical	832	<p>Making condoms available to teens helps to decrease rate of pregnancy and STIs (Q18)</p> <p>Making contraception available to teens helps to decrease rate of pregnancy (Q19)</p> <p>Making contraception available to teens helps to decrease rate of STIs (Q20)</p>	X ² ; GLM

Research Question 3: How do personal values impact the level of support for comprehensive sex education?					
Hypothesis	Sample	Type of Measure	N	Dependent Measure	Analysis
<p>A. There is no difference between South Carolina residents who view teen pregnancy prevention as a moral issue and the level of support for comprehensive sex education.</p> <ul style="list-style-type: none"> • Race • Gender 	Cross Sectional (South Carolina residents)	Categorical	832	<p>Should comprehensive sex ed be taught in SC public schools? (Q16)</p> <p>Teen reproductive health is a moral issue (Q23)</p>	X ²

3.11 LIMITATIONS

This study used secondary data from a cross-sectional research design and relied on self-reported data from respondents over the phone. The results of this study are, therefore, limited to correlations between variables including support for CSE and respondent's perceived view of reproductive health. Results have limited generalization to other samples.

Additionally, telephone availability and time constraints are the most common limitations to using a random-digit-dial telephone survey to collect data from respondents. Interviewers also used cell phone numbers to conduct the survey to include residents who may not have a landline. The survey was also limited to a reasonable number of items (36 total) to reduce time constraints so that respondents were more likely to complete the survey. Even using a random sampling, respondents could "decline" by not answering the telephone or by direct refusal to participate. It is possible that only

individuals with specific motives or interests agreed to participate and therefore the data are not generalizable to all South Carolina residents.

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CHAPTER 4:

4.1 SUPPORT FOR COMPREHENSIVE SEXUALITY EDUCATION AND ADOLESCENT ACCESS TO CONDOMS AND CONTRACEPTION IN SOUTH CAROLINA¹

¹ Kershner, S. H., Corwin, S. J., Prince, M.P., Robillard, A.R. and Oldendick, R.W. To be submitted to *Health Promotion Practice*.

ABSTRACT: A random-digit dialed telephone survey was administered to the general population of a historically conservative southern state to assess the level of support for CSE in public schools. Data were also collected to assess the support for availability of condoms and contraception as an effective strategy for reducing unintended pregnancies and STIs among adolescents. Survey data were obtained from 841 South Carolina residents from May through June 2013. Findings from the study revealed that the majority of South Carolina residents: 1) support CSE in public schools; 2) support access to birth control as an effective strategy for decreasing pregnancies among adolescents; and 3) support availability of condoms as an effective strategy for decreasing pregnancies and STIs among adolescents. Data were analyzed to determine characteristics of the population in support of CSE and adolescent availability of condoms and contraception as a prevention strategy to reduce pregnancies and STIs. Results from this study could be used to inform key stakeholders, policy makers and leadership so that health promotion strategies can be tailored to the perceived beliefs of a population.

INTRODUCTION

In recent history, legislators have increasingly enacted policies that aim to reduce risky behaviors that are strongly associated with chronic infections and conditions (e.g., smoking cessation programs, seatbelt laws) (Baum & Fisher, 2014). In spite of this progress, there are several policies and subsequent funding streams that support contradictory approaches to reducing risky sexual behaviors among adolescents (i.e., the support of abstinence-only programs versus the support of CSE programs).

Comprehensive Sexuality Education is defined as “programs which teach about abstinence as the best method for avoiding STIs and unintended pregnancy, but also

provides medically accurate information about contraceptives and condoms, thus promoting abstinence along with protective behaviors to reduce the risk of unintended pregnancy and infection with STIs, including HIV” (Advocates for Youth, 2001; Eisenberg, Bernat, Bearinger, & Resnick, 2008). Whereas, *Abstinence Only until Marriage Education* (“*abstinence-only*”) is defined as “programs which teach abstinence as the only morally correct option of sexual expression for teenagers” (Advocates for Youth, 2001). Abstinence-only education refers to HIV and STIs as reasons to abstain from sex but does not discuss any other ways to prevent the spread of infections (Collins, Alagiri, & Summers, 2002). Only a few abstinence-only curricula have been evaluated and even fewer studies have met the federal Title V guidelines of the Social Security Act which established a new funding stream to provide grants to states for abstinence-only-until-marriage programs (Bleakley, Hennessey & Fishbein, 2006). These programs tend to censor information about contraception and condoms for the prevention of unintended pregnancy and STIs (Advocates for Youth, 2001).

While the state of South Carolina in particular should be commended for being only one of twenty-two states to mandate sex and HIV education in schools through the Comprehensive Health Education Act (CHEA), (Guttmacher, 2015) the CHEA does not require that materials used in the classroom be medically accurate, culturally appropriate and unbiased, or free of religious doctrine which results in variations in content across school districts.

Research is quite clear that CSE does not encourage sexual activity and, in fact, delays the onset of first intercourse (Kirby, 2001, 2007; Manlove et al., 2004). To date, only a few abstinence-only programs have shown to delay first intercourse (Jemmott,

Jemmott & Fong, 2010). While South Carolina receives over \$4 million annually to successfully implement CSE programs (OAH, 2013), 75% of public schools in South Carolina are not in compliance with at least one of the six measurable requirements of the reproductive health education components of the CHEA (Wiley, Wilson, & Zenger, 2013). Research has continued to document that CSE programs can delay initiation of sex, reduce frequency of sex, reduce the frequency of unprotected sex and reduce the number of sexual partners (Kirby, 2001, 2007; Manlove, Papillo, & Ikramullah, 2004).

EPIDEMIOLOGY OF RISK BEHAVIOR

Adolescent sexual risk-taking can have serious implications for HIV, STIs and unintended pregnancy. Although the most recent teen birth rate has reached a historic low, the national teen birth rate remains one of the highest rates among other industrialized countries (Hamilton & Ventura, 2014). The most recent national data (2013) indicate that 274,641 infants were born to youth age 15 to 19, yielding a live birth rate of 26.6 live births per 1,000 population (Ventura, Hamilton, & Mathews, 2014). The number of births among this age group declined 10% since the previous year (2012) and is 57% lower than 1991 (Ventura et al., 2014).

According to the 2013 Youth Risk Behavior Survey (YRBS) (CDC, 2014), SC high school students were more likely to engage in sexual intercourse as compared to their national peers (47.5% vs. 46.8%). Despite a 54% decline in the teen birth rate since 1992, SC still ranks 13th in the nation for the rate of births among 15-19 year olds with a birth rate of 31.6 per 1,000 females (SC DHEC, 2014). Further in 2013, 25% of all SC teen births among 15-19 year olds were repeat births (SC DHEC, 2014).

Research suggests that abstinence-only education policy is ineffective in decreasing risky sexual behaviors (Kirby 2001, 2007; Trenholm et al., 2007), yet historically governmental funding has supported these programs (e.g., Community-Based Abstinence Education under the Bush administration in 2001). The recent decline in unintended births (68% since 1992) among school age adolescents (15-17 years old) (SC DHEC, 2014) underscores the positive impact that CSE and access to contraception is having on the sexual behaviors of adolescents.

INFLUENCE OF PUBLIC OPINION ON POLICY

Despite recent data indicating the decrease in teen births, the current rates of sexual activity and negative health outcomes of risky sexual behaviors remains a significant public health concern (American Academy of Pediatrics, 2013). Unplanned pregnancy is an unequivocally preventable health outcome and the rate of teen pregnancy can be decreased with policies targeting the factors correlated with teen pregnancy, including exposure to comprehensive reproductive health information and increased availability of condoms and contraception for sexually active youth (Kirby, 2007; National Campaign, 2012).

One effective strategy to address the behaviors of a population is to enact new policies (e.g. age requirements to accessing contraception) or enforce existing policies (e.g. monitor school's compliance with the CHEA) (Carlisle, 2000; McLeroy & Crump, 1994). Research has shown that there is a substantial correlation between public opinion and policy particularly when the opinion was sustained (i.e., long lasting and unchanged) and the issues were salient to the general population (Page & Shapiro, 1992). This study found that there was congruence between opinion change and policy 66% of the time and

increased to 90% of the time when the opinion change was large and sustained over a period of time (Miller & Stokes, 1963). In 1979, Monroe added to this research by concluding that saliency of an issue is a key factor in producing policy change and that only issues of high saliency will be addressed by lawmakers (Monroe, 1979).

These aforementioned studies concluded that an issue must be perceived as highly important and must remain on the forefront of the public agenda (including key leaders, politicians, school leadership, etc.) over a long period of time in order for it to impact policy. However, the sustainability of public opinion (i.e., extent to which an opinion is held over a long period of time) is often influenced by factors outside of one's control such as international warfare and economic crises. Often times, the public opinion on an issue is unknown until an historical event occurs moving a population to feel oppressed or violated such as mass shootings or incidents of police brutality (Stimson, 1999; Stimson, MacKuen & Erikson, 1994). Due to the cyclical relationship between public opinion and policy, combined with the fluctuating nature of public opinion, it is crucial to assess public opinion regularly to determine if policies do reflect the beliefs of a population. In order to effectively address health behaviors of a community, key leaders need to gauge the pulse of the general public to ensure that health behaviors are being addressed through current policies.

FACTORS RELATED TO PUBLIC SUPPORT OF COMPREHENSIVE SEXUALITY EDUCATION

To better understand the relationship between the preferences of the general public and the policies that are intended to be representative of those preferences, studies have been conducted to assess the perceived level of support for CSE. Research on public support has shown that the majority of Americans are supportive of CSE in public

schools which includes science-based information about condoms and contraception (Bleakley et al., 2006; Eisenberg et al., 2008; Haffner & Wagoner, 1999). It is also important to note that the level of support is not limited to certain parts of the country; support has been shown in conservative southern states such as North Carolina, South Carolina and Texas (Kirby, 2006). The level of support among South Carolinians has remained over 80% since the late 1990's (Alton, Valois, Oldendick & Drane, 2009; Lindley et al., 1998). The general public does not only support CSE but some research has found that half of the general population actually opposes abstinence-only education and over half believe that abstinence-only education is not an effective method to prevent unplanned teen pregnancy (Kirby, 2006).

Previous studies conducted in the Southern region of the country, and more specifically in South Carolina, have found several variables to be significantly related to the level of support for CSE. Younger respondents were nearly twice as likely to support CSE compared to respondents in the older age categories (Alton et al., 2009). The research concluded that five variables were shown to be significantly correlated with support for CSE; age, race, region of the state, political party, and outcome expectations (Alton et al., 2009).

Nationally, Bleakley and colleagues (2006) assessed the level of support for CSE programs among adults in the country and found that the majority of adults were incredibly supportive of CSE programs, including education on condoms and contraception (Bleakley et al., 2006). These results underscore the results of numerous similar surveys that have been conducted for decades demonstrating such support. As far back as 1943, the Gallup Poll found that 68% of adults supported implementation of sex

education in school (Gallup, 1972). By 1985, the support for CSE programs had increased to 85% (Kirby, 2002). Moreover, for decades these polls have demonstrated that adults across the country want sex education instruction to include both abstinence, condoms and other methods of contraception (Kirby, 2002). Notably, this support is not limited to only certain parts of the country; similar surveys in more religiously-based, conservative southern states, such as North Carolina, South Carolina, and Texas, have demonstrated strong support for CSE programs that encourage abstinence but also encourage the use of condoms and other contraceptives among sexually active students (Alton et al., 2001; Howard-Barr, Moore, Weiss & Jobli, 2011; Ito et al., 2006).

A similar survey conducted in a South Florida county found that most respondents were in favor of an abstinence-based approach versus an abstinence-only approach to reproductive health education (Howard-Barr et al., 2011). This same study showed that there were some demographic differences in the level of support. African-Americans were more likely than their white counterparts to choose an abstinence-only approach and more likely to support the idea that teaching about birth control led to an increase of sexual behaviors (Howard-Barr et al., 2011). Males were also more likely than females to support an abstinence-only approach and more likely to believe that providing birth control information encouraged sexual behaviors (Howard-Barr et al., 2011).

Years of national and state level data has shown repeatedly the majority of the public overwhelmingly supports CSE being taught in the schools, to include information on abstinence and contraception (Bleakley et al., 2006; Eisenberg et al., 2008; Eisenberg, Bernat, Bearinger, & Resnick, 2009; Kirby, 2007). Even with support of these programs, there is no federal mandate to teach CSE in schools. Thus, there is no standard to what is

being taught across the country and therefore no monitoring of what information students are being taught in schools.

PUBLIC SUPPORT OF INCREASED AVAILABILITY OF CONDOMS AND CONTRACEPTION IN SCHOOLS AND COMMUNITIES

Condom availability has been positively correlated with condom use and widespread distribution programs are being recommended by the Centers for Disease Control and Prevention (CDC) as a way to decreased teen births and the acquisition of STIs among teens (American Academy of Pediatrics, 2013). While the factors associated with condom use among adolescents are varied and complex, research has shown that one predictor is being prepared by obtaining a condom prior to sexual behaviors (Empelen & Kok, 2006; Maxwell, Bastani, & Warda, 1999). Rates of condom use have been strongly correlated with the enabling environmental factors of availability and accessibility (Guttmacher, 2011; Hamilton & Ventura, 2014).

Past research has demonstrated the support for CSE among the general public but there are few studies that have investigated the attitudes of the public towards increasing access of condoms and contraception for sexually active adolescents (Bleakley et al., 2006; Eisenberg et al., 2008; Haffner & Wagoner, 1999). A few older studies conducted nationally and in New York City showed that parents were supportive of condom distribution programs, specifically 69% of parents supported condom distribution in schools (Guttmacher et al., 1995; Louis Harris, 1988; Rafferty & Radosh, 1997). A recent study found that most adults (79%) in Massachusetts also supported condom availability programs in schools (Orner, Meehan, Brooks, Mucci & McGuire, 2001). Other research indicated that the majority of the general public strongly supports condom availability for adolescents but support varied significantly by certain personal characteristics, with less

supportive views from those who identified as politically conservative (Eisenberg et al., 2009).

Although research is limited, studies have also shown support for increasing access to contraception among sexually active youth. One study found that the majority of parents (59%) were in support of oral contraceptives being offered to their daughter (Hartman et al., 2013). A 1992 Gallup Poll showed that 68% of adults thought that condoms should be available in schools and many national organizations such as the Institute of Medicine (IOM), American Academy of Pediatrics and the American Medical Association have all supported policies which recommend that condoms be made available to adolescents in school (American Academy of Pediatrics, 1995; American Medical Association, 1997; Fanburg, Kaplan & Naylor, 1995; Guttmacher et al., 1995; IOM, 2001). One limitation to these aforementioned studies is their limited generalizability to more conservative areas of the country, such as South Carolina.

The purpose of this study was to assess SC public opinion in two areas: 1) support for CSE, and 2) support for increasing adolescent availability of condoms and contraception in communities and schools using a cross-sectional design. These data are essential for informing key leaders (e.g. policy makers, school personnel, administration of community-based organizations, and others) to help inform their adoption of policies to reduce unintended teen pregnancies and STIs.

METHODS

The South Carolina State Survey (SCSS) is a phone-based survey administered twice annually since 1990. SCSS is a cost-shared random probability survey of residents age eighteen and older living in South Carolina to allow policy makers, researchers, state

agencies (e.g. Department of Revenue, Department of Health and Environmental Control) and other organizations (such as non-profit organizations) an opportunity to gather reliable data across a multitude of topic areas (e.g. road conditions, taxation).

SAMPLING FRAMEWORK

From May through June 2013, twenty five trained interviewers using a dual sampling approach conducted 15 minute phone interviews to select respondents, one based on landline telephone exchanges and the second based on cell phone telephone numbers. The response rate for the landline component was 28.0% (624/2229) and for the cell phone component it was 13.8% (217/1572). The overall response rate was 22.1% (841/3801).

The SCSS has a potential for sampling error given that not all residents of the state were interviewed. For all questions that were answered by eight hundred (800) or so respondents the potential for error is +/- 3.5%. Results for questions answered by significantly fewer than 800 respondents and results for subgroups of the population have a potential for larger variation than those for the entire sample.

RESEARCH INSTRUMENT

Eight survey items were added to the existing 2013 36-item SCSS to measure South Carolinian's support for CSE and support for increased availability of condoms and contraception in schools and communities.

Two dependent variables were identified for this study; 1) the level of support among South Carolinians for CSE and 2) the level of support for availability of condoms and contraception in communities and schools. The first dependent variable was measured by one survey item and the second dependent variable was measured by combining two survey items to create one combined item resulting in a Cronbach's Alpha of 0.773.

One question was used to measure support for CSE 1) “Do you think that comprehensive sexuality education which emphasizes abstinence as the first and best option for young people, but also teaches youth about the benefits and importance of using contraception to prevent pregnancy and/or sexually transmitted diseases should be taught in public schools?” Response choices were: “Yes”; “No”; “It Depends”; or “Don’t Know”.

The following two questions were collapsed into one item to measure the level of support for availability of condoms and contraception in communities and schools: 1) “Making condoms available to teens helps decrease the rate of pregnancy and sexually transmitted diseases”. Response choices were: “Strongly Agree”; “Agree”; “Disagree”; “Strongly Disagree”; or “Don't know”, and 2) “Making contraception (such as the birth control pill) available to teens helps decrease the rate of pregnancy.” Response choices were: “Strongly Agree”; “Agree”; “Disagree”; “Strongly Disagree”; or “Don't know”.

The twelve independent variables to be analyzed include: 1) support for state funding to distribute condoms and contraception to teens; 2) beliefs regarding the issue of teen reproductive health; 3) age; 4) gender; 5) race; 6) political affiliation; 7) income; 8) education level; 9) parental status; 10) zip code/residence; 11) urban/rural area of state and, 12) voting status.

ANALYTIC APPROACH

Data were weighted to adjust for underrepresentation of various demographic groups in the population for nonresponse or for households that do not have a telephone. SPSS v23 (IBM, 2014) was used to perform all analyses on the weighted data. Univariate analyses on all variables were performed to determine if the data were normally

distributed and to describe the sample. Frequencies, means ranges, and standard deviations (for ordinal level variables) were calculated for each of the study variables to check for missing responses, potential outliers and variance. Bivariate analyses were conducted using Chi-square (nominal by nominal), Lambda (nominal by ordinal) and Gamma (ordinal/ratio by ordinal) tests to determine if significant associations existed among dependent and independent variables. Depending on the distribution of the data and level of measures, multivariate procedures (e.g., Logistic regression, ANOVA, and multiple comparison tests, using the pairwise comparison test) were conducted to explain variance in the dependent variable while controlling for gender and race in all models. A probability value of 0.05 and smaller was required to consider tests statistically significant. Cronbach's alpha were performed on all scales with $r \geq .70$ considered reliable and acceptable (Nunnally, 1978).

RESULTS

Respondents

As indicated in Table 4.1, the sample consisted of 841 SC residents representing 52% female and 48% male, while 72% identified as White and 28% identified as African American. Respondents were distributed among age categories; 35% were between 45-64 years old, 26% were between 30-44 years old, 22% were between 18-29 years old, and 18% were older than 65 years old. Approximately, one-third of respondents indicated having completed some college and almost one-third of respondents indicated a household income of \$75,000 or more annually. Respondents were distributed among across types of living areas with 38% living in a suburban area, 36% reported living in a rural area, and 26% living in an urban area. Most (84%) respondents were registered

voters and there was a slightly larger percentage (44% versus 40%) of respondents identifying as “strong or leaning” Democrat versus “strong or leaning” Republican with the remaining (15.7%) identifying as Independent, “neither Democrat nor Republican”.

TABLE 4.1 FREQUENCY DISTRIBUTIONS AND TEST STATISTICS FOR DEMOGRAPHIC VARIABLES BY LEVEL OF SUPPORT FOR CSE AMONG SURVEY RESPONDENTS (N=841)

Characteristic	Yes, support CSE (n=693)		No, do not support CSE (n=81)		Likelihood Ratio X2 (df) p-Value
	N	(%)	N	(%)	
Gender					
Male	321	46.3	53	65.4	10.608 (1) .001
Female	372	53.7	28	34.6	
Total	693	100.0	81	100.0	
Race					
Black	191	30.0	13	20.0	2.876 (.090) .057
White	445	70.0	52	80.0	
Total	636	100.0	65	100.0	
Age					
18-29 years	152	23.0	12	17.6	15.201 (3) .002
30-44 years	181	27.4	12	17.6	
45-64 years	231	35.0	22	32.4	
65 and over	96	14.5	22	32.4	
Total	660	100.0	68	100.0	
Education					
Less than High School	64	9.6	6	8.6	0.090 (3) .993
High School Diploma	179	27.0	19	27.1	
Some College	222	33.4	24	34.3	
College Degree	199	30.0	21	30.0	
Total	664	100.0	70	100.0	

TABLE 4.1 FREQUENCY DISTRIBUTIONS AND TEST STATISTICS FOR DEMOGRAPHIC VARIABLES BY LEVEL OF SUPPORT FOR CSE AMONG SURVEY RESPONDENTS (N=841)

Characteristic	Yes, support CSE (n=693)		No, do not support CSE (n=81)		Likelihood Ratio
					X2 (df) p-Value
Income					
Under \$25,000	157	28.2	10	17.5	6.351 (3) .096
\$25,000-\$49,999	153	27.5	16	28.1	
\$50,000-\$74,999	92	16.5	7	12.3	
\$75,000 and over	155	27.8	24	42.1	
Total	557	100.0	57	100.0	
Type of Area					
Urban	168	25.2	20	28.2	0.721 (2) .697
Suburban	259	38.8	24	33.8	
Rural	240	36.0	27	38.0	
Total	667	100.0	71	100.0	
Region					
Upstate	263	38.2	35	43.2	1.549 (2) .461
Midlands	220	31.9	27	33.3	
Lowcountry	206	29.9	19	23.5	
Total	689	100.0	81	100.0	
Parental Status					
Parent of child age 10-19	164	24.5	15	21.1	0.402 (1) .526
Not a parent	505	75.5	56	78.9	
Total	669	100.0	71	100.0	
Voter Status					
Registered	571	85.2	58	82.9	0.278 (1) .598
Not registered/don't know	99	14.8	12	17.1	
Total	670	100.0	70	100.0	
Political Party Identification					
Republican	242	39.7	32	48.5	26.544 (2) .000
Independent	77	12.6	21	31.8	
Democrat	290	47.6	13	19.7	
Total	609	100.0	66	100.0	

Support for Comprehensive Sexuality Education

The majority (89.5%) of respondents supported teaching CSE in public school.

Further when respondents were asked whether CSE was an effective strategy to decrease

the rate of pregnancy and STIs, approximately 80% of respondents agreed (i.e., 31% *strongly agree* and 49.1% *agree*).

Characteristics of Supporters for Comprehensive Sexuality Education

Almost 90% of respondents agreed when asked “do you think that CSE which emphasizes abstinence as the first and best option for young people, but also teaches youth about the benefits and importance of using contraception to prevent pregnancy and/or STIs should be taught in public schools.” Of those who agreed, more than half (53.7%) were female, 70% were white, 35% were between the ages of 45-64 years, and 85% were registered to vote in South Carolina. Further, 47.6% identified as a member of the Democratic Party.

As indicated in Table 4.1, Chi square test statistics show that support for CSE was significantly related to gender, $X^2(1,n=774)=10.608$, $p<.001$; age $X^2(3,n=728)=15.201$, $p<.0$, and political party $X^2(2,n=675)=26.544$, $p<.001$.

Logistic regression analyses controlling for gender and race (Table 4.2) showed that respondents aged 18-64 were more likely to support CSE compared to respondents aged 65 years and older (saying “no” to supporting CSE in schools was held as the constant variable; Table 4.2 shows odds ratio of respondents saying “no”). When compared to the 65 and older age group, the odds of *not supporting* CSE increased from the 18 – 29 age group to 45 – 64 age group, suggesting that as age decreases the likelihood of supporting CSE increases ($p<0.01$). Males were twice as likely as females to be *unsupportive* of CSE (OR=2.250, $p<.001$). Further, respondents reported making less than \$25,000 were more likely to support CSE when compared to respondents making \$75,000 or more annually (OR=0.398, $p<0.05$). When compared to respondents

identifying as Democrat, Republicans and Independents were nearly four and eight times more likely to be *unsupportive* of CSE (OR=4.540, $p < .001$; OR=8.016, $p < .001$). (Table 4.2)

TABLE 4.2. RESULTS OF LOGISTIC REGRESSION: DOES *NOT* SUPPORT COMPREHENSIVE SEXUALITY EDUCATION

Predictor	β (SE)	Wald	OR	95% CI	p Value
Age: 18-29 years	-1.673(.470)	12.663***	.188	.075-.427	.000
Age: 30-44 years	-1.193(.389)	9.415**	.303	.142-.650	.002
Age: 45-64 years	-.857(.329)	6.810**	.424	.223-.808	.009
Income: Less than \$25,000	-.920(.443)	4.322*	.398	.167-.949	.038
Political Party: Republican	1.513 (.453)	11.156***	4.540	1.869-11.033	.001
Political Party: Independent	2.081(.459)	20.573***	8.016	3.261-19.707	.000
Gender: Male	.811(.247)	10.805***	2.250	1.387-3.648	.001

*** = $p < .001$, ** = $p < .01$, * = $p < 0.05$

Variables held constant: Age 65 years plus, Democratic Political Party, Female, Say “no” to support CSE in schools

Support for Availability of Condoms and Contraception

The majority (70.7%) of respondents agreed (16.1% strongly agree, 17.9% somewhat strongly agree and 36.7% agree) that making condoms and contraception available to teens in schools and communities helps decrease the rate of pregnancy and STIs.

Characteristics of Supporters for Availability of Condoms and Contraception

As indicated in Table 4.3, support for availability to condoms and contraception was significantly correlated with age ($p < .001$), income ($p < .01$), voter registration status ($p < .001$) and political party affiliation ($p < .001$), after controlling for gender and race

(Table 3). Of those respondents who *strongly agreed* that availability of condoms and contraception is an effective strategy to reduce adolescent pregnancy and STIs, over half were female, almost three-quarters were white, more than half were between the age of 30-64 years, almost 60% earned more than \$25,000, over 80% were registered voters, and over half (53%) identified as a member of the Democratic Party.

TABLE 4.3. SUPPORT FOR CONDOMS AND CONTRACEPTION AVAILABLE IN COMMUNITIES AND SCHOOLS BY DESCRIPTIVE VARIABLES BETWEEN-SUBJECTS EFFECTS ANOVA

Support for Condoms and Contraception x Age	SS	df	MS	F	P-value
Age	28.787	3	9.596	18.180	.000
Gender	1.502	1	1.502	2.845	.092
Race	2.302	1	2.302	4.361	.037
Error	371.578	704	.528		
Corrected Total	401.992				
Support for Condoms and Contraception x Income	SS	df	MS	F	P-value
Income	6.851	3	2.284	4.244	.006
Gender	.355	1	.355	.660	.417
Race	1.596	1	1.596	2.967	.086
Error	318.017	591	.538		
Corrected Total	326.679	596			
Support for Condoms and Contraception x Voting Registration Status	SS	df	MS	F	P-value
Voting Registration Status	6.341	1	6.341	11.406	.001
Gender	1.007	1	1.007	1.811	.179
Race	.139	1	.139	.251	.617
Error	397.499	715	.556		
Corrected Total	405.327	718			
Support for Condoms and Contraception x Political Party	SS	df	MS	F	P-value
Political Party	23.251	2	11.626	22.540	.000
Gender	.856	1	.856	1.660	.198
Race	9.559	1	9.559	18.534	.000
Error	338.341	656	.516		
Corrected Total	363.686	660			

An Analysis of Variance (ANOVA) model was performed with a post-hoc pairwise comparison to determine the effect of statistically significant variables on

support for availability of condoms and contraception while controlling for gender and race. As indicated in Table 4.4, respondents who were more likely to support availability of condoms and contraception in the community and schools were between 18 and 29 years of age. Respondents aged 65 years and older demonstrated a statistically significant lower mean ($x=2.319 \pm 0.070$, $p<.000$) in their level of support for availability of condoms and contraception, compared to respondents age 18-29 years.

Income was also significantly associated with support for availability of condoms and contraception. Respondents who reported making less than \$25,000 annually demonstrated a statistically significant higher level of support for availability of condoms and contraception in communities and schools when compared to all other income brackets ($x=1.882 \pm 0.060$, $p<.05$).

Pairwise comparisons also indicated there were significant group differences between respondents who were registered to vote and those who were not registered in their support for availability to condoms and contraception. Respondents who indicated that they were not registered to vote had a significantly higher level of support ($x=1.822 \pm 0.073$, $p<.001$) compared to respondents who were registered to vote ($x=2.080 \pm 0.032$, $p<.001$). Lastly, significant mean differences were observed between each political party (Independent, Democrat, and Republican). Respondents who identified as Democrat demonstrated the most supportive mean score ($x=1.848 \pm 0.042$) compared with respondents who identified as Independent ($x=2.076 \pm 0.078$, $p<.01$) and Republican ($x=2.334 \pm 0.056$, $p<.001$). (Table 4.4).

TABLE 4.4 RESULTS OF ANALYSIS OF VARIANCE MODEL PAIRWISE COMPARISON: SUPPORT FOR AVAILABILITY OF CONDOMS AND CONTRACEPTION (CONTROLLING FOR GENDER AND RACE)

Predictor	Mean difference	SE	95% CI	p Value
Age: 18-29 years compared to 45-64 years	-.424***	.074	-.569- -.280	.000
Age: 18-29 years compared to 65+ years	-.541***	.088	-.715- -.368	.000
Age: 30-44 years compared to 45-64 years	-.283***	.072	-.424- -.143	.000
Age: 30-44 years compared to 65+ years	-.400***	.087	-.571- -.229	.000
Income: <\$25,000 compared to \$25,000-\$49,999	-.172*	.083	-.335- -.010	.038
Income: <\$25,000 compared to \$50,000-\$74,999	-.331***	.094	-.516- -.145	.000
Income: <\$25,000 compared to \$75,000+	-.177*	.083	-.341- -.013	.035
Voter Registration Status: registered compared to non-registered	.259***	.077	.108-.409	.001
Political Party: Republican compared to Independent	.258**	.086	.090-.426	.003
Political Party: Republican compared to Democrat	.486***	.073	.343-.629	.000

*** = $p < .001$, ** = $p < .01$, * = $p < 0.05$

DISCUSSION

Results from this study were consistent with prior research indicating that the majority of residents support CSE in schools. Nationally, the general public does not only support CSE but some research has found that half of the general population actually opposes abstinence-only education and over half believe that abstinence-only education is not an effective method to preventing unplanned teen pregnancy (Alton et al., 2009; Kirby, 2006; Lindley et al., 1998). Further, in SC the level of support was 82% and has remained over 80% since the early 2000's (Alton et al., 2009; Lindley et al., 1998).

Since data were first collected in 1998, the support for school-based CSE has remained strong. However prior to this study, public support for increasing availability of

condoms and contraception had not been investigated. Interestingly respondents reported a stronger support for CSE than for availability of condoms and contraception as a measure to prevent unintended pregnancy and STIs (90% vs. 71%). Findings from this research indicate that age and gender continue to significantly influence the level of support for CSE among South Carolinians (Alton et al., 2009). These data also show that income and political party significantly influence the level of support for CSE, specifically an income below \$25,000 and identify as a Democrat were more likely to support CSE. These data help to identify subgroups of the population that are not as supportive of CSE and thus can be targeted in health promotion efforts to inform SC residents of the effectiveness of CSE and the law that mandates CSE be taught in public schools.

This study also demonstrates the level of support for availability of condoms and contraception to adolescents in communities and schools. Similar to the characteristics of CSE supporters, respondents who support availability of condoms and contraception in communities and schools were more likely to be younger, make less than \$25,000 annually, and identify as a Democrat. Further, respondents who are not registered to vote were more likely to support increased availability of condoms and contraception. This underscores the importance of assessing a population's perceptions and beliefs because policies may not always be representative of a population if there are people in the population that are not registered to vote, and therefore their beliefs are not reflected through voting behavior.

Results from this study were consistent with previous work, indicating that a majority of South Carolinians are in support of CSE in schools (Alton et al., 2009;

Lindley et al., 1998). This is important to note given that research has demonstrated the substantial correlation between public opinion and policy particularly when the opinion was sustained and the issues were salient (Page & Shapiro, 1992). Policy makers and leaders should use these data to inform the development of new policies (e.g., required condom access points) or the monitoring of existing policies (e.g., CHE Act in schools) to ensure that health policies are representative of the general public's opinion. Further, more work should be done with advocacy efforts to encourage the general public to call their elected officials to ensure that their beliefs are reflected in current policies.

These research findings underscore the importance of health promotion strategies to inform the general public, lawmakers, community advocates and influential leaders in the community on the effectiveness of CSE and increasing availability of reliable forms of contraception for sexually active adolescents. Using data-driven health promotion strategies to educate the general public about the effectiveness of these strategies will influence the level of support for these strategies and ultimately impact policies that will, as part of a multi-level approach, contribute to decreasing the rates of teen pregnancy and STIs among adolescents.

LIMITATIONS

Using a random-digit-dial telephone survey for collected data from respondents comes with limitations including telephone availability and the time required to complete the survey. To include residents who may not have a landline, interviewers also used cell phone numbers to conduct the survey. The survey, however, contained 36 items and the response rate was 22.1%.

Although randomly selected, non-respondents could decline to participate by not answering the telephone and by directly refusing to participate. It is possible that only individuals with specific interests in this topic agreed to participate and therefore the data are not generalizable to all South Carolina residents.

According to the 2010 South Carolina census data, the demographic characteristics of survey respondents were consistent with the 2013 estimates of South Carolina residents. A difference in political party affiliation, however, was observed between study participants and SC residents. In 2013, the Gallup Poll reported that 38% identified as Democrat, while 48% of the study participants identified as Democrat. The Gallup Poll also reported 48% identified as Republican, while only 40% of the study participants identified as Republican. This difference could be a potential bias in the results.

Moreover, the majority (77%) of respondents were *not* a parent of a child age 10-19 years old. Parental status could influence respondents' answers and further limit the interpretation of the study findings.

CONCLUSIONS

These data help to identify subgroups (i.e., young females, annual income of less than \$25,000, Democrats) to be the focus of health advocacy strategies to build their capacity to be community advocates to influence local leaders, policy makers and legislatures. Support for CSE has remained strong over the past twenty years (Alton et al., 2009; Lindley et al., 1998) but a recent assessment demonstrated that 75% of schools in SC are not in compliance with at least one of the six measurable requirements of the reproductive health education components of the CHEA law (Wiley, Wilson & Zenger,

2013). These data could be used to support development of advocacy strategies to amend the current CHEA law so that there is state-level monitoring of the requirements and fiscal consequences if a district is not complying with the requirements. These findings could also be shared with school districts across the state to demonstrate the high level of support for CSE and to encourage schools to comply with the current CHEA law.

Further, these data could be used to support additional research to better understand how the general population feels about increasing availability to condoms and contraception. The survey item used in the study was general and only gauged overall support for availability of condoms and contraception to adolescents. More information is needed about the public's support for condom distribution in schools and community-based organizations. Further research is needed to better understand if a revision to the CHEA law (to include condom distribution in schools) is preferred by the general public.

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4.2 THE RELATIONSHIP BETWEEN PERSONAL VALUES, SUPPORT FOR
COMPREHENSIVE SEXUALITY EDUCATION AND PERCEPTION OF
REPRODUCTIVE HEALTH IN SOUTH CAROLINA¹

¹ Kershner, S. H., Corwin, S. J., Prince, M.P., Robillard, A.R. and Oldendick, R.W. To be submitted to *American Journal of Health Promotion*.

ABSTRACT: A random-digit dialed telephone survey was administered to residents of a historically conservative southern state to assess the perceived view of reproductive health as a moral or public health issue. Data were also collected to assess the level of support for CSE in public schools. Survey data were obtained from 841 South Carolina residents in May through June 2013. Results demonstrated that the largest percentage (33%) of respondents viewed the issue of reproductive health as a moral issue instead of a public health issue and the majority of respondents (90%) continued to support CSE in public schools. Results from this study could be used to inform advocacy efforts through health education and health promotion strategies.

INTRODUCTION

Over the past decade, the topic of sexuality education has posed a particularly heated debate and a challenge for policy makers and public health professionals (Eisenberg, Bernat, Bearinger & Resnick, 2008; Macinko & Silver, 2012). Historically, states and local districts were given the right to decide the approach (e.g., abstinence-only programs versus CSE programs) worked best in their community. This changed in 1996 when the Federal government became involved with sexuality education with the Adolescent Family Life Act administered by the Office of Adolescent Pregnancy Programs (OAPP) (Denny & Young, 2006; Eisenberg et al., 2008). A provision was added to the Welfare Reform Act that provided substantial funding to abstinence-only programs (Denny & Young, 2006; Landry, Darroch, Singh & Higgins, 2003). This provision also introduced a federal definition of abstinence education which emphasized teaching abstinence from all sexual behaviors outside of marriage (Denny & Young, 2006; Landry et al., 2003).

This debate was further re-ignited in 1998 when Section 510 of the Social Security Act allocated \$50 million in grants for abstinence-only education (Eisenberg et al., 2008; Landry et al., 2003). Even with the strong evidence showing a lack of support for the effectiveness of abstinence-only education programs (Kirby 2001, 2007; Trenholm et al., 2007), the federal government has continued to enact policies that provide financial support to these programs.

Comprehensive Sexuality Education (CSE) is defined as “programs which teach about abstinence as the best method for avoiding STIs and unintended pregnancy, but also provides medically accurate information about contraceptives and condoms, thus promoting abstinence along with protective behaviors to reduce the risk of unintended pregnancy and infection with STIs, including HIV” (Advocates for Youth, 2001; Eisenberg et al., 2008).

Abstinence Only until Marriage Education (“abstinence-only”) is defined as “programs which teach abstinence as the only morally correct option of sexual expression for teenagers” (Advocates for Youth, 2001). Abstinence-only education refers to HIV and STI’s as reasons to abstain from sex but does not discuss any other ways to prevent the spread of infections (Collins, Alagiri, & Summers, 2002). Only a few abstinence-only curricula have been evaluated and even fewer studies on abstinence-only curricula have met the federal Title V guidelines of the Social Security Act which established a new funding stream to provide grants to states for abstinence-only-until-marriage programs (Bleakley, Hennessey & Fishbein, 2006). These programs tend to censor information about contraception and condoms for the prevention of unintended pregnancy and STIs (Advocates for Youth, 2001).

In 2010 cuts were made to abstinence-only education allowing funds to be released to support CSE. During this year, Community-Based Abstinence Education was eliminated altogether and replaced with the Teen Pregnancy Prevention Initiative (TPPI) funded by the newly created Office of Adolescent Health (OAH) and the Personal Responsibility Education Program (PREP). Combined, these initiatives provided \$180 million annually to promote evidence-based, medically accurate, age-appropriate teen pregnancy prevention programs (OAH, 2013).

The steady decline in the teen birth rate has been attributed to interventions focusing on delaying the initiation of sexual intercourse coupled with education about effective contraceptive techniques (The National Campaign, 2006). Research has continued to document that CSE programs which include information on abstinence and contraception delay initiation of sex, reduce frequency of sex, reduce the frequency of unprotected sex and reduce the number of sexual partners (Kirby, 2001, 2007; Manlove, Papillo, & Ikramullah, 2004). Few abstinence-only programs have shown to delay the onset of sexual intercourse (Jemmott, Jemmott & Fong, 2010).

While the state of South Carolina in particular should be commended for being only one of twenty-two states to mandate sex and HIV education in schools through the Comprehensive Health Education Act (CHEA) and the state receives over \$4 million annually to implement CSE programs in schools and communities, 75% of public schools in South Carolina are not in compliance with the CHEA law (Guttmacher, 2015; OAH, 2013; Wiley, Wilson & Zenger, 2013). Further, the CHEA does not require that materials used in the classroom be medically accurate, culturally appropriate and unbiased, or free of religious doctrine, which results in variations in content across school districts.

Given the moral beliefs and values that this discussion often solicits, the debate between CSE and abstinence-only education is still ongoing. Therefore, it is essential to better understand the population's stance on these morality policies and thus regularly assess the level of support for such programs in a conservative state like South Carolina.

INFLUENCE OF PERSONAL VALUES ON POLICY

One effective strategy to address the health outcomes of a population is through policies to address negative health behaviors (Carlisle, 2000; McLeroy & Crump, 1994). Individual beliefs about humanity, the community and public affairs influence personal views on political issues (Goren, 2005). These beliefs form a foundation for how the public constructs policy preferences, evaluates public officials and informs voting behavior (Goren, 2005).

The debate over CSE is an example of a *morality policy* (Norrander & Wilcox, 1999). Support for or against CSE is often grounded in personal religious beliefs, values and morals, all of which are based on individual feelings (Norrander & Wilcox, 1999). Although debates over topics such as the economy (i.e., tax increases) are often solved with compromises in syntax or addendums, greater difficulty is faced when policies involve regulation over abortion, sex education in schools and drug laws (Norrander & Wilcox, 1999). Since morality policies often yield public opinion and beliefs that are rooted in religion, morals and values, it is difficult to determine “right” from “wrong” because these values are subjective and incredibly polarizing (Norrander & Wilcox, 1999).

Values are often rooted in culture and personal beliefs, thus they are only slightly impacted by political strategies (Stimson, 1999). Since values remain constant over time,

it is very unlikely that discussions on an issue change one's values (Stimson, 1999). Often times, political debates on issues require trade-offs of alternative values which requires a prioritizing of values and beliefs (Stimson, 1999). For example, the issue of reproductive health is often rooted in personal values regarding health but also rooted in religious beliefs about premarital sex. Therefore, one must decide to prioritize health or religious beliefs, since these values may lead to different beliefs about an issue.

Henry and Reyna (2007) conclude that values often act as a guide for judging whether society is performing in a manner that is viewed as right or wrong. Values are often employed to determine the morality of a behavior or social appropriateness of behaviors or outcomes (Henry & Reyna, 2007). When using values in this fashion, Henry & Reyna (2007) defined this as judgmental expression of values. Value-based judgments are often at the foundation of morality policies that evoke value based judgments such as those regarding same-sex marriage or access to birth control (Henry & Reyna, 2007).

Values guide how one views behaviors, particularly sexual behaviors. Since the Republican Party generally opposes behaviors such as pre-marital sex, members of this party tend to oppose policies that are believed to promote this behavior, even though research does not support the notion that CSE increases sexual activity (Kirby, 2006). Therefore, there may be a values trade-off to prioritize beliefs regarding premarital sex that decreases the value placed on access to health (Stimson, 1999). This values trade-off most often occurs when prioritizing health benefits and financial cost of the issue (i.e., choosing to spend less money and eating only fast food versus spending more money to eat all organic foods).

Shifts and changes in public opinion have been demonstrated to be the most important factor in American politics (Stimson, 1999, 2015). However, not all changes in public opinion occur at the same rate, some changes occur rapidly after a national crisis and other change is slow occurring almost tidal in pace (Stimson, 2015). Given the relative relationship between public opinion and policy, and the variable rate of change in which opinions change, it is critical to continually assess public opinion to determine if public opinion is being accurately represented in policies (Stimson, 2015).

Research has demonstrated that public opinion and policy exhibit a dynamic relationship theorized to act similar to a thermostat (Eichenburg & Stoll, 2003; Erikson, MacKuen & Stimson, 2002; Johnson, Brace & Arceneaux, 2005; Soroka & Wlezien, 2004, 2005; Wlezien, 1995, 2004;). The *thermostatic model of policy responsiveness* hypothesizes that policy changes follow changes in public opinion; although public opinion also reacts to policy changes across time (Wlezien, 1995, 2004). The result is a dynamic and cyclical relationship where policy impacts opinion, and opinion influences policy (Wlezien, 1995, 2004).

The thermostatic model has been used to explain the cyclical relationship between public policy and opinion in the United Kingdom and Canada across a multitude of issues including education, defense, health and welfare (Soroka & Wlezien, 2010). However, less is known about whether this model is applicable in the United States (Johnson et al., 2005). The paucity of research that has been conducted in the United States has been cross-sectional or used only limited data points in time (Camobreco & Barnello, 2008; Erikson, Wright & McIver, 1993; Johnson et al, 2005). Even though this research design

is also cross-sectional, this study will use previously used survey items so general comparisons can be made to previous research.

Historically in the United States, there has been an increase in the discussion of morality policies because of the broad reach of these debates (i.e., a debate regarding abortion often sparks interest from both liberals and conservatives) (Norrander & Wilcox, 1999). Given that these policies are often in response to controversial current issues, the issues stay at the forefront of debates and news during an election year (i.e., women's reproductive rights). According to democratic theory, policies should reflect the beliefs of the community (Weber & Shaffer, 1972). It has been argued that public opinion has a strong impact on morality policies and that citizens have more stable opinions on these morality issues (Norrander & Wilcox, 1999).

EPIDEMIOLOGY OF RISK BEHAVIOR

Although the most recent teen birth rate has reached an historic low, the national teen birth rate remains one of the highest rates among other industrialized countries (Hamilton & Ventura, 2014). The most recent national teen birth data (2013) indicate that 274,641 infants were born to teens age 15 to 19, yielding a live birth rate of 26.6 live births per 1,000 population (Ventura, Hamilton, & Mathews, 2014). In South Carolina, despite a 54% decline in the overall teen birth rate since 1992, the state still ranks 12th in the nation for the rate of births among 15-19 year olds with a birth rate of 31.6 per 1,000 females (SC DHEC, 2014).

Research suggests that abstinence-only education policy is ineffective in decreasing risky sexual behaviors (Kirby 2001, 2007; Trenholm et al., 2007). Risky sexual behaviors can lead not only to unwanted pregnancies, but also to the acquisition of

a variety of infections and diseases (Kirby, 2007; National Campaign, 2005; Romero, Galbraith, Wilson-Williams, & Gloppen, 2011). Of the total 15 million new cases of STIs diagnosed each year in the United States, ten million occurred in the adolescent age group (Sales et al., 2012). Further, STI's have been linked to an increased risk of infertility, miscarriages, cervical cancer, and HIV transmission (Trenholm et al., 2007). Adolescents are at the highest risk for contracting STIs because of having numerous sexual partners, lack of getting tested after sexual intercourse and the higher susceptibility of infection as an adolescent (Abma, Martinez & Copen, 2010; Sales et al., 2012; Sulak, 2004).

Abstinence-only sexual education has shown no significant decrease in teenage pregnancies, HIV/AIDS rates, and STIs and only one study has shown a delay in sexual initiation (Collins et al., 2002; Jemmott et al., 2010). On the contrast, comprehensive sexual education has been shown to be effective in decreasing STI's, delaying sexual intercourse and reducing the number of sexual partners (Collins et al., 2002, Kirby, 2002).

PUBLIC SUPPORT FOR COMPREHENSIVE SEXUALITY EDUCATION (CSE)

The majority of adults across the country are widely supportive of CSE, including education on condoms and contraception (Bleakley et al., 2006). As early as 1943, the Gallup Poll found that 68% of adults supported implementation of sex education in school (Gallup, 1972). By 1985, the support for CSE had increased to 85% (Kirby, 2002). By 2006, the general public not only supports CSE but research has found that half of the general population actually opposes abstinence-only education and over half believe that

abstinence-only education is not an effective method for preventing unplanned teen pregnancy (Kirby, 2006).

For decades research has demonstrated that adults across the country believe that sex education instruction should include abstinence, condoms and other methods of contraception (Kirby, 2002), including in more religiously-based, conservative southern states, such as North Carolina, South Carolina, and Texas (Alton, Valois, Oldendick & Drane, 2009; Howard-Barr, Moore, Weiss & Jobli, 2011; Ito et al., 2006).

In South Carolina, research identified several variables significantly related to support for CSE including age, race, region of the state, political party, and outcome expectations (Alton et al., 2009; Lindley, Reininger, Vincent, Richter, Saunders, & Shi, 1998). Specifically, younger respondents were nearly twice as likely to support CSE compared to respondents in the older age categories (Alton et al., 2009; Lindley et al., 1998). South Carolina is one of 22 states with a law (Comprehensive Health Education Act, CHEA) which mandates the minutes of sexual education taught in grades K-12. Students are also required to be taught about pregnancy and STI prevention (Guttmacher 2015). Further, South Carolina is 1 of only 17 states that require contraception to be taught in sexual education courses (Guttmacher, 2015). However research has shown that the majority (75%) of public schools in South Carolina are not in compliance with the CHEA law (Guttmacher, 2015; OAH, 2013; Wiley et al., 2013). Additionally, the CHEA does not require that materials used in curricula be medically accurate, culturally appropriate and unbiased, or free of religious doctrine.

National data have repeatedly demonstrated the majority of the public overwhelmingly supports CSE being taught in the schools, to include information on

abstinence and contraception (Bleakley et al., 2006; Eisenberg et al., 2008; Eisenberg, Bernat, Bearinger, & Resnick, 2009; Kirby, 2007). Additionally, the cyclical relationship between public opinion and policy has been of interest to researchers for decades (Miller & Stokes, 1963). However, little is known about how personal values relate to support for CSE and thus influence voting behavior on related issues. According to the thermostatic model, policies follow opinion and vice versa, similar to the action of a thermostat (Soroka & Wlezien, 2010; Wlezien, 1995). According to this theory, shifts in mass opinion should induce policy changes in the same direction (e.g., support for gay marriage increases and thus policies change to support gay marriage) (Soroka & Wlezien, 2010; Wlezien, 1995). Given that morality policies by definition are those issues with high importance to the public (Bowen, 2012; Gormley, 1986), it is essential to better understand how personal values are related to these issues. Findings from this study will be used to inform stakeholders, key leaders, policy makers and the general public of the level of support that exists for CSE and how reproductive health is viewed as a political issue. These findings should be used to tailor advocacy efforts to either support or contradict existing policies, and assess whether the public opinion is parallel to existing policies, as the thermostatic model suggests.

METHODS

This study used secondary data obtained from the South Carolina State Survey (SCSS). The SCSS is a random probability survey of residents age eighteen and older administered by trained interviewers via phone twice annually since 1990. SCSS allows policy makers, researchers, state agencies (e.g. Department of Revenue, Department of Health and Environmental Control) and other organizations (such as non-profit

organizations) the opportunity to gather reliable data across a multitude of topic areas (e.g. road conditions, taxation).

SAMPLING FRAMEWORK

From May through June 2014, 25 trained interviewers using landline and cell phone telephone numbers, conducted 15 minute telephone interviews with randomly selected respondents. Respondents were selected from a random sample of households with telephones in the state and a random sample of all possible cell phone exchanges in South Carolina. The first three digits of all cell and landline numbers were listed in the database. The software selects one of these “extensions” and then randomly dials the last 4 numbers from 0001 to 9999 so that number is randomly generated. If a person had a landline and a cell phone, the person was only surveyed using one line (either cell or landline). The overall response rate was 22.1% (841/3801): 28.0% for landline (624/2229) and 13.8% for the cell phone component (217/1572) (Oldendick, 2013).

The survey has a potential for sampling error given that not all residents of the state were interviewed. For questions answered by eight hundred (800) respondents the potential for error is +/- 3.5% (Oldendick, 2013). Results for questions answered by significantly fewer than 800 respondents and results for subgroups of the population have a potential for larger variation than those for the entire sample (Oldendick, 2013).

RESEARCH INSTRUMENT

A 36-item interviewer administered telephone survey was used to collect data for the SCSS; 8 of 36 items were the focus of this study. These survey questions were modified and developed through the adaption of items from previous studies and the development of new items based on the review of literature. The demographic questions

and other technical aspects of the questionnaire were developed by SCSS staff. The survey also collected demographic information from respondents (e.g., age, race, education).

The following items addressed the key constructs for this study:

Support for CSE. One question assessed respondents' support for CSE, "Do you think that comprehensive sexuality education which emphasizes abstinence as the first and best option for young people, but also teaches youth about the benefits and importance of using contraception to prevent pregnancy and/or sexually transmitted diseases should be taught in public schools?" Response choices were: "Yes"; "No"; "It Depends"; or "Don't Know".

Perception of Reproductive Health. This construct was measured with one item, "For some people, the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue. For other people, the issue of teen reproductive health including teen pregnancy and access to contraception is a public health issue. What about you...do you think that the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue, public health issue, both a moral and public health issue, or neither?" Response choices were: "moral issue", "both; more of a moral issue", "both moral and public health (equal)", "both; more of a public health issue", "public health issue", "neither a moral nor public health issue" or "don't know". If respondents said "both", interviewers probed "would you say this was more of a moral issue or public health issue?"

Demographics. The remaining items used from the SCSS included respondents age, gender, race, political affiliation, income, education level, parental status, region of residence, urban/rural area of state and voter registration status.

ANALYTIC APPROACH

The dataset was weighted to adjust for underrepresentation of demographic groups, nonresponse, and for households that do not have a telephone (Oldendick, 2013). Statistical Package for the Social Sciences (SPSS) v23 (IBM, 2014) was used to perform all analyses for this study. Univariate analyses were performed to determine if the data were normally distributed and to describe the sample. Frequencies, means ranges, and standard deviations (for ordinal level variables) were calculated for each study variable to check for missing responses, potential outliers and variance. Bivariate analyses were conducted using Chi-square (nominal by nominal), Lambda (nominal by ordinal) and Gamma (ordinal/ratio by ordinal) tests to determine if significant associations existed among dependent and independent variables. Depending on the distribution of the data and level of measures, multivariate procedures (e.g., Logistic regression, ANOVA, and multiple comparison tests using the pairwise comparison test) were conducted to explain variance in the dependent variables. A probability value of 0.05 and smaller was required to consider tests statistically significant.

RESULTS

Respondents

As indicated in Table 4.5, the weighted sample (n=841) was 52% female; 72% White/Non-Hispanic, 37% had a high school diploma or less; and 54% of respondents indicated a household income of \$49,999 or less annually. A little over one-third (35%) of respondents were between 45-64 years old and 38% reported living in a Suburban part of the state. Most respondents (84%) were registered voters and 44% of respondents identified as “strong or leaning” Democrat.

TABLE 4.5. FREQUENCIES AND PERCENTS OF SELECTED DEMOGRAPHIC CHARACTERISTICS OF SOUTH CAROLINA RESIDENTS (N=841)

Characteristic	N	%
Gender		
Male	403	47.9
Female	438	52.1
Total	841	100.0
Race		
Black	211	28.1
White	539	71.9
Total	750	100.0
Age		
18-29 years	169	21.6
30-44 years	203	26.1
45-64 years	272	34.8
65 and over	137	17.5
Total	780	100.0
Education		
Less than High School	75	9.5
High School Diploma	214	27.2
Some College	260	33.0
College Degree	239	30.4
Total	788	100.0
Income		
Under \$25,000	177	27.3
\$25,000-\$49,999	174	27.0
\$50,000-\$74,999	106	16.4
\$75,000 and over	189	29.3
Total	647	100.0
Type of Area		
Urban	206	26.0
Suburban	303	38.2
Rural	284	35.8
Total	793	100.0
Parental Status		
Parent of a child 10-19 years	185	23.3
Not a parent	610	76.7
Total	795	100.0
Voter Status		
Registered	671	84.2
Not registered or Don't Know	126	15.8
Total	797	100.0

TABLE 4.5. FREQUENCIES AND PERCENTS OF SELECTED DEMOGRAPHIC CHARACTERISTICS OF SOUTH CAROLINA RESIDENTS (N=841)

Characteristic	N	%
Political Party Identification		
Republican	290	40.2
Independent	113	15.7
Democrat	318	44.1
Total	720	100.0

Support for Comprehensive Sexuality Education

The majority (90%) of respondents (n=693) supported CSE being taught in SC public schools. Further when respondents were asked whether CSE was an effective strategy to decrease the rate of pregnancy and STIs, 80% of respondents agreed (i.e., 31% *strongly agree* and 49% *agree*).

Characteristics of Supporters for Comprehensive Sexuality Education

Of the respondents who supported CSE (n=693) be taught in schools, 54% were female, 70% were white, 35% of the supporters were between the ages of 45-64 years, and 85% were registered SC voters. Further, 48% identified as a member of the Democratic Party.

As shown in Table 4.6, regression analyses demonstrated significant differences for CSE support by gender, race, age, education, income, type of residential area lived, region of residence, parental status, voter status and political party affiliation. Support for CSE was significantly related to gender, $X^2(1, n=774)=10.608, p=.001$; age $X^2(3, n=728)=15.201, p=.002$, and political party $X^2(2, n=675)=26.544, p=.000$.

Logistic regression analyses controlling for gender and race further showed that younger age respondents were more likely to support CSE and as age decreases the

likelihood of supporting CSE increases ($p < 0.01$). Males were twice as likely as females to not support CSE ($p < .001$). Further, respondents reported making less than \$25,000 were more likely to support CSE when compared to respondents making \$75,000 or more annually ($p < 0.05$). When compared to respondents identifying as Democrat, Republicans and Independents were nearly four and eight times more likely to *not* support CSE ($p < .001$). (Table 4.6)

TABLE 4.6. RESULTS OF LOGISTIC REGRESSION: DOES *NOT* SUPPORT COMPREHENSIVE SEXUALITY EDUCATION

Predictor	β (SE)	Wald	OR	95% CI	p Value
Age: 18-29 years	-1.673(.470)	12.663***	.188	.075-.427	.000
Age: 30-44 years	-1.193(.389)	9.415**	.303	.142-.650	.002
Age: 45-64 years	-.857(.329)	6.810**	.424	.223-.808	.009
Income: Less than \$25,000	-.920(.443)	4.322*	.398	.167-.949	.038
Political Party: Republican	1.513 (.453)	11.156***	4.540	1.869-11.033	.001
Political Party: Independent	2.081(.459)	20.573***	8.016	3.261-19.707	.000
Gender: Male	.811(.247)	10.805***	2.250	1.387-3.648	.001

*** = $p < .001$, ** = $p < .01$, * = $p < 0.05$

Variables held constant: Age 65 years plus, Democratic Political Party, Female, Say “no” to support CSE in schools

View of Reproductive Health as Public Health Issue or Moral Issue

One third (33%; $n=259$) of respondents perceived reproductive health as a moral issue, 32% ($n=247$) perceived the issue as a public health issue and 27% ($n=211$) perceived the issue as both a public health issue and moral issue.

Of those respondents ($n=259$) who perceived reproductive health as a public health issue, a majority (62%) of respondents were female, 67% white, 50% were between 18 years and 44 years of age, 66% obtained at least some college education, 75% were not a parent, 85% were registered to vote and 55% identified as a Democrat.

Additionally, of the respondents who perceived reproductive health as a public health

issue, most respondents were also (99%) in support of CSE in schools, and (86%) supported availability of condoms and contraception as a means of reducing STIs and pregnancy.

Chi-square analyses revealed that respondents' view of reproductive health was significantly related to gender $X^2(3, n=785)=23.934, p=.000$; race $X^2(3, n=739)=25.386, p=.000$; age $X^2(9, n=770)=33.149, p=.000$; education $X^2(9, n=774)=39.182, p=.000$; income $X^2(9, n=644)=24.947, p=.003$, location of residence $X^2(6, n=780)=13.261, p=.039$; voter status $X^2(3, n=783)=15.674, p=.001$; political party identification $X^2(6, n=708)=63.779, p=.000$; level support for availability of condoms and contraception $X^2(18, n=757)=91.573, p=.000$; and level of support for CSE $X^2(3, n=732)=35.489, p=.000$.

An Analysis of Variance (ANOVA) model was performed with a post-hoc pairwise comparison to determine the effect of statistically significant variables on how respondents perceived reproductive health. Analyses indicated that age ($p<.001$), race ($p<.001$), income ($p<.001$), and political party ($p<.001$) were all significantly associated with respondents' perception of reproductive health.

Specifically, younger respondents were more likely to view reproductive health as a public health issue ($\bar{X} = 2.417 \pm .074, p<.001$) compared to respondents older than 30 years ($\bar{X} = 2.089 \pm .070, p<.001$). Further respondents who identified as African American were more likely to view reproductive health as both a public health issue and moral issue ($\bar{X} = 2.389 \pm .067, p<.000$) compared to respondents who identified as White ($\bar{X} = 2.013 \pm .042, p<.000$). Respondents who reported an annual income of less than \$25,000 were more likely to view reproductive health closer to a public health issue ($\bar{X} =$

2.497 ± .072, p<.000) compared to respondents making more than \$25,000 who perceived the issue as both a moral issue and public health issue (\bar{X} = 2.119 ± .072, p<.000). Respondents who identified as Republican were more likely to view the issue as both a moral issue and public health issue (\bar{X} = 1.912 ± .057, p<.000) compared to respondents who identified as Democrat and perceived the issue as more of a public health issue (\bar{X} = 2.391 ± .054, p<.000). (Table 4.7)

TABLE 4.7. MEAN, STANDARD ERRORS, AND SIGNIFICANT P-VALUES FOR PERCEPTION OF REPRODUCTIVE HEALTH BY DEMOGRAPHIC VARIABLES

Age		M	SE	P-value
18-29 years	(n=175)	2.417	.074	.001**
30-44 years	(n=191)	2.089	.070	
45-64 years	(n=265)	2.038	.060	
65 and over	(n=132)	2.106	.085	
Race				
Black	(n=211)	2.389	.067	.000**
White	(n=522)	2.013	.042	
Income				
Under \$25,000	(n=171)	2.497	.072	.000**
\$25,000-\$49,999	(n=168)	2.119	.072	
\$50,000-\$74,999	(n=106)	2.009	.091	
\$75,000 and over	(n=187)	2.070	.069	
Political Party				
Republican	(n=284)	1.912	.057	.000**
Independent	(n=113)	2.097	.090	
Democrat	(n=312)	2.391	.054	

*p<.01, **p<.001

Perception of reproductive health was measured using the scale, 1=moral issue, 2=moral and public health issue, 3=public health issue or 4=neither a public health issue nor a moral issue. Sample size (n) varies due to missing responses.

DISCUSSION

These results support previous findings from the 1990's that have shown strong, positive support for CSE in South Carolina (Alton et al., 2009; Lindley et al., 1998).

Results also show that age (i.e., younger age respondents) and gender (i.e., female) were

significantly associated with a stronger support for CSE among South Carolinians (Alton et al., 2009). Additionally, income (i.e., less than \$25,000 annually) and political party (i.e., Democrat) were significantly associated with high support for CSE.

This study also assessed the values associated with respondents' view of reproductive health by measuring whether the issue was viewed as solely a public health issue, moral issue or both. It is important to measure respondents' perceptions of an issue to better understand if respondents view the issue as a morality issue, and therefore personal values will influence voting behavior (Henry & Reyna, 2007). Opposition to policies are often based on the perception that the group in position to most benefit from the policy is violating a particular value that is relevant to the policy (Henry & Reyna, 2007).

Past research suggests that public health issues are rarely portrayed in the news in ways that encourage audiences to comprehend the underlying causes of the issues or their implications on policies (Dorfman, Wallack & Woodruff, 2005). Findings from the current study should be highlighted in advocacy efforts to educate community leaders about the underlying values that shape the general public's view of reproductive health. Knowing the values that inform opinion about policy, lawmakers and stakeholders can tailor messages to support or contradict these values to thus inform voting behavior.

Public opinion has a strong impact on morality policies and citizens have more stable opinions on these morality issues (Norrander & Wilcox, 1999). Further, research has shown that public opinion and policy are correlated when the opinion has been stable over time (Page & Shapiro, 1992). Results from this study are consistent with previous findings that show the support for CSE in South Carolina has remained stable over time

(Alton et al., 2009; Lindley et al., 1998). Health promotion strategies should highlight this consistent high level of support for CSE to inform the general public of the high support and to encourage the general public to support laws and policies that are congruent with this high level of support (e.g., revision to the existing CHEA law).

ADVOCACY

In recent history, public health issues (e.g., tobacco, alcohol, guns) have all experienced a transition from a focus on individual behavior to policy that changes the environment factors related to the behavior (Dorman, Walker, & Woodruff, 2005). Given that the actual behavior of this research (i.e., risky sexual behaviors) is an individual behavior, a reduction in negative health outcomes relies on adolescents making safer sexual decisions. These changes in behaviors are challenging and require a change in knowledge, self-efficacy and intentions prior to a change in behavior (Bandura, 1997). Thus, there is a strong need for policies that support an increase in comprehensive sexual education and information regarding safer sexual behaviors, to increase safer sexual behaviors. The findings from this study strongly support implementation of CSE to address unplanned adolescent pregnancy. Data should be used to reinforce the high level of support for CSE among the current supporters, and data should be used to inform the current non-supporters of the high level of support for CSE that exists in South Carolina.

Research has shown that the general public often make mental “shortcuts” to make sense of how they perceive the world (Hastie, 1986; Sherman, Judd, & Park, 1989; Taylor & Crocker, 1981; Wyer & Srull, 1984). Organizing knowledge into general categories is an efficient way for the general public to make judgments about specific issues. Furthermore, the content or nature of the incoming information determines which

values are used in the decision making process (Cantor & Mischel, 1979; Conover & Feldman, 1989; Miller, Wattenberg, & Malanchuk, 1986; Morgan & Schwalbe, 1990; Tannen, 1993). This concept of *framing* is significant because how people think about issues impacts policy outcomes (Lakoff, 1996; Lippman, 1921). Thus, how an issue is framed in advocacy efforts will impact the values that are elicited and overall perception of the issue. The act of framing an issue by using known values of a population can predispose voters prioritize issues in different ways (e.g., voters may choose reduced taxes instead of increasing access to health care services).

Health education strategies should take into account how the public receives information (e.g., value-based strategies such as using the church to message to the public or strictly educational strategies such as presenting data to the public) and what types of strategies are most effective at influencing voting behavior. Findings from this study demonstrate that even in a conservative state like South Carolina, the views on reproductive health are not all congruent and more research is needed to better understand the causal pathways of how exactly values impact support for issues related to reproductive health. Further, advocacy efforts should use these data to support capacity building efforts of current supporters of CSE to be agents of change and local advocates to school districts to ensure that CSE is being implemented with fidelity. Further, advocacy efforts should include the values associated with the perception of reproductive health in order to help frame the message for the general audience, and thus inform individual opinion.

LIMITATIONS

Using a random-digit-dial telephone survey for collected data from respondents comes with limitations including telephone availability and the time required to complete the survey. To include residents who may not have a landline, interviewers also used cell phone numbers to conduct the survey. The survey, however, contained 36 items and the response rate was 22.1%.

Although randomly selected, non-respondents could decline to participate by not answering the telephone and by directly refusing to participate. It is possible that only individuals with specific interests in this topic agreed to participate and therefore the data are not generalizable to all South Carolina residents.

According to the 2010 South Carolina census data, the demographic characteristics of survey respondents were consistent with the 2013 estimates of South Carolina residents. A difference in political party affiliation, however, was observed between study participants and SC residents. In 2013, the Gallup Poll reported that 38% identified as Democrat, while 48% of the study participants identified as Democrat. The Gallup Poll also reported 48% identified as Republican, while only 40% of the study participants identified as Republican. This difference could be a potential bias in the results.

Moreover, the majority (77%) of respondents were *not* a parent of a child age 10-19 years old. Parental status could influence respondents' answers and further limit the interpretation of the study findings.

CONCLUSION

Despite these limitations, these findings are important 1) to better understand whether the SC public continues to support CSE and 2) contribute to the literature by

indicating what variables are significantly associated with how one perceives the issue of reproductive health. Further, these data help to identify subgroups to be the focus of health promotion efforts to inform residents of the high support for CSE in schools. Advocacy efforts should include these relevant data to inform the general public about the strong support for CSE, and to frame health education strategies that elicits a desired voting behavior for lawmakers. Additional research is needed to explain results from this study, such as why are certain demographic variables (i.e., age, race, income) significant factors in predicting support for CSE or viewing reproductive health as a public health issue?

Past research presented underscores the importance of continually assessing the public's perception of issues and policies given the instability and inconsistency of public preferences (Stimson, 1999). Further, the thermostatic model suggest that policies should continually be assessed to determine if public preferences are represented by policies, and vice versa (Wlezien, 1995, 2004). In order to effectively address negative health behaviors of a community, leadership and policy makers need to gauge the pulse of the general public to ensure that appropriate factors related to health behaviors are being addressed through policies.

Further, research has shown that public opinion is more consistent with issues that are salient. Keeping the issue of teen pregnancy prevention salient can be challenging given the variability of and number of competing public health issues that impact a population. Additional research, to include qualitative data and longitudinal research of a study cohort to assess trends in public preferences, should be conducted to better understand whether reproductive health issues remain salient to the public and to assess

whether values do in fact remain constant over time in a conservative state like South Carolina.

Policy makers and leaders could use these data to inform the development of new policies (e.g., required condom access points) or the monitoring of existing policies (e.g., CHE Act in schools) to ensure that health policies are representative of the general public's opinion. Further, more work should be done with advocacy efforts to encourage the general public to call upon their legislators to ensure that their beliefs are reflected in current policies.

Based on these data, it is recommended that these findings be used to frame health advocacy efforts to align existing health policies to the preferences of the public. It is recommended that more extensive efforts be made to educate stakeholders, policy makers and key advocates about the high level of support for CSE and support evaluating the CHEA to ensure the current policy reflects the high support for CSE and perceived view of reproductive health.

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CHAPTER 5

CONCLUSIONS AND IMPLICATIONS

5.1 CONCLUSIONS

As indicated in previous chapters, the purpose of this study is to investigate whether South Carolina residents' public preferences are represented in current policy by assessing 1) the level of support for CSE, 2) the level of support for availability to condoms and contraception in communities and schools, and 3) the general public's perceived view of reproductive health. The research questions were as follows: 1) how do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians support for CSE?, 2) how do selected demographic variables (i.e., age, race, gender, income, political party) correlate with South Carolinians level of support for making condoms and contraception available to teens as a way of decreasing pregnancy and STIs?, and 3) how personal values correlate with the view of reproductive health?

In regard to CSE, the results of this study were consistent with other national and state studies which have found that the general public supports CSE being taught in public schools. Further, results indicate that the majority of South Carolinians support availability of condoms and contraception in schools and communities as a way to reduce unplanned pregnancy and HIV/STIs among adolescents. This study adds to the literature by assessing whether SC residents perceive reproductive health as a moral issue or public health issue.

This consistency in public opinion is important to consider given that research has demonstrated the substantial correlation between public opinion and policy particularly when the opinion was sustained and the issues were salient (Page & Shapiro, 1992). Nationally, the general public does not only support CSE but some research has found that half of the general population actually opposes abstinence-only education and over half believe that abstinence-only education is not an effective method to preventing unplanned teen pregnancy (Alton et al., 2009; Kirby, 2006; Lindley et al., 1998). Further, the level of support has remained over 80% since the late 1990's (Alton et al., 2009; Lindley et al., 1998). Moreover, this study found that 89.5% of South Carolina residents still support CSE taught in public schools. The majority of the respondents in this study who support CSE in schools were young, white, females, registered Democratic voters.

Since data were first collected in 1998, the support for school-based CSE has remained strong. However prior to this study, public support for increasing availability of condoms and contraception had not been investigated. Interestingly respondents reported a stronger support for CSE (90%) in public schools than support (71%) for availability of condoms and contraception as a measure to prevent unintended pregnancy and STIs.

Similar to the characteristics of CSE supporters, respondents who support availability of condoms and contraception in communities and schools were more likely to be younger, make less than \$25,000 annually, and identify as a Democrat. Further, supporters of availability of condoms and contraception were more likely to not be registered to vote. This underscores the importance of assessing a population's perceptions and beliefs because policies may not always be representative of a population

if there are people in the population that are not registered to vote, and therefore their beliefs are not reflected through voting behavior.

These findings add to the literature by demonstrating how SC residents view reproductive health as an issue. One third (33%) of respondents perceived reproductive health as a moral issue, 32% perceived the issue as a public health issue and 27% perceived the issue as both a public health issue and moral issue. Analyses indicated that age, race, income, and political party were all significantly associated with respondents' perception of reproductive health. Specifically, younger African American respondents were more likely to view reproductive health as a public health issue versus a moral issue. However, respondents who identified as Republican were more likely to view the issue as a both a moral issue and public health issue compared to respondents who identified as Democrat who perceived the issue as more of a public health issue.

As discussed in Chapter 2, the Thermostatic Model of Public Opinion (Wlezien, 1995, 2004) suggests that public preferences and policies respond to one another in an ongoing cyclical manner. The results of this study suggest that policies or laws (i.e., CHEA law) should be evaluated to see whether amendments are needed to the law to better match the preferences of the public (i.e., increased availability of condoms and contraception in schools and communities). Findings suggest a substantial amount of work needs to be done to ensure public opinion is being reflect in policies, especially since data show that schools are not complying with the current CHEA law (Wiley, Wilson & Zenger, 2013)

While South Carolina receives millions of dollars annually to successfully implement CSE programs (OAH, 2013), 75% of public schools in South Carolina are not

in compliance with at least one of the six measurable requirements of the reproductive health education components of the CHEA (Wiley et al., 2013).

Further, these data indicate that the general public is mostly in support of increasing availability of condoms and contraception in schools and communities. These findings support increased condom access points in local non-clinical settings such as churches, community-based organizations and other youth-serving agencies. Given that public opinion and policy are more congruent when the issues are salient, public opinion on this issue should be assessed periodically to ensure that policies are congruent with public preferences.

5.2 LIMITATIONS

Using a random-digit-dial telephone survey for collected data from respondents comes with limitations including telephone availability and the time required to complete the survey. To include residents who may not have a landline, interviewers also used cell phone numbers to conduct the survey. The survey, however, contained 36 items and the response rate was 22.1%.

Although randomly selected, non-respondents could decline to participate by not answering the telephone and by directly refusing to participate. It is possible that only individuals with specific interests in this topic agreed to participate and therefore the data are not generalizable to all South Carolina residents.

According to the 2010 South Carolina census data, the demographic characteristics of survey respondents were consistent with the 2013 estimates of South Carolina residents. A difference in political party affiliation, however, was observed between study participants and SC residents. In 2013, the Gallup Poll reported that 38%

identified as Democrat, while 48% of the study participants identified as Democrat. The Gallup Poll also reported 48% identified as Republican, while only 40% of the study participants identified as Republican. This difference could be a potential bias in the results.

Moreover, the majority (77%) of respondents were *not* a parent of a child age 10-19 years old. Parental status could influence respondents' answers and further limit the interpretation of the study findings.

5.3 IMPLICATIONS

Despite these limitations, these findings are important 1) to better understand whether the SC public continues to support CSE and 2) contribute to the literature by indicating what variables are significantly associated with how one perceives the issue of reproductive health. Further, these data help to identify subgroups to be the focus of health promotion efforts to inform residents of the high support for CSE in schools. Advocacy efforts should include these relevant data to inform the general public about the strong support for CSE, and to frame health education strategies that elicits a desired voting behavior for lawmakers. Additional research is needed to explain results from this study, such as why are certain demographic variables (i.e., age, race, income) significant factors in predicting support for CSE or viewing reproductive health as a public health issue? More information is needed to determine how these variables can be used in health promotion efforts to increase support for CSE among non-supporters and foster continued support among current supporters. Health promotion efforts could use these data to better frame messages to reach the larger audience of SC residents.

One strategy within the field of health promotion used to influence decision and policy makers is health advocacy. *Health advocacy* has been described in past research as a key strategy for the achievement of health promotion aims (Carlisle, 2000). Recently, health promotion has become increasingly focused on the development and implementation of health policies that support health behaviors at the local, national and global level (Carlisle, 2000).

As literature defines, health advocacy is used to achieve two main goals: 1) protecting people who are vulnerable or discriminated against, and 2) empowering people who need a stronger voice by enabling them to voice their needs and make their own decisions (Carlisle, 2000). These data help to identify subgroups (i.e., young females, annual income of less than \$25,000, Democrats) to be the focus of health advocacy strategies to build their capacity to be community advocates and give these subgroups a “voice” through health advocacy to influence local leaders, policy makers and legislatures.

Support for CSE has remained strong over the past twenty years (Alton et al., 2009; Lindley et al., 1998) but a recent assessment demonstrated that 75% of schools in SC are not in compliance with at least one of the six measurable requirements of the reproductive health education components of the CHEA law (Wiley, Wilson & Zenger, 2013). These data could be used to support development of advocacy strategies to amend the current CHEA law so that there is state-level monitoring of the requirements and fiscal consequences if a district is not complying with the requirements. These findings could also be shared with school districts across the state to demonstrate the high level of support for CSE and to encourage schools to comply with the current CHEA law.

Further, these data could be used to support additional research to better understand how the general population feels about increasing availability to condoms and contraception. The survey item used in the study was general and only gauged overall support for availability of condoms and contraception to adolescents. More information is needed about the public's support for condom distribution in schools and community-based organizations. Further research is needed to better understand if a revision to the CHEA law (to include condom distribution in schools) is preferred by the general public.

Past research presented underscores the importance of continually assessing the public's perception of issues and policies given the instability and inconsistency of public preferences (Stimson, 1999). Further, the thermostatic model suggest that policies should continually be assessed to determine if public preferences are represented by policies, and vice versa (Wlezien, 1995, 2004). In order to effectively address negative health behaviors of a community, leadership and policy makers need to gauge the pulse of the general public to ensure that appropriate factors related to health behaviors are being addressed through policies.

Further, research has shown that public opinion is more consistent with issues that are salient. Keeping the issue of teen pregnancy prevention salient can be challenging given the variability of and number of competing public health issues that impact a population. Additional research, to include qualitative data and longitudinal research of a study cohort to assess trends in public preferences, should be conducted to better understand whether reproductive health issues remain salient to the public and to assess whether values do in fact remain constant over time in a conservative state like South Carolina.

Policy makers and leaders could use these data to inform the development of new policies (e.g., required condom access points) or the monitoring of existing policies (e.g., CHE Act in schools) to ensure that health policies are representative of the general public's opinion. Further, more work should be done with advocacy efforts to encourage the general public to call upon their legislators to ensure that their beliefs are reflected in current policies.

Based on these data, it is recommended that these findings be used to frame health advocacy efforts to align existing health policies to the preferences of the public. It is recommended that more extensive efforts be made to mobilize current supporters, and educate stakeholders, policy makers and key advocates about the high level of support for CSE and support evaluating the CHEA to ensure the current policy reflects the high support for CSE and perceived view of reproductive health.

Lastly, this study did not assess perceptions of young people themselves but it is incredibly important in future research to assess the preferences of these strategies among the target audience of teens age 10-19 years old. More research is needed to determine if teens' perceptions are parallel with the perceptions of adults in South Carolina and whether the same demographic variables (e.g., age, race, political party affiliation) are all associated with a high level of support for CSE among teens.

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APPENDIX A: PUBLIC OPINION SURVEY

"Hello, this is _____ calling for the University of South Carolina. This month the University is conducting a confidential study of public opinion in South Carolina and we'd really appreciate your help and cooperation."

"First, let me make sure I've dialed the correct phone number ... Is this _____?"

"And what county do you live in? RECORD COUNTY : _____"

"Now, to determine who to interview ... of the people who currently live in your household who are 18 or older - including yourself - we would like to interview the one who will have the next birthday. Would that be you or someone else?"

"My next questions are about issues related to teen pregnancy, that is among youth ages 15 to 19, in South Carolina. In these questions, the term "contraceptives" includes birth control methods such as the birth control pill."

Q16. "Do you think that comprehensive sexuality education which emphasizes abstinence as the first and best option for young people, but also teaches youth about the benefits and importance of using contraception to prevent pregnancy and/or sexually transmitted diseases should be taught in public schools?"

1. YES
2. NO
3. IT DEPENDS
4. DON'T KNOW (PROBE: "In general ...")
5. REFUSED

(IF ANSWERED "IT DEPENDS" What does this depend on? _____)

"For the next statements, please tell me if you strongly agree, agree, disagree, or strongly disagree."

Q17. "Comprehensive sexuality education in the schools - which emphasizes abstinence, but also includes information on how to obtain and correctly use contraceptives - decreases the rate of pregnancy and sexually transmitted diseases ... do you strongly agree, agree, disagree, or strongly disagree?"

1. STRONGLY AGREE
2. AGREE
3. DISAGREE
4. STRONGLY DISAGREE
5. DON'T KNOW (PROBE: "In general")

“These next questions are about resources in your community that are not specific to schools.”

Q18. “Making condoms available to teens helps decrease the rate of pregnancy and sexually transmitted diseases ... do you strongly agree, agree, disagree, or strongly disagree.”

1. STRONGLY AGREE
2. AGREE
3. DISAGREE
4. STRONGLY DISAGREE
5. DON'T KNOW (PROBE: “In general”)

Q19. “Making contraception, such as the birth control pill, available to teens helps decrease the rate of pregnancy ... do you strongly agree, agree, disagree, or strongly disagree.”

1. STRONGLY AGREE
2. AGREE
3. DISAGREE
4. STRONGLY DISAGREE
5. DON'T KNOW (PROBE: “In general”)

Q20. “Making contraception, such as the birth control pill, available to teens helps decrease the rate of sexually transmitted diseases ... do you strongly agree, agree, disagree, or strongly disagree.”

1. STRONGLY AGREE
2. AGREE
3. DISAGREE
4. STRONGLY DISAGREE
5. DON'T KNOW (PROBE: “In general”)

Q21. “Some people feel that the State of South Carolina should fund efforts to reduce teen pregnancy through distribution of condoms to sexually active teens. Others feel that the state should not provide funding for the distribution of condoms to sexually active teens. How about you ... do you think the state should fund efforts to reduce teen pregnancy through distribution of condoms to sexually active teens or do you think the state should not do this?

1. STATE SHOULD PROVIDE FUNDING
2. STATE SHOULD NOT DO THIS
3. DON'T KNOW (PROBE: “Which comes closer to your point of view....”)

Q22. "And what about efforts to reduce teen pregnancy through distribution of contraception, such as the birth control pill, to sexually active teens. ... do you think the state should fund efforts to reduce teen pregnancy through distribution of contraceptives to sexually active teens or do you think the state should not do this?"

1. STATE SHOULD PROVIDE FUNDING
2. STATE SHOULD NOT DO THIS
3. DON'T KNOW (PROBE: "Which comes closer to your point of view....")

Q23. "For some people, the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue. For other people, the issue of teen reproductive health, including teen pregnancy and access to contraception is a public health issue. What about you ... do you think that the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue, a public health issue, both a moral and public health issue, or neither?"

(IF BOTH, PROBE: "Would you say this was more of a moral issue or more of a public health issue?")

1. MORAL ISSUE
2. BOTH; MORE OF A MORAL ISSUE
3. BOTH MORAL AND PUBLIC HEALTH (EQUAL)
4. BOTH; MORE OF A PUBLIC HEALTH ISSUE
5. PUBLIC HEALTH ISSUE
6. NEITHER A MORAL NOR A PUBLIC HEALTH ISSUE
7. DON'T KNOW (PROBE: "In general, would you say it was more of a moral issue, a public health issue, or both?")

"Now, a few final questions..."

Q24. "Some people are registered to vote and others are not. Are you currently registered to vote in South Carolina?"

1. YES
2. NO OR DK (DO NOT PROBE)

Q25. "What is your age?"

_____ CODE EXACT NUMBER OF YEARS (E.G., 45)

96. NINETY-SIX YEARS OF AGE OR OLDER
97. REFUSED

Q26. "Do you live in an urban, suburban, or rural area of South Carolina?"

1. URBAN (INSIDE CITY LIMITS)
2. SUBURBAN (JUST OUTSIDE CITY LIMITS)
3. RURAL (AWAY FROM A CITY)
4. DK (PROBE: "How would you describe it?")

Q27. "What is the highest grade of school or year of college that you actually finished and got credit for?"

_____ RECORD GRADE

00. NO FORMAL SCHOOLING

98. DK

Q28. "Are you the parent or guardian of a child between the ages of 10 and 19?"

1. YES

2. NO

3. REFUSED

Q29. "Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent or what?"

IF REPUBLICAN: "Would you call yourself a strong Republican or a not very strong Republican?"

IF DEMOCRAT: "Would you call yourself a strong Democrat or a not very strong Democrat?"

IF INDEPENDENT, NO PREFERENCE, OR OTHER: "Do you think of yourself as closer to the Republican or to the Democrat party?"

1. STRONG REPUBLICAN

2. NOT VERY STRONG REPUBLICAN

3. INDEPENDENT, BUT CLOSER TO REPUBLICANS

4. INDEPENDENT -- CLOSER TO NEITHER

5. INDEPENDENT, BUT CLOSER TO DEMOCRATS

6. NOT VERY STRONG DEMOCRAT

7. STRONG DEMOCRAT

8. OTHER (SPECIFY: _____)

Q30. "What is your race?" (PROBE BY READING CHOICES IF NECESSARY)

1. BLACK; AFRICAN-AMERICAN

2. WHITE

3. HISPANIC; PUERTO RICAN; MEXICAN OR SPANISH-AMERICAN

4. NATIVE AMERICAN; AMERICAN INDIAN

5. ASIAN; ORIENTAL

6. OTHER (SPECIFY): _____

Q31. "How many of the persons who currently live in your household are under 18 years of age, including babies and small children?"

_____ RECORD NUMBER

7. SEVEN OR MORE

8. DK

Q32. "Including yourself, how many people age 18 or older are currently living in your household?"

_____ RECORD NUMBER

- 7. SEVEN OR MORE
- 8. DK

Q33. "So that we can be sure we're getting a cross-section of all people, I'd like you to estimate your family's total income for 2012, before taxes were taken out. Include wages, social security, welfare and any other income. Into which of the following categories does it fall? As with all of the interview, this information will be strictly confidential.

Was it...

(READ CATEGORIES)

- 01. Less than \$5,000
- 02. \$5,000 - 9,999
- 03. \$10,000 - 14,999
- 04. \$15,000 - 19,999
- 05. \$20,000 - 24,999
- 06. \$25,000 - 29,999
- 07. \$30,000 - 34,999
- 08. \$35,000 - 39,999
- 09. \$40,000 - 44,999
- 10. \$45,000 - 49,999
- 11. \$50,000 - 74,999
- 12. \$75,000 - 99,999
- 13. \$100,000 and over
- 14. REFUSED
- 15. DON'T KNOW (PROBE: "Just approximately...")

Q34. "Not counting business lines, cell phones, extension phones, faxes, or modems -- on how many different land line telephone numbers can your household be reached?"

- 1. ONE
- 2. TWO
- 3. THREE
- 4. FOUR
- 5. FIVE
- 6. SIX
- 7. SEVEN OR MORE
- 8. DK

Q35. "And what is your zip code?" RECORD _____

Q36. RECORD SEX: 1. MALE
2. FEMALE

"That's all the questions I have. Thank you for your participation."

APPENDIX B: SURVEY ITEMS AND VARIABLE CHARACTERISTICS

Variable Type X=Independent Y=Dependent	Variable Name	Survey Questions and Response Options	Data Type/ Score type
Y ₁	Support for comprehensive sexuality education (CSE)	(n=1 item) Origin: Alton, 2009; Lindley, 1998 “Do you think that comprehensive sexuality education which emphasizes abstinence as the first and best option for young people, but also teaches youth about the benefits and importance of using contraception to prevent pregnancy and/or sexually transmitted diseases should be taught in public schools?” <i>1.Yes; 2.No; 3.It Depends; 4.Don't Know (Probe); 5.Refused</i>	QN; Categorical
Y ₂	Perceived effectiveness comprehensive sexuality education (CSE)	(n=1 item) Origin: Alton, 2009; Lindley, 1998 “Comprehensive sexuality education in the schools - which emphasizes abstinence, but also includes information on how to obtain and correctly use contraceptives – decreases the rate of pregnancy and sexually transmitted diseases... do you strongly agree, agree, disagree, or strongly disagree.” <i>1.Strongly Agree; 2.Agree; 3.Disagree; 4.Strongly Disagree; 5.Don't know;</i>	QN; Ordinal

Variable Type X=Independent Y=Dependent	Variable Name	Survey Questions and Response Options	Data Type/ Score type
Y ₃	Support for adolescent access to contraception	<p>(n=3 items) Origin: Researcher</p> <p>“Making condoms available to teens helps decrease the rate of pregnancy and sexually transmitted diseases.” <i>1.Strongly Agree; 2.Agree; 3.Disagree; 4.Strongly Disagree; 5.Don't know</i></p> <p>“Making contraception (such as the birth control pill) available to teens helps decrease the rate of pregnancy.” <i>1.Strongly Agree; 2.Agree; 3.Disagree; 4.Strongly Disagree; 5.Don't know</i></p> <p>“Making contraception (such as the birth control pill) available to teens helps decrease the rate of sexually transmitted diseases.” <i>1.Strongly Agree; 2.Agree; 3.Disagree; 4.Strongly Disagree; 5.Don't know</i></p>	<p>QN; Ordinal</p> <p>Sum Score; Continuous</p>

Variable Type X=Independent Y=Dependent	Variable Name	Survey Questions and Response Options	Data Type/ Score type
X ₁	Support for state funding to distribute condoms and contraception to teens	<p>(n=2 items) Origin: Researcher</p> <p>“Some people feel that the State of South Carolina should fund efforts to reduce teen pregnancy through distribution of condoms to sexually active teens. Others feel that the state should not provide funding for the distribution of condoms to sexually active teens. How about you ... do you think the state should fund efforts to reduce teen pregnancy through distribution of condoms to sexually active teens or do you think the state should not do this?”</p> <p><i>1. State should provide funding; 2. State should not do this; 3. Don't know</i></p> <p>“And what about efforts to reduce teen pregnancy through distribution of contraception, such as the birth control pill, to sexually active teens. Do you think the state should fund efforts to reduce teen pregnancy through distribution of contraceptives to sexually active teens or do you think the state should not do this?”</p> <p><i>1. State should provide funding; 2. State should not do this; 3. Don't know</i></p>	QN: Categorical

Variable Type X=Independent Y=Dependent	Variable Name	Survey Questions and Response Options	Data Type/ Score type
X ₂	Beliefs regarding the issue of teen reproductive health	(n=1 item) “For some people, the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue. For other people, issue of teen reproductive health, including teen pregnancy and access to contraception is a public health issue. What about you ... do you think that the issue of teen reproductive health, including teen pregnancy and access to contraception is a moral issue, a public health issue, both a moral and public health issue, or neither? <i>If Both, probe: “Would you say this was more of a moral issue or more of a public health issue?”</i> <i>1. Moral Issue; 2. Both, more of a moral issue; 3. Both, moral and public health (equal); 4. Both, more of a public health issue; 5. Public health issue; 6. Neither a moral nor a public health issue; 7. Don't know</i>	QN; Categorical
X ₃	Age	(n=1 item) What is your age? [code exact number of years]	QN; Continuous
X ₄	Gender	(n=1 item) Interviewer records sex of respondent <i>1. Male; 2. Female</i>	QN; Categorical
X ₅	Race	(n=1 item) What is your race? <i>1. Black; African American; 2. White; 3. Hispanic; Puerto Rican; Mexican or Spanish American; 4. Native American; American Indian; 5. Asian; Oriental</i> <i>6. Other (specify)</i>	QN; Categorical

Variable Type X=Independent Y=Dependent	Variable Name	Survey Questions and Response Options	Data Type/ Score type
X ₆	Political affiliation	<p>(n=1 item)</p> <p>Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent or what?</p> <p><i>[IF REPUBLICAN] Would you call yourself a strong Republican or not a very strong Republican?</i></p> <p><i>[IF DEMOCRAT] Would you call yourself a strong Democrat or not a very strong Democrat?</i></p> <p><i>[IF INDEPENDENT, NO PREFERENCE, OR OTHER] Do you think of yourself as closer to the Republican or to the Democratic party?</i></p> <ol style="list-style-type: none"> <i>1. Strong Republican</i> <i>2. Not very strong Republican</i> <i>3. Independent but closer to Republican</i> <i>4. Independent closer to neither</i> <i>5. Independent but closer to Democrats</i> <i>6. Not very strong Democrat</i> <i>7. Strong Democrat</i> <i>8. Other (specify)</i> 	QN; Categorical

Variable Type X=Independent Y=Dependent	Variable Name	Survey Questions and Response Options	Data Type/ Score type
X ₇	Income	(n=1 item) Estimate your family's total income for the last year <u>before</u> taxes were taken out. Include wages, social security, welfare and other income. <i>1. Less than \$5,000; 2. \$5,000-\$9,000; 3. \$10,000-\$14,999; 4. \$15,000-\$19,999; 5. \$20,000-\$24,999; 6. \$25,000-\$29,999; 7. \$30,000-\$34,999; 8. \$35,000-\$39,999; 9. \$40,000-\$44,999; 10. \$45,000-\$49,999; 11. \$50,000-\$74,999; 12. \$75,000-\$99,999; 13. \$100,000 and over</i>	QN; Categorical
X ₈	Education level	(n=1 item) What is the highest grade of school or year in college that you actually finished and got credit for? [record grade]	QN; Continuous
X ₉	Parental status	(n=1 item) Are you the parent or legal guardian of a child aged 17 or younger? <i>1. Yes; 2. No; 3. Don't know; 4. Refused</i>	QN; Categorical
X ₁₀	Zip code	(n=1 item) What is your zip code?	QN; Categorical
X ₁₁	Urban/rural area of state	(n=1 item) Do you live in an urban, suburban, or rural area of South Carolina? <i>1. Urban (inside city limits) 2. Suburban (just outside city limits) 3. Rural (away from a city) 4. Don't Know (Probe: "How would you describe it?")</i>	QN; Categorical
X ₁₂	Voting status	Some people are registered to vote and others are not. Are you currently registered to vote in South Carolina? <i>1. Yes 2. No or Don't know</i>	QN; Categorical