

PREDICTING ANTI-GAY PREJUDICE BASED ON SEX KNOWLEDGE AND  
EDUCATION

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## ABSTRACT

### PREDICTING ANTI-GAY PREJUDICE BASED ON SEX KNOWLEDGE AND EDUCATION

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Bullying of sexual minority students is an increasingly prevalent topic among school psychologists and educational personnel across the country. This study measured the variables of sex knowledge (as measured through the Sexual Knowledge and Attitude Test for Adolescents) and anti-gay prejudice (as measured through the Attitudes Toward Lesbians and Gay Men – Revised Edition). The results of this study found that sex education is significantly, negatively correlated to anti-gay prejudice. While causational relationships still need to be analyzed, this suggests that there is a significant relationship between sex education and anti-gay prejudice. Through additional analysis, it was also discovered that sex attitude (as measured through the Sexual Knowledge and Attitude Test for Adolescents) is significantly, negatively correlated to anti-gay prejudice; sex attitude is also significantly, positively correlated to sex knowledge. This study discusses further predictors and outcomes regarding the two variables (sex knowledge and anti-gay prejudice).

## CHAPTER ONE: LITERATURE REVIEW

Bullying of sexual minority students is an increasingly prevalent issue for school psychologists and school personnel. It is important that professionals are aware of anti-gay prejudice, its outcomes, and possible preventative methods. This study will explore the relationship between anti-gay prejudice and sex knowledge and education. It is important that professionals are also aware of sex knowledge and education, and the possible impacts it may have on important constructs, such as anti-gay prejudice.

### **Anti-Gay Prejudice**

#### **Sexual Minorities**

Sexual minority refers to a group of people whose tendencies, orientation, and/or identity differ from that of the majority of the surrounding society (e.g. heterosexuals). This includes those who are attracted to same-sex partners and those whose sexual behavior deviate from what is expected according to their biological gender. This includes lesbians, gays, bisexuals, transgendered people, and other non-heterosexual individuals (e.g. asexual) (Yarbor, Sayad & Strong, 2010). While the term sexual minority will be used throughout this report, it must be noted that the terms sexual minority, gay, homosexual, and sexual diversity were used in the literature review.

#### **Definition of Anti-Gay Prejudice**

Anti-gay prejudice is characterized by a strong bias against sexual minorities. Anti-gay prejudice is often referred to as homophobia, which is not necessarily a fear of sexual minorities, but rather a prejudice against them (Haaga, 1991). Anti-gay prejudice is characterized by a powerful aversion, depreciation, bias against, disgust and/or

discomfort regarding sexual minorities because of their sexual orientation (Snively, Kreuger, Stretch, Watt & Chadha, 2004; Yarbor, Sayad & Strong, 2010).

This type of prejudice has been referred to by many names, including heterosexual bias (Herek, Kimmel, Amaro & Melton, 1991), homoerophobia (Churchill, 1967), homophobia (Levitt & Klassen, 1974), homosexism (Lehne, 1976), heterosexism (Yarbor et al., 2010), and homonegativism (Hudson & Ricketts, 1980). This wide use of terminology may reflect the theoretical and political implications regarding this negative attitude toward sexual minorities.

### **Outcomes of Anti-Gay Prejudice**

**Anti-gay behaviors.** Allport (1958) reports in his classic work that social prejudice is represented in three forms: discrimination, insulting language, and physical aggression. Each form can be seen in regards to sexual minorities.

Anti-gay prejudice has been reported in employment opportunities, legal affairs, and adoption and housing decisions (Yarbor et al., 2010). Sexual minorities report discrimination in a variety of situations: 10% of sexual minorities reported experiencing discrimination while applying for or keeping a job, 7% while attempting to receive healthcare or health insurance, 5% while renting or buying a home, 3% while joining or serving in the U.S. military, and 1% while applying to a school (Kaiser Family Foundation, 2001).

Sexual minorities are often called “fag”, “dyke”, “homo”, “queer”, and many other derogatory names (Yarbor et al., 2010). The majority (74%) of sexual minorities report verbal abuse in regards to their sexual orientation (Kaiser Family Foundation,

2001). Heterosexuals also often use such anti-gay derogatory terms to demean each other (e.g. using “gay” as an insult) (Burn, 2000).

Sexual minorities may also be targets of violence, referred to as “gay-bashing” or “queer-bashing”, which has lead to death (Snively et al., 2004). Many sexual minorities (32%) report experiencing physical violence, either against their person or possessions, because of their perceived sexual orientation (Kaiser Family Foundation, 2001).

**Prejudices.** Anti-gay prejudices have many undesirable effects on people who hold them. The prejudice produces distress and anxiety in the bearers (Yarbor et al., 2010). It isolates them from their sexual minority relatives, friends, coworkers, and associates (Holtzen & Agresti, 1990). Many sexual minorities (34%) report that their family or a family member refused to accept them because of their sexual orientation (Kaiser Family Foundation, 2001). This prejudice may also extend to people who willingly associate with sexual minorities, especially roommates (Sigelman, Howell, Cornell, & Cutright, 1991). Consequently, those countries with the lowest perceived acceptance of sexual minorities also had the lowest levels of overall wellbeing (Naurath, 2007).

Because of fear of being judged as a sexual minority, people with anti-gay prejudice often restrict their behaviors and emotions, especially hugging and touching of same-sex peers (Andersen, 2002; Britton, 1990). They may also engage in overemphasized demonstrations of masculinity or femininity in order to prove their heterosexism (Mosher & Tomkins, 1988; Yarbor et al., 2010). Anti-gay prejudice among men reinforces their desire to be viewed as masculine, and also devalues femininity because of its association with sexual minorities (Andersen, 2002).

When anti-gay prejudiced men view male-male sexual interaction, they tend to react in anger; compared to anti-gay prejudiced men who view male-female sexual interaction and tend to react without anger (Parrott, Zeichner, & Hoover, 2006). This suggests that anti-gay prejudiced men tend to become angry when exposed to sexual minority stimuli.

The HIV/AIDS epidemic further strengthened anti-gay prejudice. HIV/AIDS originally emerged primarily in the sexual minority community, and was therefore considered the “gay plague” and punishment on the sexual minority community for their “unnatural” ways (Altman, 1986). Since HIV/AIDS is common in the sexual minority community, many heterosexuals use the disease to fuel their fear and aversion of sexual minorities (Lewes, 1992; Yarbor et al., 2010).

Many heterosexuals assume that homosexuality is a manifestation of a pathological disorder, yet homosexuality has been taken out of the Diagnostic and Statistical Manual as of 1973, and the American Psychological Association (along with other professional organizations) does not consider homosexuality an illness (Drescher, 2010). Heterosexist bias has also found its way into many psychological research projects, which therefore underscores the results of these findings, inhibits our understanding of sexual minorities, and continues to encourage stereotypical views (Herek et al., 1991; Speer & Potter, 2000).

### **Bullying and Anti-Gay Prejudice in the Schools**

Bullying consists of a display of aggression and dominance that victimizes a peer and may result in physical, social, or psychological damage to the target (Smith & Brain, 2000). Bullying may occur through verbal remarks, such as name-calling, degrading

remarks, teasing and/or threats. Bullying may also be manifested through relational bullying, where the perpetrator purposely excludes, starts rumors, and/or jeopardizes the victim's social life in some way (Batsche & Porter, 2006).

Many sexual minorities are victims of bullying and are subjected to anti-gay hostility in schools (Crothers & Altman, 2007). Approximately two million students are at risk for being victimized because of their perceived and/or actual sexual orientation, and because they do not fit accepted gender roles (Bowman, 2001; Horowitz & Loehning, 2003). Sexual minority students experience greater amounts of victimization when compared to heterosexual students: between 12% and 59% of sexual minority students report being bullied at school (Button, O'Connell, & Gealt, 2009; D'Augelli, Pilkington, & Hershberger, 2002; Garofalo, Wolf, Kessel, Palfrey, & DuRant, 1998). Sexual minorities are still harassed after they leave the educational environment; the U.S. Department of Justice (2010) reported that approximately 17.8% of all hate crimes target a victim because of their sexual orientation.

Sexual minorities are more likely to be threatened with violence at school, threatened with a weapon while at school, avoidant of school due to fear, involved in fights, require medical attention after fights, and experience property damage (Buhs, Ladd, & Herald, 2006; Button et al., 2009; DuRant, Krowchuk, & Sinal, 1998; Garofalo et al., 1998). Sexual minority students have difficulty feeling the same level of comfort while at school when compared to heterosexuals, and the majority of sexual minorities regulate their public behavior out of fear of attack (Berrill, 1990; Meyer, 2003).

Bullying of sexual minority students leads to decreased academic achievement (Callahan, 2001; National Association of School Psychologists [NASP], 2006),

psychosomatic complaints (Garnets et al., 1990), inferior psychosocial adjustment (Crick, Ostrov, & Werner, 2006; Nansel et al., 2001), future internalizing and externalizing problems (Crick, Ostrov, & Werner, 2006), lowered levels of trust in others (Garnets et al., 1990), feelings of loneliness and social isolation (Bullock, 2002; Garnets et al., 1990; Young & Sweeting, 2004), self-blame and internalized homophobia (Garnets et al., 1990), decreased self-esteem (Bullock, 2002), depression (Bullock, 2002, Garnets et al., 1990; Young & Sweeting, 2004), posttraumatic stress symptoms (D'Augelli et al., 2002), suicidality and suicidal thoughts (Friedman, Koeske, Silvestre, Korr, & Sites, 2006; Warner et al., 2004), increased rates of violent victimization later in life, and increased criminal acts, violence, and substance abuse (Bullock, 2002; Garnets et al., 1990). Victimization may also result in a violent response from the victims (Dupper & Meyer-Adams, 2002). However, bullying frequently goes undetected because it often occurs discretely, and many sexual minorities do not report the problem (Grants, 2006).

**Relevance to school psychology.** Much victimization of sexual minorities happens while at school (Adams, Cox, & Dunstan, 2004; Kosciw, Greytak, Diaz, & Bartkiewicz, 2010). Therefore, many sexual minority students may have their safety jeopardized while in attendance, which may result in lowered academic achievement and a higher dropout rate (Mental Health America [MHA], 2010; NASP, 2006; Weiler, 2004).

It is important that professionals make the school environment a safe and educational environment for all students who attend. School psychologists are obligated to facilitate an educational environment that is safe and increases the abilities of all students, including sexual minorities (Ysseldyke et al., 2006). Many schools currently do

not provide the necessary protection and safe environment that sexual minority students need (Weiler, 2004). Adults in the schools may exacerbate anti-gay prejudice by ignoring or even taking part in harassment of sexual minorities (Finz, 2000; Hough, 2009).

Schools are an ideal environment to educate students about anti-gay prejudice and to provide support for sexual minority students. Schools are a central source of information and socialization for children and teenagers (Sullivan, 2003).

### **Variables Predicting Anti-Gay Prejudice**

Prejudice stems from multiple social, internal and circumstantial sources, such as culture, age, peer dynamics, educational level, gender, personality, belief systems, exposure to sexual minorities, and education and knowledge levels (Pervin, 1989; Herek, 1984b; Haddock & Zanna, 1998). While this multiple determinism theory needs to be considered, this literature review explores separate variables that are related to anti-gay prejudice. Yet it should be noted that anti-gay prejudice most often stems from a combination of these separate factors.

**Age.** Age is related to anti-gay beliefs. America may be experiencing a “sexual revolution” in regards to acceptance of sexual minorities (Gallup Poll, 2010; Jones, 2011; Treas, 2002). People with high anti-gay beliefs tend to be older than people with more tolerant beliefs (Herek, 1984b; Walch, Orlosky, Sinkkanen, & Stevens, 2010). Younger cohorts (i.e. between ages 18 and 28) tend to be more accepting of sexual minorities, while older cohorts tend to be less accepting of sexual minorities (Treas, 2002). This suggests that beliefs toward sexual minorities are quickly becoming more accepting through each procession of cohort.

**Gender.** Heterosexual men tend to hold stronger anti-gay beliefs and show more anti-gay behaviors than heterosexual women (Burn, 2000; Herek, 1984b). Also, heterosexuals tend to hold stronger anti-gay beliefs toward sexual minorities of their own gender when compared to the other gender (Kite & Whitley, 1996; Loftus, 2001). This shows that the gender of the heterosexual making judgment, as well as the gender of the sexual minority they are considering, does have an effect on the views being made.

**Culture.** Culture may have one of the most significant impacts on one's views of sexuality and sexual minorities (Madureira, 2007). Citizens of the United States are relatively accepting in their views on sexuality when compared to other countries, especially African countries (Naurath, 2007). However, even among countries that are generally very tolerant of sexual minorities, there are still large divides among the population (Widmer, Treas, & Newcomb, 1998). While there may be a majority of the population that accepts sexual minorities, there is often still a proportion of the population that is very opposed to sexual minorities.

Many cultures have varying acceptance of sexual minorities when compared to the mainstream culture of the United States (Williams, 1997). In Ancient Greece, it was normal for older men to establish close, intimate relationships with a younger boy, while concurrently married to a female. (Yarbor et al., 2010). The Sambia culture of New Guinea require young boys to receive semen in order to develop into men, and encourage sexual acts between adolescent boys before marriage to a female (Herdt, 1999).

Several cultures embrace the idea of “two-spirits”, which emphasizes spiritual sacredness rather than sexuality (Jacobs, Thomas & Lang, 1997). This term describes a person who behaves as the gender opposite of his or her anatomical gender, which may

include transsexuals, transvestites, homosexuals, and other sexual minorities; and often considers gender to be socially acquired rather than biologically acquired (Roscoe, 1991). Two-spirits have been observed in American Indian, Filipino, Lapp, Indian, and South Asian communities, and are often treated with reverence (Yarbor et al., 2010).

However, anti-gay prejudice is very strong among many cultures. People with high anti-gay beliefs are more likely to live in areas where anti-gay prejudice is the norm, such as small towns and rural areas in the United States, especially in the Midwest and the South (Dejowski, 1992; Loftus, 2001; Snively et al., 2004). Homosexual acts are considered illegal in many countries across Africa, and punishment may take the form of years of imprisonment or even death (Naurath, 2007).

**Religion.** Anti-gay beliefs have been found to be related to religious ideals and ways of thinking. Many anti-gay beliefs are related to dedicated and rigid fundamentalist religious views (Balkin, Schlosser & Levitt, 2009; Britton, 1990; Loftus, 2001; Wilkinson, 2004). People with high anti-gay beliefs tend to be religious, worship consistently, follow a more traditionalist belief system, and possess conservative religious doctrines (Gallup Poll, 2009; Herek, 1984b; Laythe, Finkel, Bringle, & Kirkpatrick, 2002; Sherrod & Nardi, 1998; Treas, 2002).

Certain religious institutions tend to promote anti-gay beliefs more than others, especially conservative Christian religions such as conservative Protestants and Catholics (LeVay & Baldwin, 2009; Newman, 2002; Sullivan, 2003). Other groups tend to hold more accepting attitudes and promote tolerance, such as the Quakers, non-Orthodox Jews, Unitarians, Presbyterians, Congregationalists, and Episcopalians (Herek, 1988; Newman, 2002; Strong & DeVault, 1997).

In addition, there is considerable variation in the acceptance of sexual minorities within religious groups (Newman, 2002). Certain religious groups separate themselves from the mainstream church in order to accept sexual minorities but still maintain the overall spiritual ideals of the religion. These include the religious congregations known as Dignity, Lutherans Concerned, Presbyterians for Lesbian and Gay Concerns, and the Affirmation Church (Kahn, 1989; Strong & DeVault, 1997).

**Personality and internal factors.** Several personality factors are related to anti-gay prejudice. People with high anti-gay beliefs tend to demonstrate high degrees of right-wing authoritarianism (Altemeyer, 1981; Haddock & Zanna, 1998; Herek, 1984b; Wilkinson, 2004). Right-wing authoritarianism is the tendency to place significant importance on the decisions and thinking of an authority figure, such as a government official or religious figure (Altemeyer, 2004). People with this right-wing authoritarian belief system often consider themselves to be morally superior and are highly judgmental of any “immoral” outsiders (Altemeyer, 1981; Whitley & Lee, 2000).

Members of the Republican political party are more likely to consider sexual minorities morally unacceptable when compared to members of the Democrat political party (Jones, 2011). Also, people with high anti-gay beliefs often see the world to be populated with “menacing outsiders” who endanger society’s norms, violate important values, and go against the “natural order of things” (Altemeyer, 2004; Haddock, Zanna & Esses, 1993; LeVay & Baldwin, 2009).

Empathic concern and perspective taking are negatively correlated to anti-gay attitudes (Johnson, Brems & Alford-Keating, 1997). When imagining homosexual acts, those with low empathy are not able to put themselves into the mindset of a sexual

minority and are consequently turned-off and transfer this aversion to those who actually engage in homosexual acts (LeVay, 1996).

People with high anti-gay beliefs tend to hold more conservative views about sexuality in general, including premarital sex, teen sex and extramarital sex (Herek, 1984b; Olatunji, 2008; Widmer et al., 1998). Erotophobia (i.e. aversion to sexual cues and activities) is also positively linked to anti-gay prejudice (Rogers, McRee & Arntz, 2009).

People with high anti-gay beliefs are often more supportive of a traditional gender role for both women and men, especially in regards to men following the masculine role (Andersen, 2002; Britton, 1990; Harry, 1995; Herek, 1988; Herek, 1994; Sullivan, 2003). Many men with high anti-gay prejudice follow a machismo, or hyper-masculine, script that highlights masculinity, violence, male dominance, and physical superiority (Mosher & Tomkins, 1988). This viewpoint affects the way many men with anti-gay prejudice interact with people they do not see as following their prescribed view of masculinity, which is looked down upon as feminine and inferior (Anderson, 2002; Harry, 1995).

**Beliefs and stereotypes.** Many people who subscribe to an anti-gay belief system believe that homosexuality is unnatural. People with strong anti-gay beliefs tend to believe that homosexuality is a product of environmental and social elements, and a personal decision (Herek & Capitanio, 1995; Sullivan & Wodarski, 2002; Jones, 2011; Whitley, 1990). In addition, people with high anti-gay beliefs tend to be more unaccepting of diversity and exhibit greater social prejudices in general (Sears, 1997; Snively et al., 2004).

People who accept negative sexual minority stereotypes tend to show more anti-gay prejudice (Brown & Groscup, 2009; Gentry, 1987; Sigelman et al., 1991; Wilkinson, 2004). Stereotypes within American culture paint sexual minorities as educated, artistic, materialistic, not religious, overly promiscuous, having not found the right man/woman, gender confused, child molesters, having a desire to recruit others to homosexuality, and less happy in their relationships (Brown & Groscup, 2009; Simon, 1998; Sullivan, 2003; Yarbor et al., 2010). The public often views lesbians as independent, competent, preferring of females, less socially warm than other females, choosing homosexuality as an acting out of resentment towards men, stubborn, abnormal, masculine, shameless, and a poor example for children (Blashill & Powlishta, 2009; Eliason, Donelan & Randall, 1993; Simon, 1998). Americans view gay men as artistic, imaginative, organized, complex, overly sexual, overly emotional, insecure, and effeminate (Blashill & Powlishta, 2009; Kite & Deaux, 1987; Simon, Glässner-Bayerl & Stratenwerth, 1991).

Many anti-gay behaviors are fueled by peer-pressure (mostly male) in order to demonstrate heterosexuality, as well as to purge private homosexual inclinations (Goff, 1990; Harry, 1990; LeVay & Baldwin, 2009). Heterosexuals may believe that their peers hold anti-gay beliefs, and may therefore demonstrate anti-gay behaviors, even if they are not high in anti-gay prejudice, to increase acceptance among peers (Burn, 2000). Anti-gay prejudices may also originate from one's own unease regarding one's sexuality and self-image (Duckitt, 1992; LeVay & Baldwin, 2009). Anti-gay prejudiced men are more likely to become aroused when viewing homosexual activities, suggesting that anti-gay prejudiced men may be suppressing their own homosexual desires and attack sexual

minorities as an unconscious attack on their own undesired tendencies (Adams, Wright, & Lohr, 1996; Herek, 1990).

**Social interaction.** Many people are simply uninformed in regards to sexual minorities. People with no personal familiarity with sexual minorities have much more anti-gay prejudice (Herek & Glunt, 1993; Morales, 2009; Snively et al., 2004). This shows that the more sexual minorities a person is familiar with, the more positive his/her attitudes and beliefs are toward sexual minorities.

A new phenomenon regarding the presence of sexual minorities in popular television shows has been observed to have an effect on attitudes regarding sexual minorities. This effect, known as the Will & Grace effect, has been observed to be related to decreased anti-gay prejudice in those who have little interaction with sexual minorities (Schiappa, Gregg, & Hewes, 2008).

Men's perception of a sexual minority man depend not only on their beliefs toward sexual minorities, but also whether they believe a particular sexual minority man resembles them, and whether they consider the encounter(s) positive or negative (Haddock & Zanna, 1998; San Miguel & Millham, 1976).

**General knowledge.** Educational level is related to anti-gay beliefs. People with high anti-gay beliefs tend to be less educated (Dejowski, 1992; Herek, 1995; Loftus, 2001; Ohlander, Batalova & Treas, 2005; Treas, 2002). Anti-gay beliefs tend to decrease as students progress from high school to college (Kurdek, 1988; Van de Ven, 1994). Those who demonstrate anti-gay behaviors are often unaware of the effects their behaviors have on others (Burn, 2000). Also, people with strong anti-gay beliefs are less

likely to read (e.g. newspapers, magazines) on a regular basis (Sherrod & Nardi, 1998).

This suggests that exposure to education may reduce anti-gay prejudice.

**Sex education.** Sex education is related to anti-gay beliefs. Similar to the findings on general knowledge, low levels of sex knowledge are related to higher levels of anti-gay prejudice (Addison, 2007; Birden, 2004; Goldfarb, 2006; Letts & Sears, 1999; Rogers et al., 2009). Acceptance of sexual minorities often increases throughout human sexuality courses (Patton & Mannison, 1994; Serdahely & Ziembka, 1984).

Sex education can increase empathy and dispel false beliefs regarding sexual minorities. Sex education courses that include open discussions regarding sexual minorities result in overall lowered levels of anti-gay prejudice (Waterman, Reid, Garfield & Hoy, 2001; Wright & Cullen, 2001). Sex education courses are especially effective with the inclusion of interaction with sexual minorities through speaker panels (Croteau & Kusek, 1992; Hinrichs & Rosenberg, 2002).

People with more sex education tend to have weaker anti-gay beliefs, and anti-gay beliefs can be decreased through effective, interactive sexual education courses. While the effects of human sexuality courses have been studied, the effects of existing, established sex knowledge are still unknown.

## **Sex Knowledge**

### **Definition of Sex Knowledge**

Sex knowledge denotes how much a person knows about human sexuality and its related outcomes and intricacies. For this study, sex knowledge is defined by the knowledge measure provided by the Sex Knowledge and Aptitude Test for Adolescents (SKAT-A) (Lief, Fullard & Devlin, 1990), which measures an individual's knowledge of

sexuality through such topics as abortion, contraception and pregnancy, sexually transmitted infections, sexual minorities, sexual behaviors, sexual expression, premarital sex, fantasies, pornography, sexual crimes, sex education and sexual responsiveness (Lief et al., 1990; Lief & Payne, 1975). Sex knowledge may come from a number of sources, including sex education classes, peers, parents and the media.

### **Sources of Education**

The majority of students in the U.S. have received a sex education course through the public school system. An estimated 86.7% of students grades 7<sup>th</sup> through 12<sup>th</sup> have received sex education in school (Brener et al., 2011).

Most people recognize the importance of sex education within the school system; 80 to 90% of adults support sex education (Landry, Darroch, Singh & Higgins, 2003). But, it is the form of sex education that causes disagreement, and strong differing viewpoints exist. Most school boards feel pressured to present sex education that encourages abstinence and limits other forms of contraception (Landry et al., 2003). Yet, a comprehensive approach is recommended by many professional organizations, including the American Medical Association and the National Academy of Sciences (Landry et al., 2003).

Sex education programs vary considerably, and the comprehensiveness of many public sex education programs is often very limited (Landry et al., 2003). Many educators fail to cover protection methods, sexually transmitted infections (STIs) and STI services, refusal skills, communication skills, and abortion issues (Landry et al., 2003).

Sex education programs have been a strong source of political debate. In the past, abstinence-only sex education programs have received an enormous amount of support

from federal, state, and local governments (Sexuality Information and Education Council of the United States [SIECUS], 2005). But, this has recently changed under the Obama administration, which now requires that programs be scientifically proven to postpone sexual activity, strengthen contraceptive use, or decrease unwanted pregnancies in order to receive federal funding (Cohen, 2009).

Abstinence-only programs often teach that abstinence before marriage is the only safe sexual health option, and that the moral standard for sexual activity only occurs within a faithful, monogamous relationship. These programs often use fear-based tactics to train students not to engage in pre-marital sexual acts, arguing that these behaviors are harmful (Meyers, Landau & Sylvester, 2008).

Effectiveness of abstinence-only programs is a controversial issue. In a federally funded study, it was found that there was no significant difference on teen sexual activity and unprotected sex in an abstinence-only program compared to students who were randomly assigned to a control group (Trenholm et al., 2008). Upon further examination of the evaluations of 13 American abstinence-only trial programs, it was discovered that no program influenced the prevalence of unprotected vaginal sex, number of partners, condom use, or sexual initiation among the students who completed the program (Underhill, Montgomery & Operario, 2007).

However, a recent study found decreased sexual activity after an abstinence-only intervention (Jemmott, Jemmott, & Fong, 2010). Yet it should be noted that this intervention differs in other abstinence-only programs in that it did not take on a moralistic tone, did not criticize contraceptive use, encouraged delayed sexual activity

until students are ready (not necessarily until marriage), and did not teach that pre-marital sex is never appropriate (Stein, 2010).

Many abstinence-only sex education programs ostracize sexual minority students, since many programs view marriage as only possible between a man and a woman (Meyers et al., 2008). Often, they will only mention this population when discussing sexually transmitted infections, in which they are simply viewed as transmitters of disease (Meyers et al., 2008).

In fact, some sex education programs relay false and deceiving information. According to the U.S. House of Representatives, Committee on Government Reform – Minority Staff, Special Investigations Division (2004), more than 80% of these programs relay flawed information. They downplay the ability of contraceptives to protect from sexually transmitted infections and unplanned pregnancies, misrepresent the danger of abortion, mix science with religion, encourage gender stereotypes, and contain fundamental scientific inaccuracies.

Effective sex education requires a comprehensive view that covers fact-based information, including body development, reproduction, sexual minorities, and sexually transmitted infections (Kirby, 2002; Lou & Chen, 2009; Meyers et al., 2008). Educators must be aware of the norms of their student population (Kirby, Laris, & Rolleri, 2005; Meyers et al., 2008), and acknowledge any misunderstandings their students hold about sexuality (Allen, 2001). Students must be motivated to acquire sex knowledge (Eisen & Zellman, 1986; Ryan, Franzetta, & Manlove, 2007), and clear goals must be established to increase sex knowledge and effective behaviors (Kirby et al., 2005).

Most adolescents gain information (whether true or false) through peers and what they consider peer norms. Adolescents frequently rank friends as their chief influences on sexual behaviors (Bleakley, Hennessy, Fishbein, Coles, & Jordan, 2009; De Armand, 1983). Peers often coerce each other to be more sexually active, to behave in a gender stereotypical manner, and encourage beliefs that sex will result in positive outcomes (e.g. will increase self-esteem, will strengthen the romantic relationship) (Bleakley et al., 2009; DiBlasio & Benda, 1992).

Most adolescents unconsciously gain a significant amount of material from their parents, such as sex roles and the private nature of sex (LeVay & Baldwin, 2009, Roberts, 1983). This secretive nature often leads children to avoid discussing sexuality with their parents. However, if adolescents feel as if their sexuality is appropriate and that they are still accepted by their parents, they often respond with feelings of higher self-worth and responsibility (Gecas & Seff, 1990).

Adolescents also obtain many concepts through the media. They are often exposed to nudity and sexual content through television (Bleakley et al., 2009). The content they are exposed to is highly glamorized and unrealistic, yet is nevertheless misunderstood as being realistic and may lead to confusion and delusions (American Psychiatric Association, 2008; Strasburger, 1995).

## CHAPTER TWO: PURPOSE OF STUDY

Anti-gay prejudice has many negative effects on the bearer of anti-gay views, as well as others who are in contact with the anti-gay prejudiced individual or groups (Andersen, 2002; Herek et al., 1991; Holtzen & Agresti, 1990). Anti-gay prejudice may lead to stereotyping, harassment (physical, social, and mental), hostility and discomfort (Holtzen & Agresti, 1990; Mosher & Tomkins, 1988). Several influencing variables have been found to be indicative of anti-gay prejudice, such as age, gender, cultural background, personality attributes, conservatism, false beliefs regarding sexual minorities, stereotyping, low social interaction with sexual minorities, low educational level, and low sex education (Altemeyer, 1981; Britton, 1990; Haddock & Zanna, 1998; Herek, 1984a; Pervin, 1989; Wilkinson, 2004; Yarbor et al., 2010).

Bullying is a significant issue for sexual minorities (Bowman, 2001; Horowitz & Loehning, 2003; U.S. Department of Justice, Federal Bureau of Investigation, 2010). Sexual minorities have a long history of victimization and often need protection while in schools (Berrill, 1990; D'Augelli et al., 2002; DuRant et al., 1998; Garofalo et al., 1998). Bullying has strong undesirable effects on internalizing and externalizing behaviors in everyone involved, including the victim, the bully, and bystanders (Bullock, 2002; Callahan, 2001; Crick et al., 2006; Farrington, 1993; Garnets et al., 1990; NASP, 2006; Warner et al., 2004). Bullying also has a negative effect on the victim's academic career, perhaps resulting in avoidance of school (Bullock, 2002; MHA, 2010; NASP, 2006; Weiler, 2004).

Sex education is often very beneficial for adolescents and is supported by the majority of adults (Landry et al., 2003). However, some sex education provided by the

public school systems (specifically abstinence-only programs) have not been found to be very effective (U.S. House of Representatives, Committee on Government Reform – Minority Staff, Special Investigations Division, 2004; Underhill, Montgomery & Operario, 2007).

The purpose of this study was to examine the relationship between anti-gay prejudice and sex knowledge and education. It was hypothesized that there would be a significant negative correlation between measures of sex knowledge and anti-gay prejudice. This would be similar to the findings of Patton and Mannison (1994) and Serdahely and Ziemba (1984), who found that taking a course in human sexuality decreased participants' levels of anti-gay prejudice.

## CHAPTER THREE: METHOD

### Participants

The participants came from a convenience sample of 79 male freshman students in introductory psychology courses at a regional public university in the Southeast. The decision to limit participants to freshman was influenced by the tendency for those earlier in their academic career to display more anti-gay tendencies than those later in their academic career (Kurdek, 1988; Van de Ven, 1994). The decision to limit participation to males was influenced by the tendency for males to display more anti-gay beliefs than females (Burn, 2000; Herek, 1984b).

The mean of the age of participants was 18.9 ( $SD = 1.17$ ), with a range of 18 to 25. The ethnic composition of the sample was predominantly Caucasian ( $n = 60, 76.9\%$ ). The remaining participants indicated they were either African American ( $n = 11, 14.1\%$ ), Alaskan/Native American ( $n = 1, 1.3\%$ ), Asian/Pacific Islander ( $n = 1, 1.3\%$ ), or Other ( $n = 4, 5.1\%$ ).

The reported marital status of the sample was predominantly Single/Never Married ( $n = 75, 96.2\%$ ), with the remaining reported statuses being Married/Engaged ( $n = 2, 2.6\%$ ) or Divorced/Separated ( $n = 1, 1.3\%$ ). The reported sexual orientation of the sample was predominantly Heterosexual ( $n = 77, 97.5\%$ ), with the remaining reports being Bisexual ( $n = 2, 2.5\%$ ).

The reported religious affiliation of the sample was: Catholic ( $n = 12, 15.4\%$ ), Baptist ( $n = 19, 24.4\%$ ), Methodist ( $n = 11, 14.1\%$ ), Protestant ( $n = 8, 10.3\%$ ), Atheist ( $n = 4, 5.1\%$ ), Agnostic ( $n = 2, 2.6\%$ ), Pentecostal ( $n = 2, 2.6\%$ ), Non-denominational ( $n = 16, 20.5\%$ ), Hindu ( $n = 1, 1.3\%$ ), and Other ( $n = 2, 2.6\%$ ).

The reported state of attendance for high school for the sample was: North Carolina ( $n = 67$ , 85.9%), South Carolina ( $n = 3$ , 3.8%), Georgia ( $n = 3$ , 3.8%), Virginia ( $n = 2$ , 2.6%), Ohio ( $n = 1$ , 1.3%), Florida ( $n = 1$ , 1.3%) and Nebraska ( $n = 1$ , 1.3%). The majority of respondents reported attending Public high school ( $n = 69$ , 88.5%), while the remainder reported attending Private high school ( $n = 8$ , 10.3%) or Charter high school ( $n = 1$ , 1.3%).

## **Measures**

### **Demographic form**

A simple demographic form was developed in order to obtain basic information regarding the participants, as well information regarding attainment of sexual education (Appendix B).

### **Sexual Knowledge and Attitude Test for Adolescents**

The *Sexual Knowledge and Attitude Test for Adolescents* (SKAT-A) was developed as a research and educational tool to measure adolescents' and young adults' sex knowledge, attitudes, and behaviors (Appendix C). The SKAT-A resembles the original Sexual Knowledge and Attitude Test (SKAT), which was generated by Lief and Reed (1972). They report the SKAT as "an omnibus instrument designed to be of value both as a teaching aid in courses dealing with human sexuality and as a research instrument for the social sciences." Lief (1988) declares that the SKAT is the most utilized measurement of its kind.

In development of the SKAT-A, Lief et al. (1990) made use of data from field tests with the target population (adolescents and young adults), item analyses, validity and reliability measurements, judgment from experts in adolescent development, and

literature review. The SKAT-A corresponds to the SKAT in composition, with a few adjustments in components and vocabulary to make it more appropriate for adolescents. The SKAT-A was normed with adolescents aged 17 to 25.

The SKAT-A has three main units: knowledge, attitudes, and behavior. The SKAT-A was administered in its entirety, yet since the behavior section was not used in the analysis, it will not be included in this report. The knowledge section measures an individual's knowledge of sexuality through questions regarding abortion, pregnancy, contraceptives, sexually transmitted infections, sexual minorities, sexual behavior, masturbation, premarital sex, fantasies, pornography, sexual crimes, sex education and sexual responsiveness. The knowledge section consists of 41 true/false questions. The answers have been organized in a random format in order to avoid response bias. Possible scores range from -41 to 41, with low scores indicating low sex knowledge and high scores indicating high sex knowledge.

The attitude section measures sexual myths, responsibility, sex and its consequences, and sexual coercion. This section contains 43 items that are answered through a 5-point Likert scale (1 = *strongly agree*; 5 = *strongly disagree*). The items have been randomly arranged in order to avoid response bias. Possible scores range from 43 to 215, with low scores indicating low sex attitude (i.e. conservative) and high scores indicating high sex attitude (i.e. accepting).

Lief et al. (1990) found that test-retest reliability is good for both the knowledge section ( $r = 0.804$ ) and the attitude section ( $r = 0.916$ ). Internal consistency was also found to be good for both the knowledge section ( $KR\ 20 = 0.70$ ) and the attitude scale (*Cronbach's alpha* = 0.89). The highest reading grade level required for the SKAT-A is

a 9<sup>th</sup> grade reading level. Concurrent validity was measured for the SKAT-A with Kirby's (1984) Knowledge and Attitude scales and Hendrick and Hendrick's (1987) Multidimensional Sexual Attitude Scale. Significant correlations were found between the STD parallel sections ( $r = 0.38, p < .01$ ); the SKAT-A myth scale with Hendrick and Hendrick's Permissiveness scale ( $r = 0.57, p < .001$ ) and Hendrick and Hendrick's Sex Practices scale ( $r = 0.57, p < .001$ ) and Kirby's Sexuality in Life scale ( $r = 0.40, p < .001$ ) and Premarital Sex sections ( $r = 0.60, p < .001$ ); the SKAT-A consequences scale with Hendrick and Hendrick's Permissiveness scale ( $r = 0.60, p < .001$ ), Sex Practices scale ( $r = 0.52, p < .001$ ), and Kirby's Premarital Sex section ( $r = 0.64, p < .001$ ). The SKAT-A's Coercion scale was negatively correlated to Hendrick and Hendrick's Permissiveness scale ( $r = -0.41, p < .001$ ). However, there are many scales that do not correlate. Lief et al. (1990) suggest that the SKAT-A and the other related scales measure "at some level, knowledge concerning sexual issues among teens", but that the SKAT-A also measures features not covered by other instruments.

### **Attitudes Toward Lesbians and Gay Men – Revised Edition**

The *Attitudes Toward Lesbians and Gay Men - Revised Version* (ATLG-R) scale is a short, 20-item questionnaire designed to measure views about sexual minorities (Herek, 1994) (Appendix D). The ATLG-R is a revised version of the *Attitudes Toward Lesbians and Gay Men* (ATLG) scale (Herek, 1984a). The revision was minimal, with a few items being slightly reworded in order to clarify meaning (Herek, 1994). Ten questions are aimed toward attitudes about lesbians and ten questions about gay men through a Likert scale (e.g., 1 = *strongly disagree*, 5 = *strongly agree*). Scoring was completed through summing the numerical points across the entire scale.

Scores range from 20 to 100 on the scale, with higher scores representing higher anti-gay beliefs and lower scores representing lower anti-gay beliefs.

Herek (1984a) developed the ATLG through factor analysis, item analysis, and construct validity research. The ATLG has very good internal consistency between its two subscales (Attitudes Toward Lesbians and Attitudes Toward Gay Men), as well as very good test-retest reliability ( $r = 0.90$ ) (Herek, 1988; Herek, 1994). The scale has high validity when compared to important constructs, such as exposure to sexual minorities, conservatism, religiosity, and gender role conformity (Herek, 1988; Herek, 1994). The scale also has significant discriminant validity, with participants who publicly supported sexual minority rights scoring significantly lower than participants who publicly opposed sexual minority rights (Herek, 1994).

### **Procedure**

Participants were brought into an empty classroom where they were asked to fill out several forms (see Appendixes). They were first given informed consent forms (see Appendix A) describing that the study aimed to measure their sex knowledge as it relates to their personal views. They were assured that their responses would be kept confidential and the researchers would not be able to relate their identities to any information they gave. Participants were then asked to anonymously fill out demographic information that recorded their age, ethnicity, and sexual orientation (see Appendix B). At that time they were given the SKAT-A (see Appendix C) and the ATLG-R (see Appendix D). The order of the questionnaires was randomized in each packet that was assembled to decrease the likelihood of order effects. Participants were

asked to fill them out at their own pace and submitted their responses in an anonymous folder.

## CHAPTER FOUR: RESULTS

To determine the relationship anti-gay prejudice and sex knowledge, statistical analyses were run through Statistical Package for the Social Sciences (SPSS). A total score was calculated from the SKAT-A Knowledge scale, SKAT-A Attitude scale, and the ATLG-R scale, which were then analyzed for relationships.

### Hypothesis

It was hypothesized that there would be a significant, negative correlation between sex knowledge (as measured by the SKAT-A Knowledge) and anti-gay prejudice (as measured by the ATLG-R). Therefore, high scores on sex knowledge would be related to low scores on anti-gay prejudice, and low scores on sex knowledge would be related to high scores on anti-gay prejudice.

The relationship between sex knowledge (as measured by the SKAT-A Knowledge section) and levels of anti-gay prejudice (as measured by the ATLG-R) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity. There was a significant, moderate, negative correlation between the two variables,  $r = -0.33, p < 0.01$ . This means that high levels of sex knowledge are related to lower levels of anti-gay prejudice, and low levels of sex knowledge are related to higher levels of anti-gay prejudice. Sex knowledge helps to explain nearly 11 percent of the variance in respondents' levels of anti-gay prejudice. Therefore, the results of this study support the hypothesis.

## Exploratory Analysis

The hypothesis was supported. Descriptive information about the types of scores that were obtained are included in Table 1. The relationships among multiple variables were investigated using Pearson product-moment correlation coefficient to further analyze variance among measured elements, see Table 2 for scores. Finally, a series of multiple regression analyses were used to further evaluate the data.

### **Descriptive Information**

While there were statistically significant relationships as expected in the hypothesis, it was determined that it would be useful to examine the range and level of elevations on each domain. Table 1 includes the range of possible scores for each scale, the mean and standard deviation for each scale.

Table 1  
*Descriptive Information*

<b>Scale</b>	<b>Range of Possible Scores</b>	<b>Sample Mean (Standard Deviation)</b>
<b>Sex Knowledge (as measured by the SKAT-A Knowledge)</b>	-41 - 41	13.37 (6.2)
<b>Sex Attitude (as measured by the SKAT-A Attitude)</b>	43 – 215	140.92 (19.57)
<b>Anti-Gay Prejudice (as measured by the ATLG-R)</b>	20 - 100	53.52 (19.49)
<b>Comprehensiveness of Sex Education (as measured by on the Demographic Questionnaire)</b>	0 - 45	18.90 (7.79)

As can be seen in the table, there was some variability in the scores obtained on the measures. On Comprehensiveness of Sex Education (as measured by Item 13 on the Demographic Questionnaire), the sample produced scores that were low relative to the

range of possible scores on the instrument. Additionally, SKAT-A Attitude produced scores that were high relative to the range of possible scores on the instrument.

**Anti-gay prejudice and sex attitude.** The first relationship of interest was discovered between levels of anti-gay prejudice (as measured through the ATLG-R) and sex attitude (as measured through the SKAT-A Attitude scale). There was a significant, strong, negative correlation between the two variables,  $r = -0.64, p < 0.01$ . This means that high levels of anti-gay prejudice are related to lower levels of sex attitude (more conservative attitude toward sex in general), and that low levels of anti-gay prejudice are related to higher levels of sex attitude (more accepting attitude toward sex in general). Anti-gay prejudice helps to explain 40 percent of the variance in respondents' attitude toward sex.

**Sex knowledge and sex attitude.** Another relationship of interest was discovered between sex knowledge (as measured through the SKAT-A Knowledge scale) and sex attitude (as measured through the SKAT-A Attitude scale). There was a significant, moderate, positive correlation between the two variables,  $r = 0.39, p < 0.01$ . This means that high levels of sex knowledge are related to higher levels of sex attitude (more accepting attitude toward sex in general), and that low levels of sex knowledge are related to lower levels of sex attitude (more conservative attitude toward sex in general). Sex knowledge helps to explain nearly 16 percent of the variance in respondents' attitude toward sex. Yet, while they are related, they are measuring independent constructs.

Table 2  
*Pearson Product-Moment Correlation Coefficients*

	<b>Anti-gay Prejudice (as measured by the ATLG-R)</b>	<b>Sex Knowledge (as measured by the SKAT-A Knowledge)</b>	<b>Sex Attitude (as measured by the SKAT-A Attitude)</b>
<b>Anti-gay Prejudice (as measured by the ATLG-R)</b>	1.00	-0.29*	-0.64**
<b>Sex Knowledge (as measured by the SKAT-A Knowledge)</b>	-0.29*	1.00	0.39**
<b>Sex Attitude (as measured by the SKAT-A Attitude)</b>	-0.64**	0.39**	1.00

\*\* - Correlation is significant at the  $p < 0.01$  level (2-tailed)

\* - Correlation is significant at the  $p < 0.05$  level (2-tailed)

### **Predictors of Attitudes Toward Gay and Lesbian Individuals**

A multiple regression using sex attitude, sex knowledge, and comprehensiveness of sex education to predict anti-gay prejudice score was run. While the model as a whole was significant,  $F(3,67) = 15.56, p < .001$ ; the only measure that was a significant predictor was sex attitude ( $\beta = -0.60, p < 0.001$ ). The beta value for sex knowledge was not significant ( $\beta = 0.09, p = 0.42$ ). Comprehensiveness of sex education was not significant ( $\beta = -0.02, p = 0.81$ ), and it was not strongly correlated to anti-gay prejudice ( $r = -0.016$ ).

This means that sex attitude is a significant, negative predictor of ant-gay prejudice. While sex knowledge does significantly correlate with sex attitude, it was not a significant predictor when entered into a model along with sex attitude and sex education comprehensiveness.

## CHAPTER FIVE: DISCUSSION

The purpose of this study was to examine the relationship between sex knowledge and anti-gay prejudice. It was hypothesized that a significant negative relationship would be found between sex knowledge and anti-gay prejudice. This would be similar to the findings of Patton and Mannison (1994) and Serdahely and Ziembra (1984), who found that taking a course in human sexuality decreased participants' levels of anti-gay prejudice.

Further exploratory analyses offer deeper understanding of the relationships between sex knowledge and anti-gay prejudice. The findings do suggest that the relationships between the two variables (sex knowledge and anti-gay prejudice) are significantly related and play important roles in the presence and severity of their occurrences.

This study provides some support for effective sex education courses within the public educational system, with a discussion on sexual minorities at some point throughout the course. This supports inclusion of sex education courses because of the decrease in anti-gay prejudice (and the negative outcomes of anti-gay prejudice) that is correlated to higher sex knowledge. These findings offer some support for using effective sex education practices as cost-effective, preventative methods to decrease anti-gay prejudice without making expensive and difficult changes to any individuals or school systems.

The study variables are under considerable change at the time of this study. Sex knowledge and education are experiencing significant political debate and change,

especially in regards to political administration and requirements for sex education programs in the public school systems.

Anti-gay prejudice is also experiencing a dramatic change, with views becoming increasingly accepting toward sexual minorities. This may be related greater awareness of sexual minorities (e.g. the Will & Grace effect) and greater acceptance of sexuality in general.

### **Relationship Between Sex Knowledge and Anti-Gay Prejudice**

The hypothesis was supported by this study. This is similar to the findings of Patton and Mannison (1994) and Serdahely and Ziembra (1984). The present study further supports the negative correlation between sex knowledge and anti-gay prejudice.

While the relationship between sex knowledge and anti-gay prejudice was supported, sex knowledge only accounted for 11% of variance in anti-gay prejudice. Exploratory analysis suggested that sex attitude was also related to anti-gay prejudice and accounted for significantly more variance (40%). As a result, a multiple regression was conducted to determine the best model for predicting anti-gay prejudice using sex attitude, sex knowledge, and comprehensiveness of sex education. The only significant predictor of anti-gay prejudice was sex attitude; sex knowledge and comprehensiveness of sex education were not significant predictors of anti-gay prejudice when entered into a model with sex attitude.

### **Summary of Findings**

The results of this study provide further evidence for the relationship between sex knowledge and anti-gay prejudice. Those that scored higher on sex knowledge (as measured by the SKAT-A Knowledge) tended to score lower on anti-gay prejudice (as

measured by the ATLG-R), and those that scored lower on knowledge tended to score higher on anti-gay prejudice. Upon further examination of the scores, it was discovered that when entered into a model using sex knowledge, sex attitude, and comprehensiveness of sex education, the only significant predictor of anti-gay prejudice was sex attitude.

Additionally, sex attitude was found to be the strongest predictor of anti-gay prejudice and sex knowledge. Previous research has also found that sex education is significantly, positively related to sex attitude; meaning that high levels of sex education are related to higher levels of sex attitude (more accepting views of sexuality), and low levels of sex education are related to lower levels of sex attitude (less accepting views of sexuality) (McKelvey, Webb, Baldassar, Robinson, & Riley, 1999; Somers & Gleason, 2001; Wang, Wang, Cheng, Hsu, & Lin, 2007).

These findings do offer a base for continued sex education research and support for effective sex education courses within the educational system to decrease anti-gay prejudices. These findings provide some support for use of sex education (with a component of sexual minority education) to be used as a cost-effective, preventative method to be used to decrease anti-gay prejudice toward sexual minorities.

### **Limitations and Implications for Future Research**

This study has several limitations. One significant limitation is that the relationships are merely correlational and do not offer causal conclusions. This suggests that further research must be done to analyze these relationships for causal components. The most useful applications of this research do require assumption of

causal relationships between sex knowledge and decreased anti-gay prejudice. Yet, further research is needed before one can claim these solid causal relationships.

Another limitation involves the participants involved in the study. This study was limited to freshman males in an introductory psychology course at a regional public university in the Southeast due to the convenience of the sample and the likelihood of males earlier in their education to offer higher anti-gay prejudiced findings. Yet, this does not signify the entire population that would benefit from such findings. Future research should include populations with a higher degree of ethnic diversity, wider age ranges, wider educational ranges (including those within public and private middle and high schools), higher degree of sexual minorities, higher degree of cultural diversity, and covering a wider area of the world.

It should also be noted that the SKAT-A is a dated measured of sex knowledge. At the time of the study, a revision to the SKAT-A was being developed, and was going to be utilized instead of the SKAT-A. Yet, time constraints dictated that the study needed to be conducted prior to the release of the revision. Therefore, this limited measurement of sex knowledge must be considered.

The comprehensiveness of sex education, measured through self-report using Item 13 on the Demographic Questionnaire, lacked correlation among sex knowledge, anti-gay prejudice, and sex attitude. Yet, it should be noted that this measurement only involves self-report of a concept many freshman males may not be aware of, and therefore should be considered as a limited measurement of sex education comprehensiveness. However, it is possible that comprehensiveness of sex education may play an important role in

several variables, including sex knowledge and sex attitude. Therefore, further research into comprehensiveness of sex education may provide further insight into these variables.

Future research should also analyze possible confounding variables that have not been controlled in the present study. Possible confounding variables include: general knowledge levels, empathy levels, culture, religion, stereotyping behaviors, social interaction with sexual minorities, and internal characteristics. However, it is possible that sex education may serve as an intervention to decrease anti-gay prejudice when relevant factors are present. Further research may explore these possible relationships and the ability for sex education to have an impact on these variables.

### **Conclusions**

Bullying of sexual minority students is an increasingly prevalent topic among school psychologists and educational personnel across the country. This study measured the variables of sex knowledge (as measured through the Sexual Knowledge and Attitude Test for Adolescents) and anti-gay prejudice (as measured through the Attitudes Toward Lesbians and Gay Men – Revised Edition). The results of this study found that sex education is significantly, negatively correlated to anti-gay prejudice. While causational relationships still need to be analyzed, this suggests that there is a significant relationship between sex education and anti-gay prejudice. Through additional analysis, it was also discovered that sex attitude (as measured through the Sexual Knowledge and Attitude Test for Adolescents) is significantly, negatively correlated to anti-gay prejudice; sex attitude is also significantly, positively correlated to sex knowledge.

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## APPENDIX A

**CONSENT FORM**  
Western Carolina University  
Department of Psychology

Title of Project: Social Attitudes, Behavior Characteristics, and Knowledge Survey  
Principal Investigator: Samantha Isakson

You have been invited to take place in a study that involves research of social attitudes, behavior characteristics and sex education. This will benefit the field of psychology through development of a more comprehensive view of social attitudes, behavior characteristics and education.

You will be asked to fill out several forms. This should not last more than 45 minutes. All your information will be kept completely confidential outside of this consent form. Please do not write your name or any other identifying factors (i.e. 920 number) on any other forms. You must be 18 years or older to participate. If you are under 18, please return the blank forms.

There are no foreseeable risks or discomforts involved in this study outside of everyday life.

Participation is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty. However, you must complete all questionnaires in order to receive credit toward the research participation requirement. **Returning your completed survey indicates your consent for use of the responses you supply.**

If you have any questions or concerns about your rights as a participant, and/or if you receive an injury related to this study you may contact Samantha Isakson at 651-380-5652, or [saisakson1@catamount.wcu.edu](mailto:saisakson1@catamount.wcu.edu); or Dr. Candace Boan-Lenzo at 828-227-3369, or [cboan@wcu.edu](mailto:cboan@wcu.edu).

Please sign below signifying that you have read this statement and understand the content. Thank you for your participation!

Printed Name: \_\_\_\_\_

Signature: \_\_\_\_\_

## APPENDIX B

**DEMOGRAPHIC QUESTIONNAIRE**

Please read each question carefully and respond to the following items:

1. Today's Date: \_\_\_\_\_ / \_\_\_\_\_ / 20\_\_\_\_\_

2. Age \_\_\_\_\_

3. Gender \_\_\_\_\_

4. What ethnicity would you classify yourself? (Circle one)

Caucasian/White      African-American      Hispanic/Latino      Asian/Pacific Islander

Alaskan/Native American      Other \_\_\_\_\_

5. Marital Status? (Circle one)

Single/Never Married      Married/Engaged      Divorced/Separated

6. What year are you in college (circle one):

Freshman      Sophomore      Junior      Senior

Other (please explain) \_\_\_\_\_

7. Area of Study \_\_\_\_\_

8. What is your current grade point average (GPA)? \_\_\_\_\_

9. Religious affiliation \_\_\_\_\_

10. High School? (Circle one)

Public      Private      Other (please explain) \_\_\_\_\_

11. State of High-School \_\_\_\_\_

12. How would you classify your sexual orientation? (Circle one)

Heterosexual (straight)      Homosexual (gay)      Bisexual      Transsexual

Other (please explain) \_\_\_\_\_

13. To what extent were these topics covered in your education in high school or middle school? (Circle one for each topic)

	<i>Not at all</i>	<i>Very Briefly</i>	<i>Briefly</i>	<i>Somewhat</i>	<i>Extensively</i>	<i>Very Extensively</i>
<b>Abortion</b>	0	1	2	3	4	5
<b>Birth Control</b>	0	1	2	3	4	5
<b>Pregnancy</b>	0	1	2	3	4	5
<b>Sexually Transmitted Infections</b>	0	1	2	3	4	5
<b>Homosexuality</b>	0	1	2	3	4	5
<b>Masturbation</b>	0	1	2	3	4	5
<b>Premarital Sex</b>	0	1	2	3	4	5
<b>Fantasies</b>	0	1	2	3	4	5
<b>Pornography</b>	0	1	2	3	4	5

14. Have you ever been in a physical fight? (Circle one) Yes No

15. How many physical fights have you been in throughout your entire life? (Circle one)

0      1-2      3-5      5-10      10-20      20+

## APPENDIX C

**Sexual Knowledge and Attitude Test for Adolescents****BACKGROUND INFORMATION SECTION**

Today's Date: \_\_\_\_\_ / \_\_\_\_\_ / 20\_\_\_\_

Sex/Gender (circle one):                    Male                    Female

Age: \_\_\_\_\_

Answer the following questions about your FATHER (or STEPFATHER) ONLY IF your father (or stepfather) lives with you.

Is your father (stepfather) currently employed (circle one)?:

No                    Yes, he is employed as a \_\_\_\_\_

What does he do on his job?  
\_\_\_\_\_

Circle the answer that indicates the highest amount of education your father (stepfather) COMPLETED:

- Less than 7th Grade
- Junior High (9th Grade)
- Some High School (10th or 11th Grade)
- High School Graduate (12th Grade)
- Specialized Training After High School
- Some College (at least one year)
- 4-year College or University Graduation
- Graduate Degree

Answer the following questions about your MOTHER (or STEPMOTHER) ONLY IF your mother (or stepmother) lives with you.

Is your mother (stepmother) currently employed (circle one)?:

No                    Yes, she is employed as a \_\_\_\_\_

What does she do on her job?  
\_\_\_\_\_

Circle the answer that indicates the highest amount of education your mother (stepmother) COMPLETED:

- Less than 7th Grade
- Junior High (9th Grade)
- Some High School (10th or 11th Grade)
- High School Graduate (12th Grade)
- Specialized Training After High School
- Some College (at least one year)
- 4-year College or University Graduation
- Graduate Degree

Who lives with you right now? (Circle as many as necessary):

- |            |              |                   |
|------------|--------------|-------------------|
| Mother     | Stepmother   | Grandmother(s)    |
| Father     | Stepfather   | Grandfather(s)    |
| Brother(s) | Sister(s)    | Other Relative(s) |
| Friend(s)  | Other (who?) | _____             |

Childhood religious background (circle one):

- |                                    |       |
|------------------------------------|-------|
| Protestant (specify denomination): | _____ |
| Catholic                           | _____ |
| Islam                              | _____ |
| Jewish                             | _____ |
| Hindu                              | _____ |
| Other (please specify):            | _____ |

How often do you attend religious services? (Circle one):

- Never
- Less than Once a Month
- Once a Month
- A Few Times a Month
- Once a Week
- Several Times a Week

How important is religion to you? (Circle one):

- Not very important
- Somewhat important
- Very important

## KNOWLEDGE SECTION

Below you will find a series of statements about sex. Circle the answer below each question.

1. Feeling nervous can cause a man to have a quick orgasm.

True\*              False              Not Sure

2. Feeling jittery can cause a woman to have difficulty having an orgasm.

True\*              False              Not Sure

3. A woman can only have an orgasm if her clitoris is touched.

True              False\*              Not Sure

4. Teenagers are the only people who masturbate.

True              False\*              Not Sure

5. A man may have trouble getting an erection when he feels nervous or scared.

True\*              False              Not Sure

6. Male teenagers are more sexually active than female teenagers.

True              False\*              Not Sure

7. It is rare for a teenage boy to have a sexual encounter with another boy.

True              False\*              Not Sure

8. A woman who has not had an orgasm is frigid.

True              False\*              Not Sure

9. A person who exposes himself or makes obscene phone calls will one day become a rapist.

True              False\*              Not Sure

10. A person who masturbates is having sexual problems with his/her sexual partner.

True              False\*              Not Sure

11. Many people dream at night about having sex with someone of the same sex.

True\*              False              Not Sure

12. A person cannot like having an orgasm with both men and women.

True              False\*              Not Sure

13. Most parents want schools to offer classes in sex education.

True\*              False              Not Sure

14. Men rape women because they want to control or humiliate them.

True                  False\*                  Not Sure

15. During sex, using a condom (rubber) is the best way of avoiding STD's (sexually transmitted diseases).

True\*                  False                  Not Sure

16. Dreaming about being raped means you want to be raped.

True                  False\*                  Not Sure

17. Masturbating causes mental problems.

True                  False\*                  Not Sure

18. A woman can't become pregnant during the months that she breastfeeds her baby.

True                  False\*                  Not Sure

19. The rhythm method (only having sex during the few days before and after a woman's period) is as safe as the pill in preventing pregnancy.

True                  False\*                  Not Sure

20. Anyone who is sexually active can get a STD (sexually transmitted disease).

True\*                  False                  Not Sure

21. When a child is raped or molested, it is usually done by a stranger.

True                  False\*                  Not Sure

22. It is common for both men and women to masturbate.

True\*                  False                  Not Sure

23. Drinking alcohol increases a person's ability to have sex.

True                  False\*                  Not Sure

24. Intercourse produces a stronger orgasm than does masturbation.

True                  False\*                  Not Sure

25. Douching a few minutes after sex is likely to prevent pregnancy.

True                  False\*                  Not Sure

26. A woman is not able to have as strong an orgasm as a man.

True                  False\*                  Not Sure

27. More than half of all teenagers in America lose their virginity (have sex) by age

15.

True                  False\*                  Not Sure

28. The youngest age at which most teenage girls can get pregnant is 12.

True\*              False              Not Sure

29. A woman can ONLY get pregnant if she has an orgasm during sex.

True              False\*              Not Sure

30. After having an orgasm, most women have to wait 10-20 minutes until they can have another orgasm.

True              False\*              Not Sure

31. You can get a sexually transmitted disease if you kiss a person who has a sexually transmitted disease.

True\*              False              Not Sure

32. Rubbers/condoms are the form of birth control MOST WIDELY USED by teenagers who are sexually active.

True              False\*              Not Sure

33. When teenagers have sex (intercourse) FOR THE FIRST TIME, the majority of them use rubbers (condoms).

True\*              False              Not Sure

34. Six out of ten teenage girls have sexual activity with another girl.

True              False\*              Not Sure

35. The safest time to have an abortion is anytime up until the baby is born.

True              False\*              Not Sure

36. Men who expose themselves in public are called exhibitionists.

True\*              False              Not Sure

37. Men in their 30s have less interest in having sex compared to their interest when they were teenagers.

True\*              False              Not Sure

38. A man who wears women's clothes is called a homosexual.

True              False\*              Not Sure

39. The majority of girls who drop out of high school, drop out because they are pregnant.

True              False\*              Not Sure

40. Most teenage girls who become pregnant will have an abortion.

True                  False\*                  Not Sure

41. Parents are the major source of information about sex for teenagers.

True                  False\*                  Not Sure

\* Signifies the correct answer

### ATTITUDE SECTION

Below you will find a series of statements about sex. After reading each sentence decide the degree to which you agree or disagree. Circle your answer below each question using the scale below.

<b>Strongly Agree</b>	<b>Agree</b>	<b>Uncertain</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

1. The decision about having an abortion should be made by the pregnant teenager and not by the teenager's parents or boyfriend.

1	2	3	4	5
---	---	---	---	---

2. Boys who masturbate in a group will become homosexuals.

1	2	3	4	5
---	---	---	---	---

3. Pornography should be banned.

1	2	3	4	5
---	---	---	---	---

4. A woman should give in to a man's sexual demands.

1	2	3	4	5
---	---	---	---	---

5. Abortion should be permitted whenever desired by the pregnant woman.

1	2	3	4	5
---	---	---	---	---

6. Healthy sexually active people do not masturbate.

1	2	3	4	5
---	---	---	---	---

7. Teenagers should have their parent's permission before buying birth control.

1	2	3	4	5
---	---	---	---	---

8. Only perverts look at pornography.

1	2	3	4	5
---	---	---	---	---

9. Sex before marriage is morally wrong.

1	2	3	4	5
---	---	---	---	---

10. Parents should prevent their children from masturbating.

1	2	3	4	5
---	---	---	---	---

11. Homosexuals/lesbians should be allowed to be teachers in elementary schools.

1	2	3	4	5
---	---	---	---	---

12. Women should wait until they are married before having sex.

1	2	3	4	5
---	---	---	---	---

13. Abortion is murder.

1	2	3	4	5
---	---	---	---	---

14. It is OK for teen females to masturbate.

1	2	3	4	5
---	---	---	---	---

15. Adolescents who look at pornography are more likely to rape their sexual partners.

1	2	3	4	5
---	---	---	---	---

16. Masturbation is unhealthy.

1	2	3	4	5
---	---	---	---	---

17. Homosexuals/lesbians are sick.

1	2	3	4	5
---	---	---	---	---

18. Abortions should only be performed in cases of rape or incest.

1	2	3	4	5
---	---	---	---	---

19. It is OK for teen males to masturbate.  
 1            2            3            4            5
20. Sex education should be required in schools.  
 1            2            3            4            5
21. Children should not see their parents naked.  
 1            2            3            4            5
22. Sex between adolescents is NOT OK.  
 1            2            3            4            5
23. It is a woman's fault if she gets raped.  
 1            2            3            4            5
24. Abortion is a greater evil than bringing an unwanted child into the world.  
 1            2            3            4            5
25. Teenagers should be encouraged to remain virgins.  
 1            2            3            4            5
26. Sex education in high school should only teach teenagers about male and female anatomy (the parts of the body).  
 1            2            3            4            5
27. All kinds of pornography are degrading to women.  
 1            2            3            4            5
28. Teenage females who masturbate are queer.  
 1            2            3            4            5
29. Homosexuals should be allowed to marry each other.  
 1            2            3            4            5
30. Rape only occurs between strangers.  
 1            2            3            4            5
31. Birth control clinics should be located in high schools.  
 1            2            3            4            5
32. Teenagers who don't use birth control want to get pregnant.  
 1            2            3            4            5
33. Homosexuals/lesbians can be excellent parents.  
 1            2            3            4            5
34. A pregnant teenage girl should follow the decision of her parents regarding abortion.  
 1            2            3            4            5
35. It is OK to force a woman to have sex when she doesn't want to have sex.  
 1            2            3            4            5
36. Pornography should NOT be censored.  
 1            2            3            4            5
37. Parents should be responsible for teaching their children about sex.  
 1            2            3            4            5
38. It is impossible for a man to get raped.  
 1            2            3            4            5
39. Women should try to get as much sexual experience as they can before they get married.  
 1            2            3            4            5
40. A child is to blame when he or she has been sexually molested.  
 1            2            3            4            5

**On a scale of 1 to 10 how would you rate your views on sex? Please circle one.**

A horizontal scale from 1 to 10. The numbers are evenly spaced along the top. Below the scale, there are three labels: "Conservative" at the far left (position 1), "Middle of the Road" in the center (position 5), and "Liberal" at the far right (position 10).

## APPENDIX D

**Attitudes Toward Lesbians and Gay Men – Revised Edition**

**Please rate each of the following items in terms of how characteristic they are of your views. Use the following scale for answering these items.**

1	2	3	4	5
<b>Extremely uncharacteristic of my views</b>			<b>Extremely characteristic of my views</b>	

1. Lesbians just can't fit into our society.

1	2	3	4	5
---	---	---	---	---

2. A woman's homosexuality should not be a cause for job discrimination in any situation.

1	2	3	4	5
---	---	---	---	---

3. Female homosexuality is bad for society because it breaks down the natural divisions between the sexes.

1	2	3	4	5
---	---	---	---	---

4. State laws against private sexual behavior between consenting adult women should be abolished.

1	2	3	4	5
---	---	---	---	---

5. Female homosexuality is a sin.

1	2	3	4	5
---	---	---	---	---

6. The growing number of lesbians indicates a decline in American morals.

1	2	3	4	5
---	---	---	---	---

7. Female homosexuality in itself is no problem unless society makes it a problem.

1	2	3	4	5
---	---	---	---	---

8. Female homosexuality is a threat to many of our basic social institutions.

1	2	3	4	5
---	---	---	---	---

9. Female homosexuality in an inferior form of sexuality.

1	2	3	4	5
---	---	---	---	---

10. Lesbians are sick.

1	2	3	4	5
---	---	---	---	---

11. Male homosexual couples should be allowed to adopt children the same as heterosexual couples.

1	2	3	4	5
---	---	---	---	---

12. I think male homosexuals are disgusting.

1	2	3	4	5
---	---	---	---	---

13. Male homosexuals should not be allowed to teach in schools.

1	2	3	4	5
---	---	---	---	---

14. Male homosexuality is a perversion.

1	2	3	4	5
---	---	---	---	---

15. Male homosexuality is a natural expression of sexuality in men.

1	2	3	4	5
---	---	---	---	---

16. If a man has homosexual feelings, he should do everything he can to overcome them.

1	2	3	4	5
---	---	---	---	---

17. I would not be too upset if I learned that my son were a homosexual.

1	2	3	4	5
---	---	---	---	---

18. Sex between two men is just plain wrong.

1	2	3	4	5
---	---	---	---	---

19. The idea of male homosexual marriages seems ridiculous to me.

1                  2                  3                  4                  5

20. Male homosexuality is merely a different kind of lifestyle that should not be condemned.

1                  2                  3                  4                  5

**APPENDIX E****DEBRIEFING FORM**

Project Title: Predicting Anti-Gay Prejudice Based on Sex Knowledge and Education

Principle Investigator: Samantha Isakson

Faculty Advisor: Candace Boan-Lenzo

Thank you for participating in this study of anti-gay prejudice, sex knowledge, and bullying/aggression. The purpose of this study is to examine the relationship between aggressiveness/bullying, sex knowledge and anti-gay prejudice. It is possible that a person's level of sex knowledge may affect their level of anti-gay prejudice. Also, it may be that a person's level of aggressiveness/bullying may be related to their level of anti-gay prejudice. It is possible that the findings of this study may further develop educators' and service providers' understanding of anti-gay prejudice and sex knowledge, and to increase schools' abilities to provide an environment conducive for positive development and education.

If you have any more questions about this study and/or your participation in it, you may contact Samantha Isakson via phone at 651-380-5652, or via email at [saisakson1@catamount.wcu.edu](mailto:saisakson1@catamount.wcu.edu); or Dr. Candace Boan-Lenzo via phone at 828-227-3369, or via email at [cboan@wcu.edu](mailto:cboan@wcu.edu).

If you are experiencing any distress or discomfort regarding your participation in this study, or any aspect of your life in general, we urge you to please contact the Counseling Services at WCU via phone at 828-227-7469. The Counseling Center offers mental health services to students of WCU free of charge.