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EVALUATING THE EFFECTIVENESS OF THREE INTERVENTIONS DESIGNED
TO ENHANCE PRE-SERVICE TEACHERS' ATTITUDES TOWARD SEXUAL
MINORITIES

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Education
at the University of Kentucky

By

Jamye R. Banks

Lexington, Kentucky

Director: Dr. Keisha Love, Associate Professor of Counseling Psychology

Lexington, Kentucky

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ABSTRACT OF DISSERTATION

EVALUATING THE EFFECTIVENESS OF THREE INTERVENTIONS DESIGNED TO ENHANCE PRE-SERVICE TEACHERS' ATTITUDES TOWARD SEXUAL MINORITIES

Sexual minority students' encounters with discrimination and harassment are increasing in school settings. Per the research, the discrimination and harassment they experience partly stems from teachers' negative attitudes toward sexual minorities and a lack of understanding of the needs of these individuals, which can negatively impact students' psychological well-being and create an unwelcoming environment (Dessel, 2010; Mudrey & Medina-Adams, 2006; Riggs, Rosenthal, & Smith-Bonahue, 2011). Teachers are responsible for ensuring a safe environment for students that promotes mental and physical health (Larrabee & Morehead, 2010; Mudrey & Medina-Adams, 2006; Riggs et al., 2011). Therefore, it's vital to determine ways to reduce teachers' negative attitudes and increase their knowledge and empathy toward sexual minorities in order to enhance students' well-being and create a supportive school atmosphere (Maddux, 1988). Although researchers have independently tested the effectiveness of intervention strategies (e.g., workshops, courses) designed to reduce negative attitudes, a comprehensive study to determine which one may be most successful in reducing negative attitudes, while enhancing knowledge and empathy, has yet to be conducted. The current study assessed the effects of three intervention strategies designed to reduce pre-service teachers' negative attitudes, and increase their knowledge and empathy toward sexual minorities. Due to conservative religious beliefs being a main contributor to negative attitudes toward sexual minorities, this study also examined the impact of religious beliefs on participants' responses to the interventions. Pre- and post-data were collected from 139 pre-service teachers enrolled in undergraduate educational psychology and teacher education courses at a Southeastern University. Students participated in one of three intervention strategies, a video documentary, a workshop, or regular classroom instruction. Results demonstrated that there were no significant

differences between participants in the video, workshop, and control groups on attitudes, knowledge, or empathy from pre- to post-intervention. However, within group differences were found in the video and workshop interventions on certain aspects of attitudes, empathy, and knowledge. In addition, results illustrated that religious beliefs had an impact on participants' knowledge and empathy towards sexual minorities. Contributions to the literature and implications of the findings are discussed as well as limitations and directions for future research.

Keywords: gay, lesbian, bisexual, attitudes, multicultural training

Jamye R. Banks

July 31, 2014

Date

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Chapter One: Review of Literature

Introduction

Discrimination and harassment among students who identify as lesbian, gay, and bisexual (LGB) is becoming more prevalent in school systems (K-12) (Dessel, 2010). Many youth who identify as sexual minorities often report being subjected to harassment by their peers and/or adults (e.g., teachers and principals), largely due to negative attitudes that these individuals hold toward sexual minority students (Dessel, 2010). Due to the harassment and overt discrimination that sexual minority students experience, many are at an increased risk for negative outcomes such as social isolation, depression, anxiety, substance abuse, trauma, suicidality, behavioral problems, low self-esteem, an inability to concentrate, absenteeism, and low school achievement (Buston & Hart, 2001; Butler, 1994; Maddux, 1988; Mudrey & Medina-Adams, 2006; Riggs, Rosenthal, Smith-Bonahue, 2011). In addition, sexual minority students typically grapple with 1) schools' homophobic policies, 2) the perpetuation of stereotypes concerning same-sex relationships, the prohibition of the dissemination of enlightening, 3) educational information regarding issues salient for sexual minorities, 4) and a lack of mentors/role models such as principals, teachers, and/or community activists that may reduce their risk of adverse outcomes by providing support (Butler, 1994; Maddux, 1988).

Teachers' worldviews, attitudes, and behaviors help shape the culture of schools in which they work (Dessel, 2010; Mudrey & Medina-Adams, 2006; Perez-Testor et al., 2010). Many students look to teachers for direction, information, and cues about acceptable attitudes, feelings, and beliefs regarding a variety of social issues, such as same-sex relationships (Mudrey & Medina-Adams, 2006; Riggs et al., 2011). Yet,

research has shown that teachers tend to hold negative attitudes and stereotypes toward sexual minority students, and tend to be uninformed about the problems (e.g. harassment) that these students encounter, which can adversely affect their well-being (Dessel, 2010; Mudrey & Medina-Adams, 2006; Riggs et al., 2011). Specifically, teachers have been known to disregard some of the issues that sexual minority students experience (i.e., homophobic taunts and harassment) by not actively engaging in discussions concerning these matters or by not responding to or handling the behaviors appropriately (Butler, 1994). Teachers are obligated to protect students and promote their well-being. They can do this by becoming more “socioculturally-conscious practitioners” who are supportive of sexual minority students (Larrabee & Morehead, 2010, p. 38). Larrabee and Morehead (2010) go on to suggest that teachers have an ethical responsibility to become more educated about issues that affect sexual minority students, and should actively, and willingly be engaged in social justice advocacy on their behalf. Accordingly, teachers who are supportive of sexual minority youth may aid in reducing the harassment and discrimination encountered by this population (Dessel, 2010; Larrabee & Morehead, 2010; Mudrey & Medina-Adams, 2006).

To produce change in this area, it is vital to determine which interventions would be most beneficial in reducing negative attitudes and increasing knowledge and empathy toward sexual minority youth in order to improve their psychological and emotional well-being, as well as create a safer school climate (Maddux, 1988). Limited research is available regarding teachers’ attitudes toward sexual minorities; furthermore, of the research that is available, it is not current (i.e. conducted within approximately the last ten years), and a number of the studies were conducted with samples outside of the

United States, which makes generalizability questionable. Additionally, most studies that have investigated attitudes toward sexual minorities have examined social workers, counselors, doctors, nurses, and military personnel (Perez-Testor et al., 2010), leaving attitudes among teachers, who have a significant influence on students, grossly unexplored. Theorists have speculated about intervention strategies that may reduce individuals' negative attitudes towards sexual minorities, while increasing their knowledge and empathy; however, additional empirical research is needed (Alderson, Orzeck, & McEwen, 2009; Anderson, 1982; Anthanases and Larrabee, 2003; Ben-Ari, 1998; Burkholder & Dineen, 1996; Case & Stewart, 2010; Cerny & Polyson, 1984; Cooley & Burkholder, 2011; Croteau & Kusek, 1992; Dessel, 2010; Finkel, Storaasli, Bandele, & Schaefer, 2003; Geasler, Croteau, Heineman, & Edlund, 1995; Green, Dixon, & Gold-Neil, 1993; Larrabee & Morehead, 2010; Nelson & Krieger, 1997; Newman, Dannenfelser, & Benishek, 2002; Riggs et al., 2011; Rudolph, 1989; Serdahley & Ziemba, 1984; Swank & Raiz, 2010). Common intervention strategies for addressing these goals include the use of panels that feature speakers who identify as sexual minorities, trainings and workshops that focus on issues unique to sexual minorities, and sexuality education courses. However, it is not clear which intervention strategy is most effective because the literature lacks a comprehensive examination and comparison of said strategies, especially among teachers. This lack of research presents a significant gap in the literature. Accordingly, to advance the literature regarding which intervention strategy is the most effective attitude reduction strategy, more research must be conducted. The proposed experimental study attempted to address this gap in the

literature by examining the effects of three different intervention strategies designed to reduce pre-service teachers' negative attitudes toward sexual minorities, while increasing their knowledge and empathy.

Teachers' Attitudes toward Sexual Minority Students

Negative Attitudes

Historically, society has possessed negative attitudes toward sexual minorities (Rainey & Trusty, 2007). Views of antipathy and moral dissatisfaction towards sexual minorities, especially among heterosexuals, have been pervasive (Brown & Henriquez, 2008; Johnson, Brems, & Alford-Keating, 1997). Many of the negative attitudes are manifested in heterosexism, which is the idea that being heterosexual is considered more natural, and homophobia, which is an emotional response of fear, anger, and dislike toward sexual minorities (Peterman & Dixon, 2003). Unfortunately, heterosexism and homophobia often lead individuals to oppress sexual minorities in various aspects of their lives (Brown & Henriquez, 2008; Rye & Meaney, 2009; Satcher & Schumacker, 2009; Whitley & Ægisdóttir, 2000). Consistent with the general population, teachers have been known to have negative attitudes towards sexual minority youth, which can be detrimental to their psychological and emotional well-being. As previously mentioned, students look to teachers for guidance regarding their attitudes, beliefs, and feelings (Mudrey & Medina-Adams, 2006; Riggs et al., 2011). If teachers model negative attitudes, they are likely to create a culture that perpetuates discrimination and harassment toward sexual minority youth.

Research is extremely limited regarding teachers' attitudes toward sexual minorities (Bliss & Harris, 1999; Perez –Testor et al., 2010). In sum, the research conducted found that, although teachers tend to possess more positive attitudes than other professionals typically represented in the literature (e.g., health care professionals or military personnel), they, nonetheless, possess homophobic attitudes and lack knowledge regarding issues salient for sexual minority students (Bliss & Harris, 1999; Perez –Testor et al., 2010). For instance, Bliss & Harris (1999) conducted a study to examine several aspects of teachers' views of students who had lesbian or gay parents. The researchers hypothesized that teachers would have little to no training or knowledge of issues unique to sexual minority students, display negative attitudes toward sexual minority individuals (with males displaying more negative attitudes toward gay men), express concerns regarding teaching students with lesbian or gay parents, and expect the students to have numerous school (e.g., work, discipline, attendance) and personality (e.g., adjusted, mature, self-reliant) problems. Participants included 107 (24 males, 83 females) predominately heterosexual public school teachers from two school districts in New Mexico. Participants ranged in age from 22 to 65; 62% identified as Caucasian, 28% Hispanic, 5% other ethnicities, and 5% did not report their race or ethnicity. Although most teachers reported that they knew lesbian and/or gay individuals, only a few indicated that they had taught students with lesbian or gay parents. In addition, education and knowledge of sexual minorities was inadequate. As hypothesized, negative attitudes toward sexual minority students were found, with men having more negative attitudes than women toward gay men. Results also revealed that teachers believed that students with lesbian or gay parents had more problems in social situations than students with

heterosexual parents. The open-ended comments that assessed participants' interactions with lesbian and/or gay individuals also demonstrated negative attitudes, which seemed to be associated with religious views (Bliss & Harris, 1999).

Another research study examined pre-service teachers' attitudes, knowledge, and anticipated behaviors toward sexual minorities (Butler, 1994). Participants included 42 (13 males, 29 females) predominately heterosexual undergraduate pre-education majors enrolled in a Human Diversity in Education course. Participants' ages ranged from 19 to 42 years, and 90.5% identified as Caucasian, 4.8% as African-American, and 4.8% as American Indian. The researcher found results similar to Bliss and Harris (1999) in that pre-service teachers had slightly homophobic attitudes toward lesbian and gay individuals in general, and specifically lesbian and gay individuals in school settings. Results also revealed that pre-service teachers lacked knowledge concerning issues relevant to sexual minorities and displayed an unwillingness to address issues in schools or behave in supportive ways toward sexual minority individuals (Butler, 1994).

Sears (1992) conducted a similar study that investigated 258 predominately-Caucasian female pre-service teachers' personal attitudes and feelings about sexual minorities. The results were consistent with previously mentioned findings in that most expressed negative attitudes toward same-sex relationships, and approximately 80% possessed homophobic feelings about lesbian and gay individuals, with 33% scoring as "high-grade homophobic" (p. 39). Results also indicated that pre-service teachers pursuing an elementary education degree were more likely to hold homophobic feelings and express negative attitudes than those pursuing a secondary education degree. Further, African-American pre-service teachers held more negative attitudes than

Caucasian pre-service teachers, which introduced the confounding factor of race. Teachers' cumulative knowledge regarding sexual minorities was limited. Specifically women, African-Americans, and elementary education majors possessed less knowledge than men, Caucasians, and secondary education majors. Between 20-25% of participants knew a lesbian or gay student, suspected a friend to be lesbian or gay, or had a lesbian and/or gay friend during high school. Additionally, those participants who had one of these relationships displayed less negative attitudes about same-sex relationships and less negative feelings about lesbian or gay individuals. It should be noted that although these pre-service teachers exhibited negative feelings and attitudes, they displayed a willingness to protect sexual minority students. For instance, teachers expressed that they would be willing to protect sexual minority students from harassment, and stated that they would treat the students fairly in the future (Sears, 1992).

In an effort to expand the findings of Sears' study, Mudrey and Medina-Adams (2006) investigated the beliefs about same-sex relationships in relation to race, gender, status and licensure among 200 (56 males, 144 females) pre-service teachers from the Midwest. Participants included those who were pursuing licensure in early childhood, middle school, secondary, and special K-12 education; 158 identified as Caucasian, 26 identified as African-American, nine identified as Hispanic/Latino, four as Asian American/Pacific Islander, two as "Other," and one did not report racial demographic information. The results of this study were consistent with Sears' study in that pre-service teachers held negative attitudes toward sexual minorities, with racial/ethnic minority teachers possessing more negative attitudes than non-minority teachers. In

addition, the results indicated that overall, minority pre-service teachers, as well as male participants and those pursuing middle school and secondary licensure, were less knowledgeable about issues unique to sexual minorities (Mudrey & Medina-Adams, 2006).

Research has also shown that physical education teachers, in addition to core content area teachers, hold negative attitudes toward sexual minorities. For example, White, Oswalt, Wyatt, and Peterson (2010) explored attitudes toward lesbian and gay individuals among undergraduate college students, who were studying child and adolescent health. Data were collected from 442 (93 males, 348 females, one who did not report sex) students who were attending one of two large universities in South Central Texas. The majority of students were upperclassmen (214 juniors, 137 seniors, 57 sophomores, 34 freshman), and were largely from two different academic majors, interdisciplinary studies with teaching certification (260) and kinesiology (107). Participants also identified special education (11), health (11), and “other” (38) as majors, while 15 participants did not identify a major. Two hundred and sixty three participants identified as Caucasian, 97 identified as Hispanic/Latino, 31 identified as Asian, 25 as African American, 23 as “Other,” and three did not identify their race/ethnicity. Interestingly, findings demonstrated that most participants were uncertain of their attitudes; however, kinesiology majors, those most likely to be physical education teachers, reported more negative attitudes towards lesbian and gay individuals compared to other students. This finding is noteworthy given the negative health risks that sexual minority students face (e.g., victimization, psychological concerns, substance abuse, and the engagement in risky sexual behaviors). Physical education may provide opportunities

that encourage positive interaction, cooperation, and respect between others, which could aid in reducing those risks, but physical education teachers' negative attitudes may hinder this process because they may perpetuate heterosexism and homophobia (White et al., 2010).

The literature has demonstrated that teachers' attitudes toward sexual minorities are expressed in the way that they teach sex education courses (Buston & Hart, 2001). For example, Buston and Hart (2001) examined the nature of heterosexism and homophobia in relation to teaching sex education in 25 Scottish schools using a mixed methods approach. Instructors who taught sex education were sampled for this study, with 57 participating in interviews and 173 given surveys. For the surveys given, participants included 60% female and 40% male, over half were 41-50 years old and the rest of the sample was approximately 31-40 years old. Seventy percent had been teaching more than 15 years, and approximately 30% had been teaching for 10 or more years. Of the 28 lessons observed in sex education, 17 contained overt homophobia or heterosexist presumptions. Particularly, in the lessons that displayed overt homophobia, occasionally teachers were the perpetrators of the homophobic behavior or created a hostile environment by allowing some students to make homophobic comments. Some teachers found the offending students' behaviors/comments to be comical, or engaged in teasing as well. In addition, the information provided was based on stereotypes and myths concerning sexual minorities, and in some instances, same-sex attraction was pathologized. In other lessons, no overt homophobia was displayed; however, sexuality related to sexual minorities was omitted as teachers discussed sexual relationships only in terms of males and females. Additionally, the researchers found that teachers engaged in

some of these practices because 1) they were uncomfortable discussing sexual minority relationships, 2) had a lack of support from school administrators, 3) wanted to be neutral in teaching sex education, or 4) were not confident in their ability to teach about same-sex relationships. The study demonstrated that heterosexism and homophobia are present in schools and that homophobic comments are typical, especially among students and teachers (Buston & Hart, 2001).

Moderate/Positive Attitudes

Despite the majority of studies that depict teachers as having relatively negative attitudes towards sexual minority students, there have been a few findings to the contrary. For example, Perez-Testor et al. (2010) examined attitudes and prejudices toward sexual minority individuals among elementary and high school teachers in Barcelona, Spain. Specifically, one aim of the study was to assess participants' acceptance of sexual diversity based on the distinction between how they thought they *should* feel when in contact with a sexual minority versus how they thought they would *actually* feel. The researchers also sought to 1) analyze the existence of overt prejudice (i.e., prejudice displayed through hostile behavior) and covert prejudice (i.e., subtle) toward sexual minorities, as measured by The Subtle and Overt Prejudice toward Homosexuals Scale, and 2) analyze the relationship between these aspects and socio-demographic variables. Participants included 254 (84% female) teachers, who ranged in age from 21-64; 46.2% lived in Barcelona while others came from Catalonia. The majority of the teachers did not hold prejudiced (covert or overt) attitudes toward lesbian and gay individuals. Of note is that the overall scores for covert attitudes were higher than overt attitudes, indicating that teachers, similar to the general population, tended to show prejudice in

more subtle ways. Despite this finding, the teachers acknowledged that they would feel more uncomfortable than they should when in contact with sexual minorities and would be more likely to act according to generally heterosexist stereotypes that exist in society (Perez-Testor et al., 2010). Additionally, teachers who possessed negative attitudes and were more uncomfortable around sexual minorities tended to be women, more religious, church attendees, and lacked contact with lesbian and/or gay individuals (Perez-Testor et al., 2010).

Similar results were found in a study that explored pre-service teachers' attitudes, knowledge, and anticipated behaviors toward sexual minority students (Hirsch, 2007). The sample included 206 students who were enrolled in Teacher Education courses at a large Midwestern University. Demographic information was limited, given that 30 participants did not report this information and certain categories (i.e., racial/ethnicity) were not mutually exclusive, in that participants could choose single or multiple categories or none at all. Of the information given, 136 were females and 38 were males (two did not report) who ranged in age from 17 to 36 years old, and 186 identified largely as Caucasian, two as African American, four as Asian American, three as Latino/Hispanic, and two as Other. The researcher hypothesized that pre-service teachers would have negative attitudes and feelings (i.e., homophobia), and would anticipate showing less supportive behaviors toward sexual minority students. Moreover, they anticipated significant differences would be found in attitudes, feelings, and anticipated behaviors based on knowledge, frequency of church attendance, familiarity with sexual minority students, gender, ethnicity, and certification level. Results indicated that pre-service teachers possessed moderately positive attitudes and "low-grade non-

homophobic” feelings toward sexual minorities (p. 63). However, upon a closer investigation of reported attitudes, findings revealed that despite the positive attitudes reported, pre-service teachers possessed negative feelings toward sexual minorities when the issue was personal. For instance, more than 50% of the sample indicated that they would be uncomfortable if a sexual minority was romantically attracted to them or if they found themselves attracted to a member of the same-sex. Approximately 33% indicated that they would be uncomfortable being seen in a gay establishment, and more than 75% reported that they would experience discomfort if they found out their spouse or partner was attracted to members of the same sex. In addition, pre-service teachers possessed inadequate knowledge regarding facts related to sexual orientation. The researchers also reported significantly different behaviors toward heterosexual and sexual minority students, and participants were reluctant to discuss topics related to sexual orientation in the classroom, even though they reported that they would treat any sexual minority student equally to other students at their schools. Moreover, individuals who were male and/or frequently attended church reported more negative attitudes, feelings, behaviors, and less knowledge, while those who had a friendship with an individual who identified as a sexual minority possessed more positive attitudes, feelings, behaviors, and knowledge toward sexual minority students (Hirsch, 2007).

Ben-Ari (2001) also explored attitudes toward sexual minorities among 235 (101 male, 134 female) faculty members in charge of students-in-training from the social work, psychology, and education departments in the five main universities in Israel. The researcher wanted to examine the degree of homophobia among faculty in the various departments, differences between departments, and perceptions of attitudes toward

homophobia. Members of the three academic departments possessed “low-grade homophobic attitudes” (p. 125). However, statistically significant differences were found between the three departments, with faculty in the education department being the most homophobic compared to the other departments (Ben-Ari, 2001). Additionally, those who were male, non-Israeli born, and single, contributed the most to homophobic attitudes. Surprisingly, the psychology faculty who identified themselves as more secular had more negative attitudes than those who identified as religious, which contradicts the literature (Ben-Ari, 2001).

Other findings have demonstrated that teachers have neutral attitudes (neither negative nor positive as they scored in the middle) toward sexual minorities (Wyatt, Oswalt, White, and Peterson, 2008). For instance, Wyatt et al. (2008) evaluated pre-service teachers’ attitudes toward individuals who identified as gay or lesbian and assessed whether attitudes were affected by gender, ethnicity, sexuality education philosophy of teachers, and perceived sexuality education level. Participants included 334 (55 males, 278 females, one did not report sex) teacher candidates enrolled in child and adolescent development courses at two Central/South Texas universities. One hundred and eighty nine participants identified as Caucasian, 84 as Hispanic/Latino, 14 as African-American, five as Asian/Pacific Islander, and 22 identified as “Other” or did not specify race/ethnicity. Results indicated that participants had uncertain or neutral attitudes toward lesbian and gay individuals, though attitudes toward gay males were slightly more negative. In addition, there were no significant differences in attitudes toward lesbian and gay individuals between ethnic groups. Significant differences in

attitudes were found between individuals who characterized themselves as conservative, moderate, or liberal regarding sexuality education philosophy, with liberals possessing more positive attitudes. In addition, participants who perceived their level of sexuality knowledge as high had more positive attitudes towards lesbians than participants in the other groups (Wyatt et al., 2008).

Critique of Literature Examining Teachers' Attitudes

Limitations exist within the aforementioned studies that must be addressed. First, most of the samples are not considered diverse, lacking a sufficient amount of male and racial minority participants; therefore, the generalizability is limited (Ben-Ari, 2001; Bliss & Harris, 1999; Butler, 1994; Mudrey & Medina-Adams, 2006; Perez-Testor et al., 2010; Sears, 1992). Next, given the nature of the questions, responses are susceptible to socially desirable responding, yet researchers did not assess for social desirability (Mudrey & Medina-Adams, 2006; Perez-Testor et al., 2010). Another limitation is that many of the respondents targeted in these studies were from outside of the U.S.; therefore, the results may not be representative of the views and behaviors of teachers in America (Bliss & Harris, 1999; Butler, 1994; Hirsch, 2007; Mudrey & Medina-Adams, 2006; Sears, 1992). Additionally, in the study conducted by Ben-Ari (2001), one limitation was that the study did not include personal characteristics of participants, such as personal contact with sexual minorities, perceptions of peers' attitudes, and perceptions of gender roles, which could have provided more explanations for negative attitudes. Last, as previously stated, a number of these studies were not current, limiting generalizability to the current population and demonstrating the need for more research.

In sum, it would appear that many teachers hold negative attitudes toward sexual minorities and/or lack sufficient knowledge to address issues relevant to sexual minority students. Additionally, in the studies that reported positive or moderate attitudes, some teachers still seemed to be uncomfortable when personally interacting with sexual minorities, which can be perceived as negative when trying to create an inclusive environment. Thus, these above-mentioned studies add to a growing body of literature that supports the need to further explore ways to improve teachers' attitudes regarding sexual minority students (Ben-Ari, 2001; Bliss & Harris, 1999; Butler, 1994; Mudrey & Medina-Adams, 2006; Perez-Testor et al., 2010; Sears, 1992).

Theoretical Framework to Explain Attitudes

Social Dominance Theory

Social Dominance Theory can explain individuals' attitudes toward sexual minorities. Social Dominance Theory proposes that societies are arranged according to group-based hierarchies from which conflict and oppression arise (Purdie-Vaughns & Eibach, 2008; Sidanius & Pratto, 1999, 2003; Sidanius, Pratto, van Laar, & Levin, 2004). These hierarchies consist of one or a small number of dominant groups, and one or a small number of "subordinate" groups (Levin & Sidanius, 1999; Quist & Resendez, 2002; Sidanius & Pratto, 1999). Moreover, there tends to be a consensus as to which groups are dominant and which groups are subordinate (Levin & Sidanius, 1999). The dominant groups tend to have access to a disproportionately large share of desired social resources such as political authority, power, wealth, and high social status (Pratto, Sidanius, & Levin, 2006; Sidanius & Pratto, 1999; Sidanius et al., 2004). In contrast, the

subordinate groups have access to a large share of “negative” social resources such as minimal power, lower status jobs, and low social status (Pratto et al., 2006; Sidanius & Pratto, 1999; Sidanius et al., 2004).

Society possesses certain beliefs and principles that either promote or undermine group hierarchies (Pratto et al., 2006; Rubin & Hewstone, 2004; Sidanius et al., 2004). Members of the dominant groups are more likely to possess greater anti-egalitarian beliefs, specifically referred to as a social dominance orientation, which promotes group hierarchies. Particularly, members of the dominant groups have higher social dominance orientations and are motivated to maintain their dominance and privilege over subordinate groups through the perpetuation of negative stereotypes, prejudice, and oppressive behaviors (Quist & Resendez, 2002; Sidanius et al., 2004). Moreover, maintenance of dominance is accomplished through the infliction of discriminatory acts, including aggregated individual discrimination, aggregated institutional discrimination, and behavioral asymmetry (Pratto et al., 2006; Sidanius, 1999). Aggregated individual discrimination is the simple, daily, and occasionally subtle individual acts of discrimination by one individual against another (e.g., employer not hiring or promoting a person from a minority group) (Sidanius, 1999). Aggregated institutional discrimination is inequity that can be seen in the rules, procedures and actions of institutions, such as the courts, lending institutions, hospitals, retail outlets, and schools (Sidanius, 1999). This type of discrimination is, at times, intentional and apparent whereas other times, it is inadvertent and inconspicuous. Behavioral asymmetry is the

corresponding differences in behavioral repertoires of the dominant and subordinate groups that produce superior results for the dominant group in comparison to the subordinate group (Pratto et al., 2006; Sidanius, 1999).

This theory also highlights three various types of social hierarchies including age-based, sex-based, and arbitrary-set hierarchies (Pratto et al., 2006; Purdie-Vaughns, & Eibach, 2008). In age-based hierarchies, adults have social power over children. In gender-based hierarchies, men have social power over women, and arbitrary-set hierarchies, which are locally defined dominant groups such as ethnic or religious groups, are advantaged over the subordinate groups (Pratto et al., 2006; Purdie-Vaughns, & Eibach, 2008; Sidanius & Pratto, 1999). While the age and gender-based systems tend to have brutal forms of social control, the arbitrary-set system is associated with the largest degree of violence and oppression for members of the subordinate group due to arbitrary sets being one of the only systems where total destruction (i.e., extermination of one race or ethnic group) has been found (Pratto et al., 2006; Sidanius & Pratto, 1999). In addition, social dominance theory contends that arbitrary-set systems concentrate on control of subordinate males by an alliance of dominant males, who tend to be frequent perpetrators of interpersonal and intergroup violence (Pratto et al., 2006).

Social Dominance Theory offers an understanding of attitudes toward individuals who identify as sexual minorities. According to the theory, sexual minorities are a part of subordinate groups in society, and heterosexuals are a part of dominant, privileged groups. Sexual minorities have limited access to societal resources, such as power, high social status, and premium health care. In addition, they do not have equal protection under the law in many states for issues such as intimate partner violence or marriage

benefits. Heterosexuals sustain their power and privilege over sexual minorities by legitimizing myths that justify their attitudes (Pratto et al., 2006; Sidanius et al., 2004; Whitley & Ægisdóttir, 2000). For example, religiosity, which refers to religious affiliation and beliefs (Pratto et al., 2006; Sidanius & Pratto, 1999), enables dominant groups maintain a sense of power. By espousing a belief that heterosexuality is the only appropriate sexual orientation, these individuals tend to view sexual minorities as people who are committing a “sinful act” who deserve to be oppressed, and should be recipients of negative, harmful treatment. These ideas manifest in the form of prejudicial and discriminatory acts against the sexual minority community. Furthermore, heterosexist beliefs could lead individuals to endorse and adhere to traditional gender role beliefs such as appropriate roles for men and women and stereotypes about men and women, which also lead to oppressive acts and negative attitudes toward sexual minorities (Whitley & Ægisdóttir, 2000). As such, a social dominance orientation may be one way by which negative attitudes towards sexual minorities may be explained and maintained. Despite Social Dominance Theory’s explanation of the cognitive and psychological mechanisms by which individuals may form negative attitudes towards sexual minority individuals, the literature has identified a number of other contributing factors associated with negative attitudes toward sexual minorities.

Correlates of Negative Attitudes toward Sexual Minority Individuals

As mentioned previously, per Social Dominance Theory, members of the dominant and privileged groups in society are motivated to maintain their dominance over oppressed groups, which is typically accomplished through the perpetuation of certain beliefs, principles, and behaviors that undermine and prejudice oppressed groups

(Quist & Resendez, 2002). There are several factors related to these beliefs and principles that contribute to varying attitudes toward sexual minorities and have been reported within the current literature. The most frequently cited factors include gender role beliefs, interpersonal contact with sexual minorities, political beliefs, diversity awareness training, peer and familial influence, geographic location, and religious beliefs (Barron, Struckman-Johnson, Quevillon, & Banka, 2008; Basow & Johnson, 2000; Brown & Henriquez, 2008; Herek, 2002; Horvath & Ryan, 2003; Meaney & Rye, 2010; Rainey & Trusty, 2007; Satcher & Schumacker, 2009; Swank & Raiz, 2010; Whitley, 2001; Whitley & Ægisdóttir, 2000). Concerning gender role beliefs, findings have demonstrated that adherence to traditional gender role beliefs (i.e. opinions about the characteristics and roles of males and females) predict negative attitudes toward sexual minorities (Basow & Johnson, 2000; Brown & Henriquez, 2008; Herek, 2002; Horvath & Ryan, 2003; Swank & Raiz, 2010; Whitley, 2001; Whitley & Ægisdóttir, 2000). For instance, sexual minority individuals are rejected in part, because they are viewed as violating these traditional gender roles (Basow & Johnson, 2000; Brown & Henriquez, 2008; Meaney & Rye, 2010; Swank & Raiz, 2010; Whitley, 2001; Whitley & Ægisdóttir, 2000). Empirical studies have also found that meaningful interpersonal contact (e.g., friend, family, colleague) and the quality of experiences, either positive or negative, with individuals who identify as sexual minorities contribute to negative or positive attitudes toward these persons (Barron, Struckman-Johnson, Quevillon, & Banka, 2008; Basow & Johnson, 2000; Brown & Henriquez, 2008; Herek, 2002; Horvath & Ryan, 2003; Rainey & Trusty, 2007; Satcher & Schumacker, 2009; Swank & Raiz, 2010).

Additionally, individuals with more conservative political beliefs (e.g. Republicans) have been found to hold more negative attitudes toward sexual minorities (Barron et al., 2008; Brown & Henriquez, 2008; Rainey & Trusty, 2007; Satcher & Schumacker, 2009). Diversity awareness training is also an important variable in that individuals who have been exposed to affirming information about sexual minorities have more positive attitudes compared to those who have not been exposed to such information (Satcher & Schumacker, 2009). Furthermore, researchers have found that family and peers' acceptance of sexual minorities tends to be predictive of supportive attitudes toward sexual minority individuals (Swank & Raiz, 2010). Last, some research has shown that place of residence is associated with attitudes toward those who identify as sexual minorities (Herek, 2002; Rainey & Trusty, 2007). Namely, individuals who live in large cities or cities located in the North tend to be more accepting of sexual minority individuals than those from rural towns or the South (Herek, 2002; Rainey & Trusty, 2007).

Conservative Religious Beliefs as a Main Correlate of Negative Attitudes

Of the correlates identified as contributors to attitudes toward sexual minorities, conservative religious beliefs have been found to be a major contributor. More specifically, conservative religious beliefs and practices that are faithfully adhered to and considered to be basic, fundamental truths, most consistently correlate with negative attitudes toward sexual minorities (Laythe, Finkel, Bringle, & Kirkpatrick, 2002; Laythe, Finkel, & Kirkpatrick, 2001). Thus, the review of religious beliefs and practices will be more detailed than the other correlates.

Individuals who have conservative, fundamental religious beliefs, are associated with conservative religious organizations, and actively participate in these religious organizations (i.e., churches), have been found to possess negative attitudes toward sexual minorities (Herek, 2002; Satcher & Schumacker, 2009; Schulte & Battle, 2004; Swank & Raiz 2010). Herek (2002) explored heterosexuals' attitudes toward bisexual men and women among 1,335 predominately Caucasian females. More specifically, Herek hypothesized that heterosexuals would express more negative attitudes to the extent that they are older, less educated, have less income, are married with children, reside in an area where conservative beliefs are more predominant, are politically conservative, highly religious, possess traditional attitudes regarding gender and sexual behavior, and lack prior contact with sexual minorities. Results demonstrated that highly religious individuals, particularly those who attended service on a weekly basis or reported religion was important, had more unfavorable attitudes toward bisexual individuals compared to those were not highly religious (Herek, 2002). Satcher and Schumacker (2009) examined predictors of modern homonegativity, which is prejudice against lesbian and gay individuals based on unwillingness to recognize that discrimination occurs and reluctance to support civil and legal protections, among 571 (13% male, 87% female) heterosexual professional counselors from Southeastern U.S. Of the participants, 79% were Caucasian, 17% were African American, 4% identified as Other, and 1% did not report their race/ethnicity. Findings illustrated that participation in religious activities, particularly attending church three times a month or more, was the strongest predictor of modern homonegativity.

A study conducted by Schulte and Battle (2004) provided additional evidence for the strong predictive validity of religious conservatism and attitudes toward sexual minorities. Using 315 African-American and Caucasian undergraduate psychology students from five universities in the Northeast, Midwest, and South, the authors explored whether ethnic differences in attitudes toward lesbian and gay individuals were a function of religious attendance (Schulte & Battle, 2004). Differences in attitudes in general and specifically toward gay men were not a function of ethnicity, but potentially religious attendance and the effect of the “Black Church” (Schulte & Battle, 2004). Specifically, individuals who attend Black churches are considered to be more conservative, have a greater commitment to God, are more involved in the church, demonstrate greater frequency of attendance, and reported religion to play a greater role in their daily lives compared to Caucasian individuals who attend the Catholic church (Schulte & Battle, 2004). Accordingly, they were more likely to possess negative attitudes toward sexual minorities.

Additionally, individuals who are religious fundamentalists, a subgroup within evangelicalism that wholeheartedly follows biblical authority, has a strong commitment to witnessing to others, and vigorously defend their beliefs, tend to possess more negative attitudes toward sexual minority individuals (Laythe et al., 2001). Laythe et al. (2001) conducted a study to explore the roles of religious fundamentalism and right-wing authoritarianism as predictors of prejudiced attitudes toward racial and sexual minorities and hypothesized that right-wing authoritarianism was a significant predictor of both kinds of prejudice, but not religious fundamentalism. Right-wing authoritarianism is defined as incorporating three attitudinal clusters, which include a high degree of

submissiveness to the authorities who are perceived to be legitimate in society, aggression towards deviants who are perceived to be targets by established authorities, and a high degree of adherence to traditions and social norms endorsed by authorities. Participants included 140 (47 males, 91 females, 2 did not specify) undergraduate psychology and philosophy students at a small Midwestern university who ranged in age from 18 to 48 years old. With right-wing authoritarianism controlled, religious fundamentalism was a negative predictor of racial prejudice, but a positive predictor of prejudice against sexual minorities (Laythe et al., 2001). Laythe et al. (2002) conducted another study with 313 (118 males, 195 females) predominately undergraduate psychology and sociology students from two Midwestern universities to investigate whether an empirical relationship existed between religious fundamentalism and prejudice. Again, results showed that there was a positive relationship between religious fundamentalism and prejudice toward lesbian and gay individuals regardless of whether authoritarianism was controlled (Laythe et al., 2002).

Further research has also demonstrated the predictive relationship between religious beliefs and practices and attitudes toward sexual minorities. For instance, Rainey and Trusty (2007) conducted a study examining the most salient variables (i.e., gender, place of residence, prior interaction with sexual minorities, political views, religiosity) predictive of attitudes specifically toward lesbians and gay males among 132 (19 male, 113 female) master's level counseling students (community, school, or student affairs counseling). All participants attended a medium-size university in the Southwestern part of the U.S., ranged in age from 22 to 65 years, and identified as Caucasian (101), African American (25), Hispanic (five), and Asian American (one).

Results indicated that religiosity, as measured by the importance of religion among close friends, frequency of attendance at religious services, and how religious participants considered themselves, was a moderate predictor of attitudes. Specifically, the more religious counseling students were, the more negative their attitudes toward lesbian and gay individuals. Another study (Brown & Henriquez, 2008) sampled 320 (38.4% male, 61.6% female) undergraduate psychology students to explore how individual and socio-demographic differences are correlated to attitudes towards sexual minorities. Specifically, the researchers examined the predictive value of participants' age, gender, race, political stance, religiosity, relationships with sexual minorities, and gender role beliefs when assessing attitudes toward lesbian and gay individuals, expecting to find varying degrees of predictive value for these attributes. Participants were between 17 and 52 years old and came from various ethnic backgrounds (37% Caucasian, 18.4% African American, 11.3% Asian, 11.9% Hispanic, 11.9% Caribbean, 5.3 % Middle Eastern, and 3.4% Other) and religions (30.7% Protestant, 22.8% Catholic, 20.3% Jewish, 6.6% Muslim, 1.9% Buddhist, 9.7% Other, and 6.7% None). A moderate relationship between religiosity (as measured by how religious participants considered themselves) and anti-gay attitudes was found.

Swank and Raiz (2010) also examined attitudes specifically toward lesbian and gay individuals, in addition to the factors that predict positive attitudes toward lesbian and gay individuals among a stratified sample of 575 (82 males, 493 females) undergraduate social work students. The sample was predominately heterosexual and Caucasian (450), and ranged in age from 18 to 73 with 80% between 18 and 26. Results

suggested that social work students possessed slightly favorable attitudes toward lesbian and gay individuals. Yet, negative attitudes toward lesbians and gay males were higher for those who attended religious services more frequently (Swank & Raiz, 2010).

In summary, religious beliefs were strongly related to attitudes toward sexual minorities. More specifically, those who were conservative, possessed a strong commitment to their beliefs, attended church regularly, and participated in church activities tended to have more negative attitudes toward sexual minority individuals (Barron et al., 2008; Brown & Henriquez, 2008; Horvath & Ryan, 2003; Laythe et al., 2001; Laythe et al., 2002; Rainey & Trusty, 2007; Satcher & Schumacker, 2009; Schulte & Battle, 2004; Swank & Raiz, 2010). These findings were also found among those in the helping professions such as counseling trainees and social work students (Rainey & Trusty, 2007; Satcher & Schumacker, 2009). Thus, religiosity may also have an impact on teachers' attitudes toward sexual minorities; particularly teachers who value conservative religious beliefs may possess unfavorable attitudes toward sexual minority youth.

Possible Ways to Reduce Negative Attitudes toward Sexual Minorities

Given the theory of Social Dominance and the resulting factors that contribute to or perpetuate negative attitudes towards sexual minorities, the question may arise whether these attitudes can be modified. According to some of the attitude reduction literature specifically related to sexual minorities, teachers' attitudes may be changed if they examine their own biases, dispositions, and actions toward sexual minorities, which are typically based on familial, religious, and cultural influences that have been learned over time (Larrabee & Morehead, 2010). Critical examination may serve to increase

knowledge, awareness, empathy, and responsiveness toward sexual minority students (Dessel, 2010; Larrabee & Morehead, 2010; Riggs et al., 2011). Particularly per Social Dominance Theory, increasing knowledge, awareness, and empathy toward sexual minorities may undermine group hierarchies and anti-egalitarian beliefs through debunking legitimizing myths that maintain power and privilege. To facilitate this change, teacher education programs should provide pre-service teachers with opportunities to engage in interventions that facilitate self-examination to reduce negative attitudes and increase knowledge and empathy toward sexual minority students before they begin teaching in their own classrooms (Dessel, 2010; Larrabee & Morehead, 2010).

The literature has identified several intervention strategies to reduce negative attitudes and increase knowledge and empathy. Specific to sexual minorities, some of these intervention strategies include the facilitation of interpersonal contact (e.g., speaker panels, dialogues, and videos) with sexual minorities, diversity workshops with an emphasis on sexual minorities and the issues encountered, and sexuality education with a focus on sexual orientation. Independently, these intervention strategies seem to be effective in reducing negative attitudes; however, it is not clear as to which intervention strategy is the most effective in reducing negative attitudes and increasing knowledge and empathy especially among teachers, because these intervention strategies have yet to be compared in the same study.

Interpersonal Contact

Interpersonal contact is a key correlate with attitudes toward sexual minorities. Allport's (1954) Contact Hypothesis can be used to support the use of interpersonal contact as a way to modify negative attitudes, empathy, and knowledge. The Contact

Hypothesis suggests that, under the right conditions (i.e., equal status between groups, common goals, cooperation, and endorsement at institutional level), social interactions between members of the majority (dominant) and minority (oppressed) groups might reduce prejudice against the minority group. Pettigrew (1998) extended the research with the intergroup contact model by adding a fifth situational condition to Allport's original four conditions of *friendship potential* to increase the effectiveness of interpersonal contact between majority and minority group members. Pettigrew (1998) also indicated that these conditions set the stage for four processes through which change occur, including learning about the minority group, reappraisal of minority group, changed behavior, and affective ties. These change processes possibly result in decreased stereotyping, enhanced positive attitudes toward minority groups, and increased perceptions of a common group identity (Pettigrew, 1998). Accordingly, by setting up similar conditions, intergroup contact may reduce negative attitudes, and increase knowledge and empathy toward sexual minority individuals (Rye & Meaney, 2009; Swank & Raiz, 2010). Research has demonstrated that interpersonal contact with sexual minorities contributes to negative or positive attitudes toward these persons (Barron et al., 2008; Basow & Johnson, 2000; Brown & Henriquez, 2008; Ellis & Vasseur, 1993; Herek, 2002; Horvath & Ryan, 2003; Rainey & Trusty, 2007; Sakalli & Uğurlu, 2002; Satcher & Schumacker, 2009; Swank & Raiz, 2010). For example, Brown and Henriquez (2008) found that, among undergraduate psychology students, interpersonal contact with lesbians and/or gay males was a better predictor of attitudes toward these individuals than religious and political beliefs. Satcher and Schumacker (2009) found that counselors were more likely to be among the high modern homonegativity group if

they did not have a lesbian and/or gay friend or acquaintance. Conversely, heterosexual Caucasian women with at least one lesbian or gay friend or relative had more favorable attitudes toward bisexual individuals (Herek, 2002). Additionally, findings were similar in a study performed by Sakalli and Uğurlu (2002), who found that among 211 (105 males, 106 females) Turkish University undergraduate students, those who had a friend who identified as a sexual minority possessed more positive attitudes toward sexual minorities than those students who did not have a sexual minority friend. In examining the impact of prior interpersonal contact on interviewing strategies (during proposed interviews for job candidates) with 108 (47 males, 61 females) undergraduate students, Ellis and Vasseur (1993) found that students' attitudes toward sexual minorities were significantly impacted by prior contact with lesbian and/or gay individuals. Particularly, students (interviewers) who had prior contact with sexual minorities chose fewer negative information-seeking questions for a proposed interview (Ellis & Vasseur, 1993; Sakalli & Uğurlu, 2002). Findings from another study also suggested that the quality of prior experience with lesbians was a moderate predictor of attitudes (Rainey & Trusty, 2007). More specifically, when counselors reported more positive experiences with lesbians, they possessed more positive attitudes. Experience with gay males was similar to results shown with lesbians; however, the relationship was not as strong (Rainey & Trusty, 2007). Other studies examining this relationship produced similar results (Barron et al., 2008; Basow & Johnson, 2000; Heinze & Horn, 2009; Horvath & Ryan, 2003).

Due to interpersonal contact having an impact on attitudes, the literature has suggested a number of interventions that facilitate positive interactions with sexual minority individuals and that are effective in reducing negative attitudes. These include

speaker panel presentations featuring sexual minority presenters, intergroup dialogues, videos, and sexual minority led trainings (Rainey & Trusty, 2007; Rye & Meaney, 2009).

The effectiveness of interpersonal contact. Several studies have examined the extent to which interpersonal contact through speaker panel presentations reduce negative attitudes toward sexual minorities. Speaker panel presentations serve several purposes: 1) they provide accurate information about sexual minorities, 2) challenge commonly held myths about same-sex relationships, and, most importantly, 3) allow participants contact with sexual minority persons. Despite few current studies, the research has shown that speaker panel presentations that include sexual minority participants are an effective intervention in reducing negative attitudes toward sexual minorities (Burkholder & Dineen, 1996; Croteau & Kusek, 1992; Dessel, 2010; Geasler, Croteau, Heineman, & Edlund, 1995; Green, Dixon, & Gold-Neil, 1993; Nelson & Krieger, 1997). For instance, Nelson and Krieger (1997) investigated the effectiveness of a lesbian and gay peer speaker panel for changing negative attitudes among 190 (52 males, 138 females) predominately Caucasian undergraduate psychology students from a Southeastern university. Specifically, the researchers hypothesized that 1) participants would be more tolerant after the intervention, 2) male students would display more negative attitudes toward sexual minorities compared to female students, and 3) male students would demonstrate a greater overall change in attitudes than female students after the intervention. The lesbian and gay speaker panel consisted of four members who discussed their background, the feelings that they experienced concerning their sexuality, the process of identifying a sexual orientation, and answered questions from the undergraduate students. Findings revealed that the speaker panel had an impact on the

attitudes of the entire sample in that participants had more positive attitudes. As such, the authors concluded that the panel was an effective intervention in reducing negative attitudes toward sexual minorities. Males displayed more negative attitudes compared to females; and, contrary to their hypothesis, females exhibited a greater overall change in negative attitudes (Nelson & Krieger, 1997).

Geasler et al. (1995) conducted a qualitative study designed to explore undergraduate students' details of their own transformation after attending a sexual minority speaker panel presentation. Participants included 260 (30% males, 70% females) individuals who were predominately heterosexual, ranged in age from 18 to 48 years, and 87% were Caucasian, 8% were African American, and the remaining 5% were Asian, Hispanic, Native American, International, or biracial. The panel presentation began with the members introducing themselves (i.e., background information) and then students were encouraged to ask questions. After hearing the speakers on the panel, many of the participants in the study described positive changes in their attitudes and feelings toward sexual minority individuals and their experiences. Specifically, stereotypes were dismissed, they possessed increased awareness of their similarities to sexual minorities (e.g., they were "people too"), they developed increased empathy, and participants reflected more on their own sexual orientation as well as those of the panel members (Geasler et al., 1995).

When examining the effectiveness of a lesbian and gay speaker panel in terms of gender, sex role orientation, religious fundamentalism, and acquaintance with lesbian and/or gay individuals on attitudes toward lesbians and gay males and individuals with AIDS, Green et al. (1993) found results consistent with previous literature. The authors

hypothesized that females would have less negative attitudes at pre- and post-tests, and individuals with more traditional gender role beliefs and/or those who considered themselves to be religious fundamentalists would have more negative attitudes. In addition, they proposed that those who were acquainted with lesbian and/or gay individuals would report less negative attitudes, and less negative attitudes would be reported following the lesbian and gay panel. Data were collected from 80 (27 males, 53 females) undergraduate students enrolled in a human sexuality course at a Southeastern university, who ranged in age from 18 to 42. Eighty-five percent of the sample were Caucasian, five were African American, three were Hispanic, one was Native American, one was East Indian, and one was Asian. Five lesbian and gay individuals were invited to speak to a human sexuality class about their personal and professional experiences related to their sexual identity; students in the class had an opportunity to ask questions of the panel. Results demonstrated that the panel was successful in changing female students' attitudes toward lesbian and gay individuals; however, male students did not display any change in their attitudes (Green et al., 1993). This last finding is consistent with research that suggests males hold more negative attitudes toward sexual minorities compared to females.

Burkholder and Dineen (1996) also examined the effectiveness of panels in increasing sexual minority awareness with approximately 1000 undergraduate students. Graduate and undergraduate sexual minority students were requested to speak at several presentations throughout the year to discuss their "coming out" process, and to have an

informal question/answer period. Results suggested that the majority of students found the panel to be extremely effective in increasing awareness of issues unique to sexual minorities (Burkholder & Dineen, 1996).

Other studies have not necessarily used speaker panel presentations; however, they examined the effects of interactions with sexual minority community members on attitudes. For instance, Dessel (2010) explored the impact of intergroup dialogue between public school teachers and sexual minority community members on attitudes toward sexual minority students and parents. Specifically, the study sought to answer whether heterosexual public school teachers who participated in the intergroup dialogue, as compared to heterosexual public school teachers in a comparison group, improved their attitudes, feelings, and behaviors toward sexual minority students and parents. Furthermore, the author examined whether teachers in the intergroup dialogue increased their self-reflection about issues unique to sexual minorities and perspective taking of sexual minority students and parents. Additionally, the researcher sought to answer whether teachers' attitudes, feelings, and behaviors changed and the source of the changes. The sample included 36 (seven males, 29 females) teachers with a mean age of 43.92, who had various years of teaching and various religious backgrounds. Thirty-four participants were Caucasian, one African American, and one Asian American. The teachers participated in three-hour dialogue sessions over two weeks and the dialogue was based on a set of questions/topics provided by the researcher, which included stereotypes, the manner in which school districts are addressing issues faced by sexual minorities, and teacher resources related to sexual minority concerns (e.g., Safe School Coalition). Using a mixed methods design, findings illustrated that participating in the

dialogue resulted in positive changes in attitudes, feelings, and behaviors as well as perspective taking toward sexual minorities (Dessel, 2010). Teachers in the comparison group who did not participate in the dialogues did not experience any significant change. Furthermore, the factors contributing to change included sexual minority community members and other teachers, the friendship potential that was facilitated by the individuals in the dialogue group, and self-reflection and perspective taking that encouraged examination of their own thinking and being able to understand the experiences of others (Dessel, 2010).

Rye and Meaney (2009) also explored the impact of a homonegativity awareness workshop on Canadian University students' attitudes toward sexual minorities and explored the individual differences related to attitude change. The researchers hypothesized that the workshop would lead to reduced homonegativity, increased comfort with sexual matters, there would be differences in the way men and women evaluated the facilitators and the overall workshop, and several individual difference variables would be predictors of post-workshop homonegativity and of workshop evaluation. Data were collected from 114 (43 males, 71 females) students from a variety of classes (i.e., nursing, law, and education courses) and ranged in age from 18 to 28 years. It should be noted that a comparison group that participated in an unrelated study was used and consisted of 256 (128 males, 128 females) psychology students who were in their first year of study and on average were three years younger than the intervention group. The workshop, which was facilitated by eight sexual minority community members, included an imagery exercise in which the causes/reasons for negative attitudes were reflected upon, facilitators sharing coming out stories, a question/answer period, and

a group discussion about myths related to sexual minorities and heterosexism awareness. All of these strategies facilitated positive interactions with sexual minority individuals. The workshop was effective in reducing participants' negative attitudes toward sexual minorities and increasing comfort with sexual matters relative to the comparison group. Additionally, women rated the workshop more positively and were more positive about the male and the female facilitators. Furthermore, individual differences such as gender of participant, irrational beliefs about HIV/AIDS, authoritarianism, number of acquaintances who identify as sexual minorities, and religious attendance predicted post-test homonegativity, while gender of participant and irrational beliefs about HIV/AIDS predicted participant evaluation of the workshop (Rye & Meaney, 2009).

Additionally, Cooley and Burkholder (2011) examined the impact of media interactive contact (i.e., video) on psychology students' attitudes toward lesbian and gay individuals. The sample included 106 (60% female, 40% male) undergraduate psychology students from a Midwestern community college, whose ages ranged from 18-41 years old. Eighty-eight percent of participants were Caucasian, 10% were African American, and 2% reported "Other." Participants were randomized into three groups, including the control (no information related to lesbian and gay individuals), video only (viewed video of young gay males and lesbians discussing experiences), and video plus contact (viewed video and interacted with gay male and lesbian presenters who answered questions). The video and video plus contact groups both were significant in reducing negative attitudes toward lesbian and gay individuals compared to the control group. It is important to note that the change scores on the Attitudes toward Lesbians and Gay Men

Scale were similar for the video only and the video plus contact groups, which indicates that the video had as much impact as contact. These results have implications for positive attitude change through the use of media contact (Cooley & Burkholder, 2011).

Although findings have suggested that interpersonal contact through speaker panel presentations, dialogues, videos, and sexual minority led workshops are effective intervention strategies in reducing negative attitudes and increasing knowledge and empathy, the efficacy of speaker panels and the video are still in question given that there are some studies that have found conflicting results (Cotten-Huston & Waite, 1999; Grutzeck & Gidycz, 1997). For example, Cotten-Huston and Waite (1999) conducted a study in which they examined the effectiveness of two classroom interventions, a 45-minute video celebrating sexual minority lifestyles and interactions specifically with three lesbian and gay individuals discussing their relationship experiences with undergraduate students. Participants included 173 (48 males, 125 females) students from business and psychology classes who ranged in age from 18 to over 40 and approximately 70% were between the ages of 18 and 22. Findings revealed that neither the video nor the classroom interactions with lesbian and gay individuals were effective, as there was no impact on the scores from the scale that measured attitudes. Grutzeck and Gidycz (1997) also found similar findings when they investigated the effects of a lesbian and gay speaker panel on the attitudes and behaviors of undergraduate students. Data were collected from 200 (92 males, 108 females) students from a moderately sized Midwestern university, nearly all were heterosexual, and 85% were Caucasian, 11% African American, 1% Asian, 1% Native American, and 2% identified as Other. The speaker panel was composed of four (two males, two females) undergraduates who each

discussed their experiences growing up, their feelings about same-sex attraction, and entertained questions from the audience. The panel did not significantly affect attitudes; participants began with slightly negative attitudes and they remained this way, regardless of participating in the panel (Grutzeck & Gidycz, 1997).

Sexual Minority Training Workshops

Research has shown that individuals who have prior training on issues related to sexual minorities have more positive attitudes than those who have not had any training (Satcher & Schumacker, 2009). For example, in their examination of predictor variables among counselors, Satcher and Schumacker (2009) found that counselors had high levels of homonegativity if they had not participated in a training focused on the sexual minority community in the past 12 months. Thus, being exposed to affirming information is related to attitudes that are more positive. Specifically, providing a training workshop where instruction and information on the experiences of sexual minorities are distributed through group discussions, handouts, videos, and experiential activities may be beneficial in reducing attitudes.

The effectiveness of workshops. Studies have been conducted to test the effectiveness of training workshops on attitudes (Anderson, 1982; Finkel, Storaasli, Bandele, & Schaefer, 2003; Larrabee & Morehead, 2010; Riggs et al., 2011; Rudolph, 1989, Satcher & Schumacker, 2009). The research has demonstrated that workshops have an impact on attitudes; specifically they can reduce negative attitudes while increasing knowledge and empathy towards sexual minorities (Anderson, 1982; Finkel, Storaasli, Bandele, & Schaefer, 2003; Larrabee & Morehead, 2010; Riggs et al., 2011; Rudolph, 1989). Riggs et al. (2011) examined the effectiveness of a combined cognitive-

affective workshop on pre-service teachers' attitudes, knowledge, and anticipated professional behavior in regards to sexual minority individuals and issues. The researchers hypothesized that pre-service teachers who participated in the workshop would exhibit more positive attitudes, increased knowledge, and anticipate more appropriate professional behaviors than they did preceding the intervention. Participants included 67 female pre-service teachers, in which 52 were Caucasian, seven Hispanic, two African American, two Asian, and four mixed race. The majority of participants were single and pursuing elementary, middle school, and high school certifications. The three-hour workshop, which was designed to increase positive attitudes and awareness of the participants, consisted of reading an autobiography and writing a reflection statement. The workshop also included a large discussion regarding diversity and other important definitions, possible causes of prejudice and association to societal and school values, issues encountered by sexual minority youth in the schools, an experiential activity on stereotypes and discussion, and a video related specifically to lesbian and gay experiences in the schools (Riggs et al., 2011). Post-workshop data revealed that the workshop had an impact on attitudes, with pre-service teachers expressing more positive attitudes toward sexual minorities, possessing more accurate information regarding same-sex relationships and issues facing sexual minority youth, and having an increased willingness to engage in more supportive behaviors toward issues encountered by sexual minorities in school (Riggs et al., 2011).

Larrabee and Morehead (2010) also investigated the impact of a training workshop on attitudes toward sexual minorities among 18 credentialed, master's degree education students. The sample consisted of predominately-female novice teachers who

enrolled in an education course. Two males who identified as gay facilitated the training workshop, which included reviewing terms related to the sexual minority community, laws and policies associated with sexual minorities, research concerning development of identity, coming out and risks involved, and suggested strategies for creating a safer, inclusive atmosphere (Larrabee & Morehead, 2010). Afterward, teachers wrote reflections regarding the training, which indicated they 1) had increased awareness regarding issues salient to sexual minorities, 2) would be more likely to implement inclusive policies and practices in the classroom, 3) provide support and guidance as a teacher/leader, and 4) viewed sexual minority concerns as social justice and would take responsibility for advocating on behalf of sexual minority students (Larrabee & Morehead, 2010).

Finkel et al. (2003) also assessed the effectiveness of a training workshop called the Safe Zone project on graduate students and staff members from the University of Denver. The Safe Zone project is a diversity training program designed to increase sensitivity toward, knowledge of, and advocacy for sexual minority populations and the issues that affect them. Data were collected from 66 graduate students, who were enrolled in the Clinical Psychology program (Psy.D.) and the Forensic Psychology master's program, and two administrative staff members. Participants were predominately Caucasian (78%) and female (75%) and ranged in age from 22 to 54 years. Two Safe Zone training sessions were provided during the Fall and Spring semesters. The first session consisted of defining terms related to sexual minorities, discussing heterosexual privilege, identity formation, the process of becoming an ally, small group discussions regarding alienating sexual minorities and suggestions for creating a non-

homophobic community, and a large discussion regarding the harmful impact of homophobia. The second session included reviewing definitions related to sexual minorities, discussing heterosexual privilege, and participants were guided in a role play in which they were asked to respond to questions in the role of a gay male or lesbian keeping in mind the issues of being either a gay male or lesbian. The researchers found that the training sessions had a positive impact on participants, as they reported attitudes toward sexual minorities that were more positive. Safe Zone helped create a supportive environment for sexual minorities by increasing awareness of the issues that affect them and by providing accurate information regarding sexual orientation. It should be noted that evidence of a positive effect was also seen in the six individuals who felt safe enough to “come out” during the trainings. Additionally, participants provided positive feedback regarding the training sessions (Finkel et al., 2003).

Another study performed by Rudolph (1989) explored the effectiveness of a training workshop on 21 mental health practitioners’ attitudes toward sexual minorities and counseling behaviors compared with a non-treatment comparison group (n=31). The author predicted that participants’ attitudes toward sexual minorities and their effectiveness in counseling specifically lesbian and gay clients would considerably improve compared to the non-treatment group. The sample included graduate students enrolled in various counselor education courses. The treatment group consisted of 76% female and 24% male, was 95% Caucasian, and had a mean age of 34 years old. The workshop occurred over three days and included lectures (provided by experts in lesbian and gay counseling, two of whom identified as gay males), videos, case study role plays, small group discussions based on background information (i.e., prevalence of same-sex

relationships, issues unique to sexual minorities, negative attitudes, process and content of lesbian and gay affirmative counseling), and recommendations for working with clients who identify as lesbian or gay (Rudolph, 1989). The workshop significantly improved attitudes toward sexual minorities, and increased counselors' therapeutic effectiveness with lesbian and gay counseling compared to the control group.

Anderson (1982) conducted an earlier study and found results consistent with previously reviewed research. The researcher examined the impact of a training workshop regarding sexual minority experiences on female nursing students and predicted that because of the workshop, students would change their attitudes toward sexual minorities, demonstrating more positive views. The training workshop facilitators identified as lesbian or gay. Data were collected from 64 (38 treatment group, 26 control group) students over the age of 21 years old in the School of Nursing program at a large Midwestern university. The components of the workshop included information on 1) current research trends, 2) issues encountered by sexual minorities, 3) changing attitudes of professional groups, 4) a video that illustrated a gay relationship, 5) discussion of the video, and 6) strategies for handling situations involving helping a patient with sexual minority concerns. The workshop significantly changed attitudes toward sexual minorities with their attitudes becoming less negative compared to the control group (Anderson, 1982).

Education Courses and Their Effectiveness

Along the lines of training, individuals exposed to affirming information about sexual minorities have more positive attitudes than those not exposed to such information (Satcher & Schumacker, 2009). Some research suggests that obtaining knowledge

through courses seems important, as knowledge gleaned through coursework may also reduce attitudes toward sexual minorities (Alderson, Orzeck, & McEwen, 2009; Newman, Dannenfelser, & Benishek, 2002; Swank & Raiz, 2010). Thus, providing a course that focuses on diversity within its regular curriculum may reduce negative attitudes, and increase knowledge and empathy toward sexual minority individuals. The literature has indicated that students enrolled in certain courses that have a focus on sexuality and sexual minorities have reduced negative attitudes toward sexual minorities (Anthanasios and Larrabee; Ben-Ari, 1998; Case & Stewart, 2010; Cerny & Polysen, 1984; Serdahley & Ziemba, 1984).

For instance, Case and Stewart (2010) explored the changes in attitudes particularly toward lesbian and gay individuals, heterosexual privilege awareness, and views of same-sex marriage with female students enrolled in psychology diversity courses. The researchers hypothesized that students enrolled in these courses would have less negative attitudes, have greater support of gay marriage, and increased awareness of heterosexual privilege at the end of the course in comparison with students who were taking psychology courses without the diversity component. Data were collected from 87 (46 diversity course group, 41 comparison group) students at a university in the metropolitan area of Texas. Those in the diversity group had an average age of 28.7 years old and 74% identified as Caucasian, 13% as Hispanic, 6.5% as African American, and 6.5% as Native American. In the comparison group, the average age was 28.8 years old and 73.2% were Caucasian, 12.2% were Hispanic, 7.3% were African American, 4.9% were Biracial, and 2.4% were Arab or Middle Eastern. The psychology diversity courses, which had a focus on women's studies, were 15 weeks and the class discussions

and readings addressed sexual minority concerns, including social constructions of sexuality, heterosexism, heterosexual privilege, same-sex marriage, gender identity among children, and stereotypes of sexual minority individuals. Additionally, during one of the class meetings, students had an opportunity to interact with a panel of lesbian and transgender women. Results demonstrated that the diversity courses had a positive impact on the students contrasted with the comparison group, as students had increased heterosexual awareness and greater support for same-sex marriage. Additionally, students were found to have an increase in positive attitudes toward lesbian and gay individuals; however, these changes were not significantly different from the comparison group, which could have been due to all the courses being exposed to media coverage of gay rights issues that may have reduced negative attitudes in the comparison group as well (Case & Stewart, 2010).

Ben-Ari (1998) also examined attitudes toward sexual minorities before and after taking an elective course related to individual, familial, and social aspects of sexual minorities among 46 (treatment group) third-year undergraduate social work students. Specifically, pre- and post-tests were used to assess attitudes of social work students enrolled in this course and compared them to social work students who did not enroll in this course. The author proposed that there would be significant differences between groups at post-test. The course occurred twelve times during the semester and combined theoretical and experiential methods, which consisted of 1) historical and current information regarding attitudes toward sexual minorities and homophobia, 2) various theories that explain same-sex attraction and models of identity formation, 3) a video

related to the sexual minority community, and 4) a guest presentation from a mother and her adult son who identified as a gay male. At the end of the course, social work students' attitudes significantly changed in comparison to those in the control group who were not enrolled in the elective course; more specifically, there was a reduction in negative attitudes among students in the treatment group (Ben-Ari, 1998).

Researchers in an earlier study (Cerny & Polyson, 1984) examined the impact of a human sexuality course with a segment on sexual minorities on negative attitudes. Participants included a treatment group, which consisted of 200 (96 males, 104 females) students enrolled in the Human Sexuality and Sexual Responsibility course at Indiana State University and the control group that included 662 (242 males, 420 females) students enrolled in an Introductory Psychology course. The portion of the Human Sexuality and Sexual Responsibility class that focused on sexual minorities consisted of two lectures related to sexual minority "lifestyles" and a video particularly illustrating lesbian and gay romantic relationships. Also, there was a 45-minute small group discussion concerning the lectures and the video, as well as their attitudes, feelings, and experiences regarding issues related to sexual minorities. The course facilitated a reduction in negative attitudes among the students (Cerny & Polyson, 1984).

A similar study conducted by Serdahley and Ziemba (1984) produced findings consistent with previously stated research. The researchers investigated the effects of an undergraduate sexuality course on students' attitudes toward sexual minorities. Participants included the treatment group that was composed of 41 (15 males, 26 females) students and ranged in age from 19 to 29, and the control group that consisted of 47 (18 males, 29 females) students enrolled in a drug education course and ranged in age

from 18 to 47. The unit on sexual minorities within the course focused on reading a chapter related to the experiences of sexual minorities, doing two role-plays in class, and small group discussions concerning myths regarding sexual minorities. The course was effective in reducing negative attitudes toward sexual minorities for those who had high homophobic scores at pre-test (Serdahley & Ziemba, 1984).

Anthanasios and Larrabee (2003) also examined the impact of three education courses with a focus on sexual minorities on prospective teachers. However, they asked different research questions compared to the other studies such as how do education students respond to instruction focusing on information related to sexual minorities, and what specific parts of the instruction promote the development of taking an advocacy position toward sexual minority students in schools? Participants included 97 (78% female) students enrolled in sections of a course called Cultural Diversity and Education at a large California university. The students were mostly seniors and 64 % identified as Caucasian and 36% identified as people of color (one African American, one African American/Mexican, one Native American/Chicano, and the remainder were Latino or Asian American). The instructor of the classes was a Caucasian male, who openly identified as gay. The classes met once weekly for two hours over a 10-week period and consisted of readings related to issues faced by sexual minority youth and adults, specifically, the coming out process or being “outed.” The class also included 1) a video on significant lesbian and gay figures in U.S. history, 2) a guest speaker who discussed his experience as an openly gay middle school science teacher, 3) discussions regarding common vocabulary, identity development, sexual minority concerns, and 4) writing reflections of certain aspects of the class. The researchers found that students valued

developing knowledge of issues relevant to sexual minority individuals, admitted that they had lacked prior knowledge regarding experiences of sexual minorities, and reported that they were beginning to take more of a social justice stance and advocate for sexual minority youth as well as educators who identify as sexual minorities. Additionally, results displayed that appreciation for the challenges that sexual minority individuals face, strategies of ways to advocate for sexual minority youth in schools, and linking sexual minority concerns with racial/minority/gender issues seemed to promote a dominant stance of advocacy for sexual minority individuals (Anthanasēs & Larrabee, 2003).

Critique of the Attitude Reduction Literature

The aforementioned research has demonstrated effective intervention strategies for reducing negative attitudes toward sexual minority individuals. However, there are limitations of the attitude reduction literature. First, it appears that there are few current studies related to these intervention strategies; therefore, the results may or may not be generalizable to populations in 2014. In addition, nearly all of the studies used self-report measures to collect data; thus, responses may have been impacted by social desirability (Anderson, 1982; Dessel, 2010; Nelson & Krieger, 1997; Rudolph, 1989; Riggs et al., 2011; Rye & Meaney, 2009; Sakalli & Uğurlu, 2002). Furthermore, some of the control or comparison groups were no treatment groups rather than alternate treatment groups, thus it is difficult to know which components of the intervention strategies utilized in the studies contributed to a reduction in attitudes (Rudolph, 1989).

There are also some general limitations to this research. While the contact hypothesis formulates the circumstances under which people may change their attitudes and seems to be effective in some cases, it gives no insight into why and how contact with out-groups may lead to changes in attitudes (Rye & Meaney, 2009). Changing attitudes is a complex process that may be moderated by various individual difference variables (Rye & Meaney, 2009). Exposing individuals to affirmative knowledge regarding sexual minorities may be effective in reducing negative attitudes; however, knowledge by itself may not be the most impactful in reducing negative attitudes. Other variables, such as individuals' family and friends accepting sexual minorities may produce attitudes that are more positive; therefore, providing information about same-sex relationships may not be powerful enough to undo the messages internalized from parents, friends, and religion; additional intervention strategies must be utilized (Swank & Raiz, 2010).

Rationale and Purpose of Study

Research regarding teachers' attitudes toward sexual minority students is somewhat limited and dated. Given that teachers have a significant impact on students' attitudes, beliefs, and feelings, it is important to determine how to reduce their negative attitudes and increase their knowledge of sexual minorities and empathy toward students who identify as sexual minorities to enhance psychological well-being and create a more positive school environment. An abundance of literature exists regarding reducing negative attitudes toward sexual minorities, particularly intervention strategies that may be effective separately. Yet, there does not seem to be a comprehensive review that looks at these intervention strategies collectively, determining which one may be most effective

in reducing attitudes and increasing knowledge and empathy toward sexual minority individuals in general, and for teachers. Using a sample of pre-service teachers rather than current teachers is important because educating teachers-in-training about the sexual minority community is not always included in teacher education curricula (Jennings, 2007; Mathison, 1998). Thus, educational training can be an important means of preparing teachers to end the perpetuation of negative attitudes toward sexual minority students in the school system (Larrabee & Morehead, 2010).

Accordingly, the present study tested the effects of three different intervention strategies designed to reduce negative attitudes, increase knowledge about issues salient for sexual minorities, and increase pre-service teachers' empathy toward sexual minority students. Due to religious beliefs being a main contributor to negative attitudes toward sexual minorities, this study also examined whether religious beliefs impact attitudes, knowledge, and empathy particularly after the intervention was completed. In addition, social desirability was assessed to measure the sincerity of participants' responses, given that participants may respond in a manner that will make them look more favorable to the Principal Investigator (PI).

Research Questions

Specific questions addressed in this study included: (1) which intervention strategy is most effective in reducing negative attitudes toward sexual minority individuals within and between groups, (2) which intervention strategy is most effective in increasing empathy within and between groups, (3) which intervention strategy is most effective in increasing knowledge within and between groups, (4) are conservative religious beliefs associated with negative attitudes, empathy, and knowledge?

Research Hypotheses

Hypotheses were proposed in order to determine the most effective intervention strategy for reducing negative attitudes and increasing knowledge and empathy in pre-service teachers. It should be noted that the PI hypothesized that interpersonal contact, specifically by viewing a video documentary, would be most effective, as substantial research has shown that interactions with sexual minority individuals is efficacious in reducing negative attitudes and increasing empathy and knowledge (Allport, 1954; Barron et al., 2008; Basow & Johnson, 2000; Brown & Henriquez, 2008; Burkholder & Dineen, 1996; Croteau & Kusek, 1992; Dessel, 2010; Ellis & Vasseur, 1993; Geasler, Croteau, Heineman, & Edlund, 1995; Green, Dixon, & Gold-Neil, 1993; Herek, 2002; Horvath & Ryan, 2003; Nelson & Krieger, 1997; Pettigrew, 1988; Rainey & Trusty, 2007; Sakalli & Uğurlu, 2002; Satcher & Schumacker, 2009; Swank & Raiz, 2010) . More specifically, as it relates to Social Dominance Theory, interactions with sexual minorities may provide more accurate information about their experiences and generate empathy, thereby potentially debunking legitimizing myths that maintain dominance. Debunking legitimizing myths may undermine group hierarchies and anti-egalitarian beliefs, which may result in reduced prejudice and discriminatory acts toward sexual minorities. Additionally, despite speaker panel presentations being effective in facilitating interpersonal interactions, replicating the structure and nature of the panel across groups over time may be difficult. Thus, a video documentary with sexual minorities detailing their experiences, which has also been shown to be effective by the research, was used to increase standardization. In regard to interpersonal contact, most of the other interventions discussed in the literature included some form of interaction with

sexual minorities, thereby possibly highlighting the robust effects of interpersonal contact. Furthermore, a limitation of workshops is that information alone will not change messages that have been internalized. Therefore, interpersonal contact via a video documentary may combat more of these messages.

Hypothesis 1: Controlling for social desirability, pre-service teachers in the interpersonal contact group who view the video documentary will demonstrate the greatest reduction in negative attitudes, and the greatest increases in knowledge and empathy, at post-test compared to participants who attend the workshop, or receive regular classroom instruction (i.e., evidence between group differences)

Hypothesis 2: Controlling for social desirability, pre-service teachers in the workshop group will demonstrate a greater reduction in negative attitudes, and a greater increase in knowledge and empathy, at post-test compared to participants that receive regular classroom instruction.

Hypothesis 3: Pre-service teachers in the intervention groups (i.e., interpersonal contact and workshop) will demonstrate a significant reduction in negative attitudes and will demonstrate significant increases in knowledge and empathy from pre to post intervention (i.e. evidence within-group differences).

Hypothesis 4: Controlling for social desirability, across all groups, pre-service teachers responding high religious fundamentalism beliefs and/or practices will demonstrate a smaller reduction in negative attitudes, and a smaller increase in knowledge and empathy compared to those low in religious fundamentalism beliefs and/or practices.

Significance of Study

As previously mentioned, this study attempted to advance the literature regarding teachers' attitudes toward sexual minorities by providing a comprehensive review of intervention strategies to determine which one may be most effective in reducing negative attitudes and increasing knowledge and empathy among pre-service teachers. More specifically, this study informed teacher education programs in best practices to educate pre-service teachers on prejudice and discrimination against sexual minorities.

Conceptual and Operational Definitions

Attitudes: individuals' opinion or general feeling about sexual minorities (Worthington, Dillon, & Becker-Schutte, 2005).

Knowledge: the possession of information or facts related to sexual minorities (Harris, Nightengale, & Owen, 1995).

Empathy: awareness, feelings, and degree of acceptance toward those individuals who identify as sexual minorities (Wang et al., 2003).

Conservative religious beliefs: beliefs and practices that are devotedly adhered to and considered to be the basic, fundamental truths about humanity and divinity (Altemeyer & Hunsberger, 2004).

Chapter Two: Method

Intervention Strategies

In this study, the PI sought to determine the effectiveness of intervention strategies designed to reduce negative attitudes, and increase knowledge and empathy among pre-service teachers toward sexual minority students. Three intervention strategies were used in the study: a video documentary (interpersonal contact), a workshop, and regular classroom instruction. As previously mentioned, a video documentary was used to facilitate interpersonal contact, as the research has demonstrated media contact is effective, and the video is a standardized intervention that can easily be replicated over multiple time points and in future studies. The video and workshop made up the intervention groups, and regular classroom instruction was considered the control group. These interventions are described below.

Video Documentary and Discussion (Appendix A). The video documentary that facilitated interpersonal contact was *Straightlaced—How Gender’s Got Us All Tied Up*. This documentary provided a look at gender-role expectations, attitudes toward women, and attitudes toward sexual minority individuals through the experiences of 50 high school teens who represented a wide range of racial/ethnic backgrounds and sexual orientations. The video was approximately 67 minutes in length and was followed by a 20-30 minute discussion (depended on amount of participation) directly related to the video. To begin, briefly stated goals of the video were presented. These goals were: (1) allow participants to hear the experience of sexual minority individuals and/or attitudes toward sexual minorities and (2) to offer the opportunity to engage in a dialogue in regards to this topic. Group rules were established to foster safe and respectful dialogue

about the complex and, at times, emotional issues from the video. These group rules included: (1) Be an active, respectful listener, (2) Disagree respectfully, (3) Use “I” statements, not generalizations, (4) Keep information confidential and in the room, (5) Everyone has the right to pass or not answer a particular question, and (6) Share the air and be mindful that everyone needs time to speak (*Straightlaced Curriculum Guide*, groundspark.org, 2009). Following the group rules, participants watched the video documentary. When the video was completed, participants were given the opportunity to actively participate in a discussion facilitated by the PI and/or study personnel. The discussion questions were based on the *Straightlaced Discussion Guide for Professional Development Contexts* provided by Groundspark.org. The discussion was also open for any questions that participants had about the video and/or the sexual minority community. At the completion of the discussion, participants filled out the post-test questionnaires.

Sexual Minority Training Workshop (Appendix B). The workshop was facilitated by the PI, lasted approximately 3.5-4 hours, and was experiential in nature. Specifically, the workshop utilized small and large group discussions, presentations, and experiential activities (Foreman & Quinlan, 2008). The workshop began with an agreement between facilitator and participants on ground rules (i.e., similar to the video intervention) with an emphasis on confidentiality and respect. Establishing rules was crucial in creating a safe and welcoming environment. An icebreaker activity was used to allow participants to introduce themselves and become familiar with other participants. The icebreaker consisted of participants giving their first and/or last names, and then sharing what their names meant, why they were given them, and how they relate to them.

Following this, a large group discussion occurred in which participants reflected on the word “diversity,” including associations with the word, and what encompasses diversity (Riggs et al., 2011). The discussion then focused on sexual orientation as an aspect of diversity, and the purpose of the workshop and the importance of the topic were shared. Using a Power Point, a review of terminology associated with the sexual minority community was discussed, including terms such as sexual orientation, gay, lesbian, bisexual, queer, heterosexual, homophobia, heterosexism, coming out, gender, gender expression, and the pink triangle, to name a few (Finkel et al., 2003; Foreman & Quinlan, 2008; Larrabee & Morehead, 2010; Riggs et al., 2011). This led to a discussion on prejudice, including the possible causes of prejudice, the relationship between various types of prejudice (e.g., racism, sexism, heterosexism), and the way in which prejudice is displayed, individually and institutionally, with a focus on schools and educators (Riggs et al., 2011).

Subsequently, stereotypes were explored as participants reflected on what they knew or had heard about sexual minorities. Following this, a discussion on the reasons stereotypes exist, such as dichotomous thinking, gender roles, etc. took place and then information was shared to dispel the stereotypes about the sexual minority community (Riggs et al., 2011). To highlight further stereotypes and to make this more personal to the participants, they engaged in a small group activity called “Circles of My Multicultural Self” (Gorski, 2012). In this activity, participants identified what they believed to be the most vital dimensions of their own identities (e.g., male, student, Jewish, sister, educator, African American, middle class), then they shared stories about when they were proud to be associated with one of the identity dimensions, and when it

was especially hurtful to be associated with an identity dimension. Participants then shared a stereotype they had heard about one dimension of their identity that does not describe them accurately; they were asked to complete this sentence "I am (a/an) _____ but I am NOT (a/an) _____." The discussion returned to the larger group and participants were asked if they wanted to share their stories and/or their stereotype (Gorski, 2012). Questions were asked to help participants reflect and process more about their identities and stereotypes. Essentially, the importance of this activity was the process of examining one's own identity and the stereotypes associated with that identity, than having one's own stereotypes challenged through others' stories and stereotype challenges. Additionally, it was imperative to encourage participants to think about the stereotypes they apply to people and to actively reflect on them, in hopes to eliminate them (Gorski, 2012).

Following this activity, the "coming out" process was explored and participants were presented with Fassinger's Model of Gay and Lesbian Identity Development (Fassinger, 1996, 1997). Participants were organized into small groups and participated in an activity called "Coming Out Stars" that emphasized the complexities of the coming out process and increased awareness that this process is unique to each person and can be very emotional (Pierce, n.d.). More specifically, different color stars were given to participants and they wrote their name in the middle of the star. Then, on each point of the star, they wrote the name of a close friend, a community they belong to (e.g., religious, neighborhood, fraternity/sorority), name of a specific family member, the job they would most like to have, and their hopes and dreams. Following this, participants were told that they now identified as lesbian or gay and they will begin their coming out

process. Based on the color of the star, a different scenario regarding the level of difficulty of coming out was presented for each point of the star. For instance in regards to coming out to friends, “If a participant has a RED star, you are met with anger and disgust. This friend who has been by your side in the past tells you that being gay or lesbian is wrong and they can’t associate with anyone like that. If you have a red star, please tear off this side and drop it to the ground, this friend is no longer a part of your life” (Pierce, n.d.). The discussion returned to the larger group where questions were asked to help process reactions to the activity, new insights regarding the “coming out” process, and how this would affect them personally in their lives if this were their reality.

Finally, participants were given information for creating a safe environment in their communities and in regards to their future careers as educators. More specifically, participants were encouraged to think more on how the issues discussed during the workshop manifest in the school environment and they were provided strategies for how to create an inclusive atmosphere and how to manage situations encountered by sexual minority youth (Foreman & Quinlan, 2008; Larrabee & Morehead, 2010; Riggs et al., 2011). A brief question/answer period was allotted. Last, participants were thanked for their participation and filled out the post questionnaires.

Regular Classroom Instruction. Undergraduate educational psychology instructors at a large research university in the southeastern United States facilitated regular classroom instruction. The educational psychology courses are designed to introduce pre-service teachers to human development and learning, characteristics and instructional needs of exceptional learners, and issues related to classroom instruction in order to meet the needs of all students. Throughout the span of the courses, there is an

emphasis on individual and group differences and exceptionalities, including various disabilities, giftedness, and multicultural and diversity issues that teachers encounter in the regular classroom. Among the multicultural and diversity issues, experiences salient to sexual minorities such as forming identity and relationships, prejudice, and discrimination are topics of instruction.

Participants

Recruitment. Participants in this study were pre-service teachers enrolled in Human Development and Learning, Teaching Exceptional Learners in Regular Classrooms, and Teaching Exceptional Learners in Elementary Classrooms, which are undergraduate educational psychology courses at a large research university in the southeastern United States. One hundred and thirty nine participants were sampled for this study. Due to difficulty collecting a sufficient sample from these courses (targeted enrollment based on a power analysis was 150 participants), participants were also recruited from other teacher education courses in the College of Education. To recruit individuals for this study, the PI or a third party (study personnel) went to speak personally to the students in all the educational psychology classes and other teacher preparation courses to request participation in the study, specifically using a standardized recruitment script (Appendix C). Particularly for the two sections of the educational psychology classes that the PI taught, a third party recruited students to minimize coercion and maintain confidentiality. They were briefly told that the study involved diversity awareness and training regarding sexual minorities, which is of importance to them because, as future educators, they will encounter and need to address issues related to sexual minority individuals. The opportunity to gain extra credit points in the classes

was emphasized for participating in the study. Participation was strictly voluntary and participants were free to withdraw from the study at anytime. A sheet of paper was passed around and interested students were asked to provide their e-mail address. The sheet of emails was cut into strips and randomization of participants into the control and intervention groups occurred by drawing the strips of email addresses out of a bag. This methodology put one-third of the slips in the video group, one-third in the workshop group, and one-third in the regular classroom instruction group. As previously mentioned, the PI was the instructor of two sections of the educational psychology classes; thus, students in the PI's classes were automatically assigned to the control group. Following this, their email addresses were used to send them instructions for how they would participate in the study. Specifically, the email indicated whether the participants were assigned to fill out surveys (regular classroom instruction), attend a video documentary (interpersonal contact), or attend a workshop, in addition to the date, time, and location of these activities. The email also included a copy of the consent form in which they were instructed to review the *What Will You Be Asked to Do* section to examine the specific details of their involvement in the group to which they were assigned.

Sample Description. Study participants included 139 undergraduate students from educational psychology courses and other teacher preparation courses in the College of Education at a large university in the southeastern United States. Forty-one (29.5%) students were in the video documentary intervention group, forty-eight (34.5%) students were in the workshop intervention group, and fifty (36%) were in the control group. Due to cleaning the data, which will be further discussed in the results section, some of the

data were discarded resulting in the video documentary group having a final total of 38 participants and the workshop having a final total of 47 participants. The video documentary intervention group consisted of 78% females ($n = 32$) and 22% males ($n = 9$), the workshop intervention group included 83% females ($n = 40$) and 17% males ($n = 8$), and the control group consisted of 78% females ($n = 39$) and 22% males ($n = 11$). These percentages for gender are consistent with enrollment in the educational psychology and teacher preparation courses, as there are typically more female students compared to male students. The age range of all participants was 18-41 years old. The average age of participants in the video documentary intervention was 20.732 years old ($SD = 1.988$) and ranged in age from 18-29 years old, participants average age in the control group was 20.600 years old ($SD = 3.591$) and ranged in age from 18-38 years old, and the average age of participants in the workshop intervention group was 21.292 years old ($SD = 3.758$) and ranged in age from 18-41 years old. Seventy-eight percent of the video documentary intervention group was Caucasian, 17.1% African American, 2.4% specifically identified as “Black/White,” and the remaining 2.4% did not report their racial identity. The workshop intervention group was 85.4% Caucasian, 10.4% African American, and the remaining 4.2% was split evenly between Asian and American Indian/Alaska Native. The control group was 94% Caucasian, 2% African American, and the remaining 4% was split evenly among specifically reported identities, “Hispanic” and “Black/Native Hawaiian.” Concerning sexual orientation, the video documentary intervention group consisted of 90.2% who identified as heterosexual, 2.4% who identified as lesbian, 4.9% who identified as gay, and 2.4% who identified as bisexual.

In the workshop intervention group, 97.9% identified as heterosexual, 2.1% identified as lesbian, and the control group consisted of 100% of participants who identified as heterosexual.

Participants varied according to year in school. In the video documentary intervention group, 4.9% were freshman, 24.4% were sophomores, 24.4% were juniors, 34.1% were seniors, and 9.8% indicated they were graduate/professional students. In the workshop intervention group, 6.3% were freshman, 27.1% were sophomores, 43.8% were juniors, 16.7% were seniors, and 6.3% were graduate/professional students. In the control group, 20% were freshman, 54% were sophomores, 20% were juniors, 4% were seniors, and 2% indicated they were graduate/professional students. The majority of participants in the video documentary intervention group identified their majors as Elementary Education (34.1%), Music Education (22%), Middle School Education (9.8%), Other (7.3%) Kinesiology (4.9%), and the remaining 21.9% was split evenly between Communications Disorders, Psychology, Early Childhood Education, Art Education, Agriculture Education, Pharmacy, Secondary English Education, Equine Science, and Art Studio. The workshop intervention group included 41.7% Elementary Education, 8.3% each Middle School Education, Special Education, and Music Education, 6.3% each Communication Disorders and Early Childhood Education, 4.2% Kinesiology, and the remaining 16.8% was split evenly between Art Education, Secondary Math Education, Pharmacy, Secondary Science Education, Accounting, Linguistics, Other, and Undeclared. The control group consisted of 48% Elementary Education, 14% Communication Disorders, 6% each Middle School Education and Kinesiology, 4% each Special Education, Music Education, and Secondary English

Education, and the remaining 14% was split evenly between Art Education, Secondary Math Education, Agriculture Education, Finance, Pharmacy, Secondary Science Education, and Other. In regard to religious affiliation, the video documentary group consisted of 87.8 % Christian, 7.3% specifically reported None, and 4.8% was split evenly between Agnostic and Non-Denominational. In the workshop intervention group, 87.5% identified as Christian, 6.3% identified as None, 2.1% each identified as Unitarian Universalist and Atheist, and the remaining 2.1% did not report a religious affiliation. The control group included 86% Christian, 8% Agnostic, and the remaining 6% was split evenly between Wiccan, Muslim, and None.

The video documentary intervention group consisted of 87.8% of participants that knew an LGBTQ acquaintance, friend, or relative, and 12.2% that did not. The workshop intervention group included 79.2% of participants that knew an LGBTQ acquaintanc*e, friend, or relative, and 20.8% that did not. The control group included 84% of participants that knew an LGBTQ acquaintance, friend, or relative, and 16% did not. In regard to location of their hometown, 56.1% of the participants in the video documentary intervention group indicated their hometown was located in the Southeast, 17.1% indicated their hometown was located in the East, 9.8% each indicated their hometown was located in the Midwest and West, 4.9% indicated their hometown was located in the Southwest, and 2.4% did not respond to the question. In addition, 46.3% of participants described their hometown as suburban, 31.7% as rural (country), 9.8% as urban (inner city), 7.3% as metropolitan (large city), and 4.9% did not respond. In the workshop group, 50% of participants indicated their hometown was located in the Southeast, 25% indicated their hometown was located in the East, 14.6% indicated their hometown was

located in the Midwest, 8.3% indicated their hometown was located in the Southwest, and 2.1% indicated their hometown was located in the West. Furthermore, 54.2% described their hometown as suburban, 25% as rural, 10.4% as metropolitan, 8.3% as urban, and 2.1% did not respond. In the control group, 72% of participants indicated their hometown was located in the Southeast and 14% each indicated their hometown was located in the East and Midwest. Additionally, 52% of participants described their hometown as suburban, 32% as rural, 14% as urban, and 2% as metropolitan. Table 2.1 contains the basic demographic information, including sex, age, race, sexual orientation, year in school, religious affiliation, and knowing an LGBTQ individual.

Procedures

Study design. The current study was experimental and assessed the effectiveness of three intervention strategies designed to reduce negative attitudes and increase knowledge and empathy toward sexual minorities among pre-service teachers. The study had a pre-post design and consisted of two intervention groups and one control group. The participants in the intervention group received either the video documentary or workshop, and participants in the control group received regular classroom instruction.

Informed Consent. When participants in the control group and intervention groups arrived at their respective assigned locations to complete the study, they were again provided with the informed consent form. The informed consent outlined the purpose of the study and addressed all portions of research ethics in accordance with the American Psychological Association (APA) guidelines involving conducting research with human subjects and the institution's Office of Research integrity. Participants were provided with the logistics of the study including information about the reasons for being

Table 2.1 Participant Demographics across Groups (*n* = 139)

Variable	Video Intervention	Workshop Intervention	Control
Participants	<i>n</i> = 41	<i>n</i> = 48	<i>n</i> = 50
Sex			
Male	22%	16.7%	22%
Female	78%	83.3%	78%
Age			
18	2.4%	4.2%	8%
19	24.4%	16.7%	40%
20	24.4%	31.3%	32%
21	26.8%	25.0%	6%
22	14.6%	10.4%	4%
23	0%	2.1%	0%
24	0%	2.1%	0%
25+	7.3%	8.4%	10%
Race			
American Indian/ Alaska Native	0%	2.1%	0%
Asian	0%	2.1%	0%
Black	17.1%	10.4%	2%
White	78%	85.4%	94%
Other	2.4%	0%	4%
Sexual Orientation			
Heterosexual	90.2%	97.9%	100%
Lesbian	2.4%	2.1%	0%
Gay	4.9%	0%	0%
Bisexual	2.4%	0%	0%
Year in School			
Freshman	4.9%	6.3%	20%
Sophomore	24.4%	27.1%	54%
Junior	24.4%	43.8%	20%
Senior	34.1%	16.7%	4%
Graduate	9.8%	6.3%	2%
Religious Affiliation			
Christian	87.8%	87.5%	86%
Agnostic	2.4%	0%	8%
Atheist	0%	2.1%	0%
Muslin	0%	0%	2%
Non Denomination	2.4%	0%	0%
None	7.3%	6.3%	2%
Unitarian Universalist	0%	2.1%	0%
Wiccan	0%	0%	2%
Know LGBTQ			
Yes	87.8%	79.2%	84%
No	12.2%	20.8%	16%

Note Age 25+ (26-41); Know LGBTQ=Knowing a LGBTQ family member, friend, or acquaintance.

invited to participate, the purpose of the study, the location and duration of the study, what they would be doing in the study, the possible risks and benefits, incentives to participate, and voluntary termination of participation in the study. Participants were also informed that the research study was confidential in that their identifying information would not be matched to their responses. Participants had the opportunity to ask the PI questions prior to agreeing to participate.

Study procedures. Three weeks prior to conducting the interventions, only those students who expressed interest in participating in the study were considered research subjects and received an email that provided instructions for how to participate in the study. Those randomly assigned to the control group (regular classroom instruction) were given a date, time, and location to fill out pre-intervention assessments. Those randomly assigned to the intervention groups were given a date, time, and location for the video documentary or workshop. For the control group, upon arriving to the assigned location and being greeted by the PI and/or third party (study personnel), participants were given a detailed overview of the study and informed consent. Once they agreed to participate, they were then given the demographic questionnaire, and the pre-intervention assessments. They returned to an assigned location with the PI and/or study personnel approximately 3-4 weeks later (after the intervention groups were completed) to complete the post-intervention assessments (which were identical to the pre-intervention assessments). Participants in the intervention group who attended the video documentary were greeted by the PI and/or study personnel and were given a detailed overview of the study and the informed consent. Once they agreed to participate, they filled out the demographics questionnaire and the pre-intervention assessments. Participants watched

the *Straightlaced* video, had a discussion (led by the PI and/or study personnel) regarding the video, and immediately afterwards, they completed the post-intervention assessments in hardcopy format before being dismissed. Participants who attended the workshop were greeted by the PI and/or study personnel and given a detailed overview of the study and informed consent. After agreeing to participate, participants filled out the demographics questionnaire, and the pre-intervention assessments. Participants engaged in the workshop (led by the PI) focused on issues salient to sexual minorities. At the conclusion of the workshop, they completed the post-intervention assessments in hardcopy format before being dismissed.

Measures

The Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (Worthington, Dillon, & Becker-Schutte, 2005), Knowledge about Homosexuality Questionnaire (Harris, Nightengale, & Owen, 1995), and the Scale of Ethnocultural Empathy (Wang et al., 2003) were utilized to assess attitudes, knowledge, and empathy, respectively. For the purposes of this study, the Knowledge about Homosexuality Questionnaire was renamed the Knowledge about Sexual Minority Questionnaire to reflect more positive, inclusive language. In addition, the Scale of Ethnocultural Empathy was renamed the Scale of Sexual Minority Empathy; likewise, the questions were reworded to place an emphasis on sexual minorities rather than racial minorities. The Revised Religious Fundamentalism Scale (Altemeyer & Hunsberger, 2004) and the Motivation to Control Prejudiced Reactions Scale (Dunton & Fazio, 1997)

were used to assess religious beliefs and social desirability, respectively. A demographic questionnaire was only used in the pre-intervention assessments to gather background information from participants. These measures are described below in more detail.

Demographic Questionnaire (Appendix D). Participants completed a demographic form comprised of items pertaining to assigned sex at birth, age, race, sexual orientation, year in school, and their degree of study. They were also instructed to use the last 4-digits of their phone number as an ID number on both the pre and post responses in order to match these responses. In addition, participants were asked to indicate their religious affiliation by responding to an open-ended question. In addition, previous contact with LGBTQ individuals was assessed by asking participants to indicate with a “yes” or “no” response if they personally knew and had social interaction with an individual who identified as LGBTQ (Brown & Henriquez, 2008; Sakalli & Uğurlu, 2002; Swank & Raiz, 2010). Geographic location was also included by asking participants whether their hometown was located in the West, Midwest, East, Southeast, and Southwest, in addition to if their hometown was urban (inner-city), rural (country), suburban, or metropolitan (large city).

Independent Variable Measure

Group membership was the independent variable in this study. Participants were randomly divided into three groups: video documentary intervention group, workshop intervention group, or control (regular classroom instruction), which were dummy coded. In SPSS, the control group was coded 0 to indicate no intervention; the video group was coded 1, and the workshop group was coded 2.

Dependent Variable Measures

Attitudes. To assess attitudes, The Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals (LGB-KASH; Worthington, Dillon, Becker-Schutte, 2005; See Appendix G) was utilized. The LGB-KASH is a 28 item, 6-point Likert scale that assesses modern aspects of heterosexuals' attitudes toward lesbian, gay, and bisexual individuals. The LGB-KASH consists of five subscales: Hate (6 items), which reflects avoidance, hatred, and violence toward lesbian, gay, and bisexual individuals; Knowledge (5 items), which reflects basic knowledge about the history, symbols, and organizations related to the lesbian, gay, and bisexual community; LGB Civil Rights (5 items), which focuses on beliefs about the civil rights of LGB individuals in regard to marriage, child rearing, health care, and insurance benefits; Religious Conflict (7 items), contains items addressing conflicting beliefs and ambivalent homonegativity of a religious nature; and Internalized Affirmations (5 items), which reflects personalized affirmativeness and a willingness to engage in proactive social activism. Participants were asked to respond to statements, with responses ranging from 1 (very uncharacteristic of me or my views) to 6 (very characteristic of me or my views). Scoring occurred by averaging the responses for each subscale. There were no reversed scored items. A higher score on each subscale is associated with a stronger belief in that subscale. For instance, higher scores indicated greater hate attitudes, greater knowledge, greater religious conflict, greater endorsement of civil rights, and higher levels of internalized affirmativeness.

The LGB-KASH has been reported to have satisfactory reliability (Worthington, Dillon, Becker-Schutte, 2005). Using a sample of university college students in the initial development and validation of the LGB-KASH, high internal consistency was reported. Specifically, Cronbach's alphas for the subscales were .81 for Hate; .81 for Knowledge of LGB History, Symbols, and Community; .87 for LGB Civil Rights; .76 for Religious Conflict; and .83 for Internalized Affirmativeness (Worthington et al., 2005). In a second study examining factor stability, internal consistency for the five subscales was again found to be high with .78 for Hate; .80 for Knowledge of LGB History, Symbols, and Community; .88 for Civil Rights; .73 for Religious Conflict; and .74 for Internalized Affirmativeness (Worthington et al., 2005). The third study reported test-retest reliability coefficients for the LGB-KASH subscales, which were .76 for Hate; .85 for Knowledge of LGB History, Symbols, and Community; .85 for Civil Rights; .77 for Religious Conflict; and .90 for Internalized Affirmativeness (Worthington et al., 2005). In the present study, the pre-test Cronbach's alphas for scores on each of the subscales were $\alpha = .74$ for Hate, $\alpha = .82$ for Knowledge, $\alpha = .88$ for Civil Rights, $\alpha = .75$ for Religious Conflict, and $\alpha = .83$ for Internalized Affirmativeness. The post-test Cronbach's alphas for each of the subscales were $\alpha = .65$ for Hate, $\alpha = .87$ for Knowledge, $\alpha = .90$ for Civil Rights, $\alpha = .80$ for Religious Conflict, and $\alpha = .82$ for Internalized Affirmativeness.

Validity was also established for the LGB-KASH subscales. In regards to convergent validity, significant correlations were found between the LGB-KASH, Attitudes toward Lesbian and Gay Men (ATLG) scale, and the Attitudes Regarding Bisexuality (ARBS) scale. In the final study, construct validity was also established as

differences were found between heterosexual participants and lesbian, gay, and bisexual participants on all five subscales with the lesbian, gay, and bisexual persons scoring lower on Hate and Religious Conflict and higher on Knowledge, Civil Rights, and Internalized Affirmativeness (Worthington et al., 2005).

Knowledge. Knowledge of sexual minorities was examined with the Knowledge about Sexual Minorities Questionnaire (KAH; Harris, Nightengale, & Owen, 1995; See Appendix F). The original instrument contained 20 true/false statements and was designed to measure factual knowledge regarding sexual minorities rather than evaluative opinions. The first fourteen items were based on the work of Sears (1992); the authors developed the other questions. The KAH is scored by totaling the number of correct true/false responses, with omissions scored as incorrect. This produces possible scores ranging from 0 to 20, with higher scores indicating more accurate knowledge of sexual minorities and lower scores indicating less knowledge of sexual minorities. Example statements in the original measure included “Homosexuality is a phase in which children outgrow” and “There is a good chance of changing homosexual persons into heterosexual men and women.”

The KAH has been used to investigate knowledge of sexual minorities among nurses, psychologists, social workers, as well as teachers. Using these samples, the KAH has been reported to have satisfactory reliability with a Cronbach's alpha of .70 (Harris et al., 1995), and demonstrated high internal consistency of .86 with a sample of teachers (Bliss & Harris, 1999). Construct validity was also established as it has been found that individuals with more relevant education scored higher on this instrument.

For the purposes of this study, the PI used a slightly modified version of the KAH developed by Koch (2000). This modified version consisted of 18 true/false statements. The authors deleted two items while validating the study due to recommendations that the validation sample provided. Additionally, this modified instrument updated some of the language in the questions and added a third response option of “Don’t Know” to reflect participants’ true knowledge more accurately. Using this version, scores ranged from 0 to 18, and high scores were indicative of more accurate knowledge. Pre-test Cronbach’s alpha for the modified KAH was $\alpha = .73$ and post-test Cronbach’s alpha was $\alpha = .82$.

Empathy. To assess empathy, The Scale of Sexual Minority Empathy (SEE; Wang et al., 2003; See Appendix G) was utilized. The original SEE is a 31 item, 6-point Likert type scale (1 = Strongly Disagree, 6 = Strongly Agree) designed to measure participants’ awareness and feelings about people from diverse cultural backgrounds, and the degree of acceptance toward people from different cultures. The SEE is broken down into four subscales: Empathic Feeling and Expression (EFE; 15 items), which is one’s concern about communication of discriminatory or prejudiced attitudes or beliefs. Empathic Perspective Taking (EP; 7 items) measures efforts to understand the experiences and emotions of people from different ethnic and racial backgrounds by trying to take their perspective in viewing the world. Acceptance of Cultural Differences (AC; 5 items) centers on one’s understanding, acceptance, and valuing of cultural traditions, and customs of individuals from differing racial and ethnic groups, and Empathic Awareness (EA; 4 items), focuses on the awareness or knowledge that one has about the experiences of people from racial or ethnic groups different from one’s own are the third and fourth subscales, respectively. Responses are phrased both positively and

negatively in order to reduce response bias. Participants are asked to respond to statements, with responses ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). After reverse scoring negatively worded items, scoring occurs by averaging the scores for the subscales and/or total score. Subscale composite scores range as follows: EFE, from 15-90; EP, from 7-42; AC, from 5-30; and EA, from 4-24. The total composite score ranges from 31-186. Higher scores indicate higher levels of ethnocultural empathy. In the present study, the subscale and total average scores were utilized to examine empathy. Additionally, due to being an ethnocultural scale and asking questions concerning empathy in particular to race and ethnicity, the language was changed to reflect empathy toward sexual minorities (e.g., “I don’t care if people make homophobic statements against sexual minorities”). Two questions were eliminated as they were not translatable to language reflective of sexual minorities (e.g., “I feel annoyed when people do not speak Standard English;” “I get impatient when communicating with people from other racial or ethnic backgrounds regardless of how well they speak”).

The reliability of the original Scale of Ethnocultural Empathy (SEE) has been reported to be at acceptable levels. Using a college sample, Cronbach’s alpha internal consistency estimates for the final 31-item SEE total scale and the four factors were .91, .90, .79, .71, and .74, respectively (Wang et al., 2003). Additionally, two week test–retest reliability estimates were .76 for the total SEE scale, .76 for Empathic Feeling and Expression (EFE), .75 for Empathic Perspective Taking (EP), .86 for Acceptance of Cultural Difference (AC) and .64 for Empathic Awareness (EA) (Wang et al., 2003). Validity has also been established for the SEE. The present study demonstrated adequate reliability with Cronbach’s alphas for the pre-test total SEE scores and the EFE, EP, AC,

EA subscales of $\alpha = .95$, $\alpha = .94$, $\alpha = .84$, $\alpha = .84$, and $\alpha = .80$, respectively. The Cronbach's alphas for the post-test total SEE scores and the EFE, EP, AC, EA subscales were as follows: $\alpha = .95$, $\alpha = .95$, $\alpha = .83$, $\alpha = .87$, and $\alpha = .87$, respectively. Evidence of convergent validity was found as the SEE was moderately correlated with other empathy scales, the Miville–Guzman Universality–Diversity Scale (M-GUDS) and the Davis Interpersonal Reactivity Index (IRI). Discriminant validity was also evidenced as the SEE was found to be minimally correlated with a social desirability scale, the Balanced Inventory of Desirable Responding (BIDR).

Moderator Variable Measure

Conservative Religious Beliefs. The Revised Religious Fundamentalism Scale (Altmeyer & Hunsberger, 2004; See Appendix H) was utilized to measure participants' conservative religious beliefs. The Revised Religious Fundamentalism Scale is a shorter version of the original 20-item Religious Fundamentalism Scale (Altmeyer & Hunsberger, 1992). The Revised Religious Fundamentalism Scale is a 12 item, 9-point Likert scale that measures people's religious beliefs. More specifically, religious fundamentalism is defined as the belief that there is one set of religious teachings that clearly contains the fundamental, basic, intrinsic, essential, inerrant truth about humanity and deity; that this essential truth is fundamentally opposed by evil which must be vigorously fought; that this truth must be followed today according to the fundamental unchangeable practices of the past; and that those who believe and follow these fundamental teachings have a special relationship with the deity (Altmeyer & Hunsberger, 1992). Participants are asked to respond to statements, with responses ranging from -4 (*very strongly disagree*) to 4 (*very strongly agree*). Items are converted

to a 1-9 score; for instance -4 = 1 and +4 = 9. Neutral and/or missing items are given a 5. After some items are reverse scored, responses are summed to produce a total score that can range from 12-108, with higher scores indicating greater endorsement of fundamentalist beliefs. This study utilized all questions in their original language and obtained a total score. However, a 7-point Likert scale (-3 = strongly disagree, +3 = strongly agree) was used to simplify participants' responses. Items were converted to a 1-7 score, with -3 = 1 and +3 = 7, and missing and/or neutral items were given a 4. Total possible scores ranged from 12-84, and higher scores were indicative of greater endorsement of fundamentalist beliefs.

The original 20-item Religious Fundamentalism scale has been reported to have strong psychometric properties (Altemeyer & Hunsberger, 2004). Using a large sample of parents of university students, satisfactory reliability has been found, producing a Cronbach's alpha internal consistency of .92 (Altemeyer & Hunsberger, 2004). Additionally, convergent validity was established as the scale has been correlated with right-wing authoritarianism and four measures of authoritarian aggression, including racial/ethnic prejudice (Altemeyer & Hunsberger, 2004). Furthermore, in addition to the scale being correlated with Christian teachings, it has been found to correlate with fundamentalism of many faiths, including Hinduism, Judaism, and Islam as well as frequency of church attendance, and religious ethnocentrism. Altemeyer and Hunsberger (2004) revised the scale due to the original scale overemphasizing the "one special group" aspect of religious fundamentalism, while understating the belief that their religion contains the only fundamental, intrinsic truth (p. 50). In sampling psychology students and their parents, the scale was revised to a 12-item version. This version of the

scale was found to have greater inter-item correlations (.47-.49) than the original scale (.34-.38) and produced similar alpha reliability coefficients (.91-.92 compared to .91-.93). Additionally, the revised scale correlates, if not higher, to the above-mentioned variables. In the present study, the pre-test Revised Religious Fundamentalism Scale produced Cronbach's alpha of $\alpha = .94$. The post-test Revised Religious Fundamentalism Scale demonstrated Cronbach's alpha of $\alpha = .95$.

Control Variable Measure

Social Desirability. To assess socially desirable responding, the Motivation to Control Prejudiced Reactions Scale (MTCPR; Dunton & Fazio, 1997; See Appendix I) was utilized. The MTCPR is a 17-item scale that assesses cultural social desirability, more specifically, the extent to which individuals seek to control the expression of prejudice. A reluctance to reveal negative evaluations may stem from concern about how one appears in the eyes of others and a concern with appearing prejudiced to oneself because of internalized personal standards. Thus, items included in the scale focus on appearing prejudiced to others and a sincere "distaste" for acting in a prejudiced manner. Also, items are related to one's willingness to restrain from expressing thoughts, feelings, and opinions that might offend others or cause dispute. Using a 7-point Likert-type scale ($-3 = Strongly disagree$, $+3 = Strongly agree$), participants are asked to rate their level of agreement to each item. Items are converted to a 1-7 score; for instance $-3 = 1$ and $+3 = 7$. After reverse scoring some items, scoring occurs by summing the responses. Total scores can range from 17-119, with higher scores indicative of a greater motivation to control prejudice and lower scores indicative of less motivation to control prejudice. An example statement included "In today's society, it is important that one not be

perceived as prejudiced in any manner” (Dunton & Fazio, 1997). This study utilized all questions on the scale and obtained a total score. The MTCPR scale was developed in response to a study regarding White students’ racism toward Black students and some of the questions on the scale reflect this notion. Thus, the language in three questions was revised to demonstrate motivation to control prejudice of sexual minorities (e.g., “I feel guilty when I have a negative thought or feeling about a sexual minority person”).

In using a sample of college students in the development study, acceptable reliability of this scale was reported, with an internal consistency coefficient of .81 (Dunton & Fazio, 1997). In three subsequent studies with larger samples of college students and other adult populations from the community, acceptable levels of internal consistency continued to be reported with Cronbach’s alphas of .77, .76, and .74, respectively (Dunton & Fazio, 1997). A factor analysis also revealed two main factors, Concern with Acting Prejudiced and Restraint to Avoid Dispute, which are combined to form an overall MTCPR score. Furthermore, predictive validity was established as scores on the MTCPR predicted scores on the Modern Racism Scale and on direct self-reports by participants (Dunton & Fazio, 1997). The present study exhibited satisfactory reliability with a pre-test Cronbach’s alpha of $\alpha = .75$ and a post-test Cronbach’s alpha of $\alpha = .78$.

Chapter Three: Results

In this study, the PI sought to examine the extent to which the video documentary, workshop, or regular classroom instruction would reduce negative attitudes and enhance knowledge and empathy of pre-service teachers by utilizing an experimental design to analyze differences between the intervention groups and the control group after the intervention groups viewed the video and participated in the workshop. Additionally, the PI assessed the impact of conservative religious beliefs on negative attitudes, knowledge, and empathy particularly after the intervention.

Preliminary Checks

Power Analysis. In designing any quantitative research study, it is vital to assess whether there is adequate power to detect statistical significance in the data (Tabachnick & Fidell, 2007). Therefore, a power analysis should be performed prior to conducting the study in order to determine the required sample size needed to achieve a desired level of statistical power. The present study utilized Soper's (2012) statistical sample size calculator to determine the required sample size per group (two interventions and a control group) necessary to achieve the desired effect size. Using a .80 power level, a .05 Type I error rate, and anticipating a medium effect size, $f^2 = .50$ (Anderson, 1981; Cerny & Polyson, 1984; Serdahely & Ziemba, 1984), the statistical power analysis indicated that a minimum sample size of 51 participants per group was needed (danielsoper.com/statcalc3). After screening the data, the control group (i.e., those who participated in regular classroom instruction) had 50 participants; this closely met the minimum recommended sample size as reported by the A-priori power analysis (danielsoper.com/statcalc3). However, as previously stated, the video documentary

group only had a sample size of 38 participants and the workshop group only had 47 participants after the data were screened. These sample sizes did not meet the minimum recommendation, which may have impacted the PI's ability to find a statistical significance between groups. Of note is that in using randomization of participants and giving them multiple options for dates/times to attend the interventions, it was difficult to obtain 51 per group, as not many participants attended the given dates/times for the video and/or workshop. Thus, extensive measures had to be taken such as extending the study invitation to other education courses within the College of Education and later randomly selecting educational psychology courses and using their class time to conduct the interventions to increase sample size. Continued data collection using randomization and giving options to attend the interventions would have significantly hindered time to complete the study and write-up within the required time frame. This issue of small sample sizes will be further discussed in the "limitations of the study" section of the discussion.

Test of Assumptions. Prior to testing the hypotheses, steps were taken to "clean" the data and to examine the assumptions of normality. In the first step, the data were screened for univariate outliers. The data were converted into standardized z-scores (the subscales for the outcome variables). Utilizing the guidelines set forth by Tabachnick and Fidell (2007), three cases from the intervention groups (ID #: 7695, ID#: 9450, ID#: 4466) were identified as a univariate outliers with z-scores $> +/- 3.29$ ($p < .01$), and were subsequently removed from the data set. After these outliers were deleted, a check for multivariate outliers was performed on the data using Mahalanobis Distance. In accordance with Tabachnick and Fidell (2007), one case from the video intervention

group was identified as a multivariate outlier $\chi^2(29) = .00023$. In sum, four cases from the intervention groups (3 from the video group and 1 from the workshop group) were deleted from the dataset for being either univariate or multivariate outliers, resulting in the video group having $n = 38$ and workshop group having $n = 47$.

In the next step, skewness and kurtosis statistics were examined for each subscale in order to examine the normality of the distribution. All of the subscales were “appropriately normally skewed,” with the exception of the attitude variables, including pre and post LGB-KASH Hate subscales (skewness > 1.0), pre and post LGB-KASH Knowledge subscales (skewness > 1.0), and the pre and post LGB-KASH Civil Rights subscales (skewness > -1.0). The pre and post LGB-KASH Hate and Knowledge subscales were “substantially positively skewed,” illustrating that many participants reported low hate attitudes and low knowledge during the pre and post data collection (Tabachnick & Fidell, 2007). The pre and post LGB-KASH Civil Rights subscales were “severely negatively skewed,” signifying these participants had high civil rights attitudes (i.e. possessed positive attitudes toward civil rights for sexual minorities) during the pre and post data collection. In regards to kurtosis, positive kurtosis > 1.0 emerged on the attitude variables of pre LGB-KASH Hate subscale and pre and post LGB-KASH Knowledge subscales, illustrating the data among these subscale distributions were too peaked with the greatest frequencies of scores occurring in the middle of the distribution. Additionally, negative kurtosis < 1.0 appeared on the religious fundamentalism beliefs variable, including the pre Religious Fundamentalism scale, demonstrating that the data in this scale were extremely peaked with the greatest frequency of scores in the tail of the distributions. In order to correct for the positive skewness and kurtosis of the pre and

post LGB-KASH Hate, pre and post LGB-KASH Knowledge subscales, and the negative kurtosis of the pre Religious Fundamentalism, the logarithm of each were calculated in an attempt to achieve a normal distribution (Tabachnick & Fidell, 2007). To correct for the negative skewness of the pre and post LGB-KASH Civil Rights subscales, the reflect and inverse and logarithm were calculated to achieve a normal distribution. Subsequent descriptive analyses revealed that the logarithm, reflect and inverse and logarithm for these variables met the skewness and kurtosis criteria for a normal distribution. Table 3.1 provides the descriptive statistics of all variables in the study prior to data transformation.

Preliminary Analyses

Demographic checks. The literature related to attitudes toward sexual minorities demonstrates that numerous social identity characteristics such as age, sex, sexual orientation, race, religious affiliation, knowing an LGBTQ individual, and hometown classification (e.g., rural, suburban, urban) have an impact on attitudes, knowledge, and empathy. Therefore, it is vital to compare the demographic composition of participants as a check for initial group differences between those assigned to the video, workshop, or regular classroom instruction. Specifically, preliminary frequency distributions, chi-square analyses, and an analysis of variance (ANOVA) were used to check for demographic variances in the distribution of participants to reveal any variables that may need to be statistically controlled during the primary analysis. Statistically controlling for demographic differences would allow the researcher to infer that any differences in attitudes, knowledge, and empathy were a function of the interventions and not differences in demographic variables.

Table 3.1 Overall Means, Standard Deviations, Skewness, and Kurtosis for the LGB-KASH, SEE, KAH, MTCPR, and Religious Fundamentalism pre and post Measures

Subscale	N	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
Pre LGB-KASH Hate	135	1.341	.491	1.717	2.433
Pre LGB-KASH Knowledge	135	1.660	.715	1.633	2.638
Pre LGB-KASH Civil Rights	135	4.776	1.259	-1.001	.329
Pre LGB-KASH Religious Conflict	135	2.878	1.035	-.206	-.920
Pre LGB-KASH Affirmations	135	2.533	1.330	.732	-.410
Post LGB-KASH Hate	134	1.408	.538	1.264	.661
Post LGB-KASH Knowledge	134	2.192	1.129	1.254	1.179
Post LGB-KASH Civil Rights	134	4.962	1.207	-1.220	.803
Post LGB-KASH Religious Conflict	134	2.858	1.097	-.089	-.866
Post LGB-KASH Affirmations	134	2.631	1.354	.600	-.661
Pre SEE Empathic Feeling and Expression	135	3.704	1.158	-.150	-.563
Pre SEE Empathic Perspective Taking	135	2.751	1.077	.570	-.171
Pre SEE Acceptance of Cultural Differences	135	4.546	1.375	-.768	-.344
Pre SEE Empathic Awareness	135	4.739	.954	-.689	.189
Pre SEE Total	135	3.465	.905	.048	-.618
Post SEE Empathic Feeling and Expression	134	3.967	1.160	-.181	-.531
Post SEE Empathic Perspective Taking	134	2.960	1.128	.580	-.079
Post SEE Acceptance of Cultural Differences	134	4.642	1.360	-.773	-.266
Post SEE Empathic Awareness	134	5.077	.795	-.429	-.865
Post SEE Total	134	3.692	.910	.083	-.697
Pre KAH	135	9.415	3.120	-.257	-.119
Post KAH	134	10.664	3.420	-.467	-.436
MTCPR	134	75.187	13.106	-.054	.978
Revised Religious Fundamentalism	135	49.341	20.466	-.190	-1.011

Note Range of Scores: LGB-KASH (Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals) subscales 1-6, SEE (Scale of Sexual Minority Empathy) subscales 1-6, KAH (Knowledge about Sexual Minorities) 0-18, MTCPR (Motivation to Control Prejudiced Reactions) 1-7, Revised Religious Fundamentalism 1-7.

Pearson Chi-Square Crosstab analyses were utilized to examine group differences among the nominal variables. Results revealed no significant group differences ($p > .05$) in the distribution of the participants by assigned sex at birth, race, sexual orientation, degree of study, religious affiliation, personally knowing an LGBTQ individual, regional area of hometown, and hometown type (e.g., city, rural, suburb). One-way ANOVAs, where age and year in school were the dependent variables, and group membership (video, workshop, or regular classroom instruction) were the independent variables, demonstrated that there were no significant differences in age ($p > .05$) between the video group ($M = 20.813$, $SD = 2.038$), the workshop group ($M = 21.319$, $SD = 3.794$) and the regular classroom instruction group ($M = 20.600$, $SD = 3.591$). However, significant differences were found between the video group ($M = 3.240$, $SD = 1.116$), the workshop group ($M = 2.890$, $SD = .983$), and the regular classroom instruction control group ($M = 2.140$, $SD = .857$) based on year in school [$F(2, 131) = 14.820$, $p = .001$]. More students in the intervention groups were in the higher level courses (EDP, 203, 303), thereby having numerous participants in higher years in school. Accordingly, the demographic variable of year in school was a covariate and statistically controlled for in the primary analyses.

Initial attitude, knowledge, empathy, religious beliefs, and social desirability checks. In addition to examining the demographic variables, one-way ANOVAs were conducted on the pre-attitude, knowledge, empathy, religious fundamentalism, and social desirability variables to test for any significant differences by group prior to the primary analyses. This allowed the PI to know whether participants entered the study at comparable levels on each variable. In the one-way ANOVAs, the dependent variables

were pre-attitude (five LGB-KASH subscales), knowledge (KAH), empathy (five SEE subscales), religious fundamentalism (RF), and social desirability (MTCPR); the independent variable was group membership. A significant difference ($p > .05$) between the video group ($M = .197$, $SD = .217$) and regular classroom instruction ($M = .339$, $SD = .232$) group existed on the pre-attitudes LGB-KASH Civil Rights subscale [$F(2, 132) = 4.022$, $p = .020$], indicating that participants in the video group reported higher levels of civil rights attitudes for sexual minorities going into the study compared to those in the control group. The implications of these findings will be explored in more depth in the discussion section. The one-way ANOVAs revealed no other significant differences ($p > .05$) among the pre-intervention variables.

Table 3.1 displays the pre- and post-test mean scores for attitudes, knowledge, and empathy. Overall, pre-test mean scores demonstrated that participants possessed low hate attitudes, low knowledge, high civil rights attitudes, and low religious conflict and internal affirmations, as measured by the LGB-KASH. This illustrates that participants may have entered the study with more favorable attitudes toward sexual minorities in regard to hate, civil rights for sexual minorities, and religious conflict. Also, participants possessed minimal knowledge regarding sexual minorities and more unfavorable attitudes toward Internalized Affirmativeness (i.e., personalized affirmativeness and dedication to engage in social justice activism). Descriptive statistics also revealed moderate levels of empathic feelings and expression, low perspective taking, high acceptance of cultural differences, high empathic awareness, and moderate overall empathy scores, as measured by the SEE. This highlights that participants may have entered the study with increased empathy toward sexual minorities; however, participants

possessed low perspective taking, which will be further addressed in the discussion section. Mean scores also demonstrated that participants had low to moderate knowledge regarding factual information regarding sexual minorities as measured by the KAH, again indicating that participants potentially possessed minimal knowledge prior to the interventions. Low and high attitudes, knowledge, and empathy were determined using the low and high cut-off scores provided by the authors of the scales. Moderate levels of empathy and knowledge described scores that were fairly in the middle of the provided cut-off scores.

Correlations. A series of correlations were conducted among the dependent variables in order to determine if there were significant correlations. Bivariate correlation analyses revealed that a number of dependent variables were moderately correlated with one another, as shown in Table 3.2. According to Tabachnick and Fidell (2007), typically MANCOVAs work satisfactorily with moderately correlated dependent variables in either direction (about .6). Therefore, a MANCOVA could be selected to analyze the data. However, due to participants being assessed over multiple time-points, and the wording of the research questions, a Two-Factor Mixed Design Repeated Measures ANOVA, which utilizes multivariate tests for within and a one-way ANOVA for between subject effects was utilized.

A bivariate correlation was also conducted among the dependent variables and social desirability to determine whether there was a significant relationship, which would indicate that social desirability should be controlled. Results revealed that social desirability was positively correlated with empathy, specifically on the SEE Empathic Feeling and Expression subscale, $r = .224, p = .009$ (pre), SEE Empathic Awareness

subscale, $r = .195, p = .024$ (pre), and SEE overall empathy, $r = .185, p = .032$ (pre). Social desirability was negatively correlated with attitudes, specifically on the LGB-KASH Hate subscale, $r = -.215, p = .013$ (post). These findings demonstrated the need to control for social desirability to ensure that significant change in the dependent variables of attitudes, knowledge, and empathy were a function of the interventions and not the influence of social desirability. Furthermore, another bivariate correlation was conducted among the dependent variables and religious fundamentalism to determine whether there was a significant relationship, which would suggest that religious fundamentalism potentially has an impact on attitudes, knowledge, and empathy, per Hypothesis 4. Religious fundamentalism was correlated with all of the attitude, knowledge, and empathy dependent variables, pre and post-intervention, as also demonstrated in Table 3.2. More specifically at pre and post-intervention, religious fundamentalism was positively correlated with aspects of attitudes, LGB-KASH Hate subscale $r = .365, p = .000$ (pre), $r = .401, p = .000$ (post); LGB-KASH Civil Rights subscale $r = .635, p = .000$ (pre), $r = .575, p = .000$ (post); and LGB-KASH Religious Conflict subscale $r = .555, p = .000$ (pre and post). Religious fundamentalism was negatively correlated with the other aspects of attitudes, LGB-KASH Knowledge subscale $r = -.433, p = .000$ (pre), $r = -.188, p = .030$ (post) and LGB-KASH Internalized Affirmativeness subscale $r = -.621, p = .000$ (pre and post) at pre and post-intervention. In addition, at pre and post-intervention, religious fundamentalism was negatively correlated with factual knowledge of sexual minorities, KAH scale $r = -.455, p = .000$ (pre), $r = -.335, p = .000$ (post) and empathy, SEE Empathic Feeling and Expression subscale $r = -.518, p = .000$ (pre), $r = -.506, p = .000$ (post), SEE Empathic Perspective Taking subscale $r = -.513,$

Table 3.2 Correlations among Dependent Variables, Social Desirability, and Religious Fundamentalism

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. LGB-KASH Hate	-	-.329**	.546**	.379**	-.514**	-.294**	-.578**	-.415**	-.638**	-.130	-.580**	-.171*	.365**
2. LGB-KASH Knowledge	.128	-	-.469**	-.360**	.702**	.417**	.641**	-.646**	.461**	.174*	.662**	.105	.433**
3. LGB-KASH Civil Rights	.557**	-.367**	-	.508**	-.721**	-.473**	-.713**	-.604**	-.703**	-.283**	-.745**	-.034	.635**
4. LGB-KASH Religious Conflict	.424**	-.184**	.320**	-	-.543**	-.269**	-.496**	-.554**	-.489**	-.174*	-.551**	.093	.555**
5. LGB-KASH Affirmativeness	-.487**	.423**	-.713**	-.517**	-	.451**	.819**	.757**	.623**	.346**	.849**	.057	.621**
6. KAH Knowledge	-.179*	.504**	-.447**	-.108	.407**	-	.439**	.373**	.367**	.232**	.457**	-.048	.455**
7. SEE Feeling/Expression	-.555**	.463**	-.748**	-.457**	.811**	.403**	-	.717**	.692**	.423**	.971**	.224**	.518**
8. SEE Perspective Taking	-.427**	.569**	-.552**	-.498**	.756**	.393**	.737**	-	.571**	.203*	.824**	.000	-.513**
9. SEE Acceptance	-.653**	.268**	-.672**	-.570**	.659**	.249**	.694**	.583**	-	.223**	.759**	.135	-.514**
10. SEE Awareness	-.335**	.167	-.408**	-.270**	.406**	.177*	.417**	.226**	.309**	-	.485**	.195*	-.212*
11. SEE Overall Empathy	-.594**	.502**	-.759**	-.534**	.853**	.414**	.970**	.844**	.770**	.478**	-	.185*	-.563**
12. MTCPR Social Desirability	-.215*	-.122	-.014	.145	.019	-.132	.158	.031	.114	.092	.133	-	.154
13. Revised Religious Fundamentalism	.401**	-.188*	.575**	.555**	-.621**	-.335**	-.506**	-.467**	-.533**	-.358**	-.560**	.154	-

Note * $p < .05$; ** $p < .001$. Pre-test scores are above diagonal and post-test scores are below diagonal. LGB-KASH=Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals, SEE=Scale of Sexual Minority Empathy, KAH=Knowledge about Sexual Minorities, MTCPR=Motivation to Control Prejudiced Reactions.

$p = .000$ (pre), $r = -.467$, $p = .000$ (post), SEE Acceptance of Cultural Differences subscale $r = -.514$, $p = .000$ (pre), $r = -.533$, $p = .000$ (post), SEE Empathic Awareness subscale $r = -.212$, $p = .014$ (pre), $r = -.358$, $p = .000$ (post), and SEE Overall Empathy $r = -.563$, $p = .000$ (pre), $r = -.560$, $p = .030$ (post). Given these findings, religious fundamentalism will not be controlled, as the impact of religious fundamentalism on attitudes, knowledge, and empathy will be further assessed per Hypothesis 4.

Primary Analyses

Several Repeated Measures Analyses were conducted to assess for between group differences on the three outcome variables, attitudes as measured by the LGB-KASH, knowledge as measured by KAH, and empathy as assessed by the SEE. Repeated Measures Analyses were used due to participants being tested on the outcome variables over time (pre and post-intervention) and in three different treatment groups: two intervention groups, and a control group. Repeated Measures Analysis of Variance is typically used when assessing mean scores over time and when three or more treatment conditions exist (Ho, 2006). In addition, paired samples t-tests were utilized to assess for within group effects pre and post-intervention on the three outcome variables, attitudes (LGB-KASH), knowledge (KAH), and empathy (SEE), specifically in the control group, per Hypothesis three. Repeated Measures Analysis of Variance would not suffice due to only reporting whether or not there are significant differences within the whole intervention group by construct, whereas paired samples t-tests give specific p values for each construct of the outcome variables separated by group. An alpha level of .05 was established for all statistical tests.

Hypothesis One: Between Group Differences among All Groups

The PI hypothesized that, controlling for social desirability and year in school, pre-service teachers in the video documentary intervention group (interpersonal contact) would demonstrate the greatest reduction in negative attitudes, and the greatest increases in knowledge and empathy, at post-test compared to participants who attended the workshop or received the regular classroom instruction (i.e., evidence of between group differences).

Negative Attitudes. To test for the greatest reduction in negative attitudes in the video documentary intervention group, a Two-Factor Mixed Design Repeated Measures ANOVA was performed on the dependent variables that measured negative attitudes (LGB-KASH) pre and post-test intervention. The Two-Factor Mixed Design illustrated that there was one within-subjects variable and one between-subjects variable. The within-subject variables were defined by two levels of time (pre and post), and five levels of the construct attitudes (five LGB-KASH subscales). The between-subjects factor was the intervention, which represented the participants divided into three groups: video documentary intervention group, workshop intervention group, or control (regular classroom instruction group). The covariates were year in school and social desirability. Analyses were performed using the general linear model (GLM) repeated measures function of SPSS version 21 (IBM SPSS Statistics, 2013). To address this hypothesis, specific focus was placed on the analysis of between-subjects effects.

The between groups variable for negative attitudes measured by the LGB-KASH was not statistically significant [$F(2,127) = .013, p = .987$]. Specifically, this finding indicated that the participants in the video documentary group did not demonstrate the

greatest reduction in negative attitudes pre versus post compared to the workshop and regular classroom groups because they did not differ significantly from the other groups. See Table 3.3 for summary of these results.

Knowledge. To assess for the greatest increase in knowledge pre and post-intervention, a Two Factor Mixed Design Repeated Measures ANOVA was performed on the dependent variable that measured knowledge (KAH). The within-subject variables were defined by two levels of time (pre and post) for the single KAH scale. The between-subjects factor was the intervention group (video documentary intervention group, workshop intervention group, or control). The covariates were year in school and social desirability. Analyses were performed using the general linear model (GLM) repeated measures function of SPSS version 21 (IBM SPSS Statistics, 2013). Special emphasis was placed on the analysis of between-subject effects.

The between groups variable intervention for knowledge was not statistically significant [$F(2,127) = .827, p = .440$]. This indicates that the participants in the video documentary group did not differ significantly in their increase in knowledge compared to the workshop and regular classroom groups.

Empathy. A Two Factor Mixed Design Repeated Measures ANOVA was performed on the dependent variables that measured empathy (SEE), to test for the greatest increase in empathy between the groups, pre and post-intervention. The within-subject variables were defined by two levels of time (pre and post) and five levels of the construct of empathy (five SEE subscales). The between-subjects factor was the intervention (video documentary intervention group, workshop intervention group, or control). The covariates were year in school and social desirability. Analyses were

Table 3.3 Dependent Variables: Means and Standard Deviations; Between-Group Effects

Dependent Variable	Video Group <i>n</i> = 38				Workshop Group <i>n</i> = 47				Control Group <i>n</i> = 50				<i>p</i>
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<u>LGB-KASH</u>													
Hate	.074	.100	.076	.118	.097	.141	.126	.147	.133	.144	.154	.157	
Knowledge	.206	.165	.228	.164	.192	.174	.456	.177	.174	.146	.181	.154	.987
Civil Rights	.197	.217	.157	.197	.289	.245	.234	.240	.341	.234	.319	.233	
Religious Conflict	2.725	1.117	2.610	1.195	2.885	.929	2.875	1.040	2.985	1.080	3.032	1.056	
Affirmative	2.900	1.460	2.940	1.551	2.375	1.179	2.566	1.200	2.412	1.345	2.453	1.316	
<hr/>													
KAH	9.421	3.142	10.000	3.385	8.872	3.040	12.340	2.632	9.898	3.184	9.571	3.553	.371
<hr/>													
<u>SEE</u>													
EFE	3.937	1.169	4.249	1.070	3.701	1.055	4.135	1.007	3.532	1.244	3.586	1.279	
EPT	2.996	1.128	3.071	1.143	2.760	1.018	3.258	1.083	2.566	1.084	2.586	1.075	.082
ACD	4.947	1.153	5.140	.985	4.539	1.305	4.631	1.290	4.225	1.542	4.265	1.563	
EA	4.737	1.054	5.092	.829	4.638	.958	5.117	.790	4.832	.886	5.026	.761	
Total	3.672	.927	3.904	.865	3.452	.836	3.845	.844	3.321	.949	3.381	.938	

Note $p < .05$. Range of Scores: LGB-KASH (Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals) subscales 1-6, SEE (Scale of Sexual Minority Empathy; EFE=Empathic Feeling and Expression, EPT=Empathic Perspective Taking, ACD=Acceptance of Cultural Differences, EA=Empathic Awareness, Total=Overall Empathy) subscales 1-6, KAH (Knowledge about Sexual Minorities) 0-18.

performed using the general linear model (GLM) repeated measures function of SPSS version 21 (IBM SPSS Statistics, 2013). Results focused on the analysis of between-subject effects.

The results demonstrated that the between groups variable for empathy, as measured by the SEE, was not statistically significant $F(2,127) = 2.552, p = .082$. This means participants in the video documentary group did not differ significantly in their increase in empathy compared to participants in the workshop and regular classroom groups.

Overall, hypothesis one was not supported, as the video documentary intervention did not exhibit the greatest reduction in negative attitudes, and the greatest increases in knowledge and empathy at post-test compared to participants that attended the workshop, or received regular classroom instruction, given the lack of significant differences found on these variables between the intervention and control groups.

Hypothesis Two: Between Group Differences among the Workshop and Control Groups

The PI also hypothesized that, controlling for social desirability and year in school, pre-service teachers in the workshop group would demonstrate a greater reduction in negative attitudes, and a greater increase in knowledge and empathy, at post-test compared to participants that received regular classroom instruction. Given that the results in hypothesis one demonstrated no significant differences in changes in negative attitudes, knowledge, and empathy between the video, workshop, or control groups, the same conclusions can be drawn about hypothesis two. Specifically, hypothesis two was not supported in that pre-service teachers in the workshop intervention group did not

show a greater reduction in negative attitudes, and a greater increase in knowledge and empathy, at post-test compared to participants that received regular classroom instruction, as there were no significant changes on these variables between the intervention and control groups (see Table 3.3).

Hypothesis Three: Within-Group Change among Intervention Groups

The PI hypothesized that pre-service teachers in the intervention groups (i.e., interpersonal contact and workshop) would demonstrate a significant reduction in negative attitudes and significant increases in knowledge and empathy from pre to post intervention (i.e. within-group differences).

Although there were no significant between-subject differences for Hypotheses One and Two, the Two-Factor Mixed Design Repeated Measures ANOVA revealed that there were significant within-subject differences on negative attitudes, knowledge, and empathy. In these analyses of attitudes, knowledge, and empathy, the Multivariate Tests were interpreted given that Mauchly's Sphericity Test was significant ($p = .000$) and the assumption of sphericity was violated. Regarding attitudes, Wilks' Lambda criterion indicated that the time*scale*intervention was statistically significant [$F(8, 248) = 9.304, p = .000$], suggesting that the change in attitudes over time was dependent upon the intervention. On the construct of knowledge, Wilks' Lambda criterion indicated that time*intervention was statistically significant [$F(2, 127) = 39.071, p = .000$], suggesting that the change in knowledge over time was dependent upon the intervention. Regarding empathy, Wilks' Lambda criterion indicated that time*scale*intervention was statistically significant [$F(8, 248) = 3.625, p = .001$], suggesting that the change in empathy over time was dependent upon the intervention.

To determine whether the two intervention groups, the workshop and video group, demonstrated significant within group changes on negative attitudes, knowledge and empathy pre versus post, paired-samples t-tests were conducted.

Video Documentary Group

Negative Attitudes. To assess whether there would be a significant reduction in negative attitudes among the video documentary intervention group, a paired samples t-test was conducted to compare the pre and post-test means of the video documentary intervention group on the negative attitude variables, LGB-KASH. A paired samples t-test is typically utilized to compare a participant's score at two different times and determine whether there are significant differences at time 1 and time 2 (pre and post-test). Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). The t-test on LGB-KASH Civil Rights (attitudes) subscale was statistically significant [$t(37) = 2.877, p = .007$], revealing that participants who attended the video documentary actually had a significant decrease in attitudes toward civil rights for sexual minorities (i.e., greater negative attitudes). The differences regarding the mean scores for attitudes toward civil rights were pre = .197 to post = .157, which is a statistically significant decrease in scores. Of note is that the data transformations of the negatively skewed civil rights mean scores to achieve a normal distribution and/or the covariates adjusting the means could possibly explain the decrease. This will be further reviewed in the Discussion chapter. Participants did not exhibit significant changes on other aspects of attitudes as measured by the LGB-KASH

at pre and post-test [$t(37) = -.128, p = .899$] (LGB-KASH Hate), [$t(37) = -1.361, p = .182$] (LGB-KASH Knowledge), [$t(37) = .888, p = .380$] (LGB-KASH religious conflict), [$t(37) = -.467, p = .643$] (LGB-KASH Affirmativeness).

Knowledge. In order to examine whether there would be a significant increase in knowledge among the video documentary intervention group, a paired samples t-test was conducted to compare the pre and post-test means of the video documentary intervention group on the knowledge variable, KAH. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). Participants in the video documentary group did not demonstrate significant changes in knowledge as measured by KAH at pre and post-test [$t(37) = -1.659, p = .106$].

Empathy. To assess whether there would be significant increase in empathy among the video documentary intervention group, a paired samples t-test was conducted to compare the pre and post-test means of the video documentary intervention group on the empathy variables, SEE. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). The t-test on the SEE EFE empathy subscale was statistically significant [$t(37) = -5.012, p = .000$], revealing that those who attended the video documentary had a significant increase in empathy, specifically empathic feeling and expression. The differences regarding the mean scores for empathic feeling and expression were pre = 3.937 to post = 4.249, which is a statistically significant increase in scores. Also, the t-test on the SEE EA empathy subscale was statistically significant [$t(37) = -3.535, p = .001$] demonstrating that those who attended the video documentary had a significant increase in empathy, specifically empathic awareness. The differences regarding the mean scores for empathic awareness

were pre = 4.737 to post = 5.092, which is also a statistically significant increase in scores. Furthermore, the t-test on the SEE Total empathy scale score was also statistically significant [$t(37) = -5.097, p = .000$] demonstrating that those who attended the video documentary had a significant increase in overall empathy. The differences regarding the mean scores for overall empathy were pre = 3.672 to post = 3.904, which is also a statistically significant increase. Participants in the video documentary intervention group did not reveal significant changes in two other aspects of empathy as measured by the subscales of the SEE at pre and post-test [$t(37) = -.888, p = .380$] (SEE EPT-perspective taking), [$t(48) = -1.940, p = .060$] (SEE ACD-acceptance of cultural differences). These results suggest that the video documentary intervention made a significant impact on civil rights attitudes and aspects of empathy.

Workshop Group

Negative attitudes. To assess whether there would be a significant reduction in negative attitudes among the workshop group, a paired samples t-test was conducted to compare the pre and post-test means of the workshop group on the negative attitude variables, LGB-KASH. A paired samples t-test is typically utilized to compare a participant's score at two different times and determine whether there are significant differences at time 1 and time 2 (pre and post-test). Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). The t-test on LGB-KASH Affirmativeness (attitudes) subscale was statistically significant [$t(46) = -2.751, p = .008$], revealing that those who attended the workshop had a significant increase in internalized affirmations (i.e., reduction in negative attitudes). The differences regarding the mean scores for internalized affirmations were pre = 2.375 to

post = 2.566 (post), which is a statistically significant increase in scores. The t-test on LGB-KASH Knowledge (attitudes) subscale was statistically significant [$t(46) = -10.814, p = .000$], displaying that those who attended the workshop had a significant increase in knowledge of basic history, symbols, and organizations related to the sexual minority community. The differences regarding the mean scores for knowledge were pre = .192 to post = .456 (post), which is a statistically significant increase in scores. Also, the two-tailed t-test on LGB-KASH Civil Rights (attitudes) subscale was statistically significant [$t(46) = 3.581, p = .001$], revealing that those who attended the workshop actually had a significant decrease in attitudes towards civil rights (i.e., greater negative attitudes) for sexual minorities. The differences regarding the mean scores for attitudes toward civil rights were pre = .289 to post = .234, which is a statistically significant decrease in scores. As mentioned previously, data transformations of the negatively skewed civil rights mean scores to achieve a normal distribution and/or the covariates adjusting the means could possibly explain this decrease. Participants did not exhibit significant changes in other aspects of attitudes, specifically hate and religious conflict as measured by the LGB-KASH at pre and post-test [$t(46) = -1.893, p = .065$] (LGB-KASH Hate), [$t(46) = .085, p = .933$] (LGB-KASH religious conflict).

Knowledge. In order to examine whether there would be a significant increase in knowledge among the workshop group, a paired samples t-test was conducted to compare the pre and post-test means of the workshop group on the knowledge variable, KAH. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). The t-test on the KAH knowledge scale was also statistically significant [$t(46) = -9.677, p = .000$], demonstrating that those who attended the

workshop had a significant increase in factual knowledge regarding sexual minorities. The differences regarding the mean scores for knowledge were pre = 8.872 to post = 12.340, which is a statistically significant increase in scores.

Empathy. To assess whether there would be significant increase in empathy among the workshop group, a paired samples t-test was conducted to compare the pre and post-test means of the workshop group on the empathy variables, SEE. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). The t-test on SEE EFE subscale was statistically significant [$t(46) = -5.413$, $p = .000$], demonstrating that those who attended the workshop had a significant increase in empathy specifically empathic feeling and expression. The differences regarding the mean scores for empathic feeling and expression were pre = 3.701 to post = 4.135, which is a statistically significant increase in scores. The t-test on SEE EPT empathy subscale was also statistically significant [$t(46) = -4.857$, $p = .000$], revealing that those who attended the workshop had a significant increase in empathy, specifically perspective taking. The differences regarding the mean scores for empathic perspective taking were pre = 2.760 to post = 3.258, which is a statistically significant increase in scores. In addition, the t-test on SEE EA empathy subscale was statistically significant [$t(46) = -4.074$, $p = .000$], displaying that those who attended the workshop had a significant increase in empathy, specifically empathic awareness. The differences regarding the mean scores for empathic awareness were pre = 4.638 to post = 5.117, which is a statistically significant increase in scores. Also, the t-test on SEE Total empathy scale score was statistically significant [$t(46) = -6.167$, $p = .000$], revealing that

those who attended the workshop had a significant increase in overall empathy. The differences regarding the mean scores for overall empathy were pre = 3.452 to post = 3.845, which is a statistically significant increase in scores. Participants did not reveal significant changes in one other aspect of empathy, particularly acceptance of cultural differences as measured by the SEE at pre and post-test [$t(46) = -.753, p = .455$] (SEE ACD).

These results suggest that the workshop intervention made a significant impact on affirmativeness, civil rights attitudes, knowledge of basic history, symbols, and organizations related to the sexual minorities, empathy, and factual knowledge regarding sexual minorities.

Control Group

Negative attitudes. To assess whether there would be a significant reduction in negative attitudes among the regular classroom instruction (control) group, a paired samples t-test was conducted to compare the pre and post-test means of the control group on the negative attitude variables, LGB-KASH. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). Participants in the control group did not exhibit significant changes in attitudes as measured by the LGB-KASH at pre and post-test [$t(48) = -1.107, p = .274$] (LGB-KASH Hate), [$t(48) = -.444, p = .659$] (LGB-KASH Knowledge), [$t(48) = 1.519, p = .135$] (LGB-KASH Civil Rights), [$t(48) = -.461, p = .647$] (LGB-KASH religious conflict), [$t(48) = -.686, p = .496$] (LGB-KASH Affirmativeness).

Knowledge. In order to examine whether there would be a significant increase in knowledge among the regular classroom instruction (control) group, a paired samples t-test was conducted to compare the pre and post-test means of the control group on the knowledge variable, KAH. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). Participants in the control group did not demonstrate significant changes in knowledge as measured by KAH at pre and post-test [$t(48) = 1.316, p = .194$].

Empathy. To assess whether there would be significant increase in empathy among the control group, a paired samples t-test was conducted to compare the pre and post-test means of the control group on the empathy variables, SEE. Analyses were performed using the compare means function of SPSS version 21 (IBM SPSS Statistics, 2013). Participants in the regular control group did not reveal significant changes in empathy as measured by the subscales of the SEE at pre and post-test [$t(48) = -.864, p = .392$] (SEE EFE), [$t(48) = -.253, p = .802$] (SEE EPT), [$t(48) = -.347, p = .730$] (SEE ACD), [$t(48) = -1.561, p = .125$] (SEE EA), [$t(48) = -1.424, p = .161$] (SEE Total). Collectively, these results suggest that the control group condition did not have a significant impact on the outcome variables of attitudes, knowledge, and empathy.

Overall, hypothesis three was partially supported. Participants in the video documentary and the workshop groups did exhibit a significant reduction in aspects of negative attitudes, and increases in knowledge and aspects of empathy. Although, not all aspects of these variables were significant and there was an increase in negative civil rights attitudes; however, this could potentially be related to data transformation and/or the adjustment of the means. Participants in the regular classroom instruction (control)

group did not demonstrate significant changes in negative attitudes, knowledge, and empathy from pre to post-test, which supports hypothesis three as no intervention was present. Table 3.4 provides a summarization of all of these results.

Hypothesis Four: Impact of Conservative Religious Beliefs across all Groups

The PI hypothesized that, controlling for social desirability and year in school, across all groups, pre-service teachers that are high in religious fundamentalism would demonstrate a smaller reduction in negative attitudes, and a smaller increase in knowledge and empathy compared to those low in religious fundamentalism. It should be noted that the impact of religious beliefs is examined across all groups due to the fact that the intervention variable in SPSS includes the intervention and control groups and it was difficult to only exclude the control group.

Negative Attitudes. In order to assess whether participants high in religious fundamentalism would demonstrate a smaller reduction in negative attitudes, a Two Factor Mixed Design Repeated Measures ANOVA was performed on the dependent variables that measured negative attitudes (LGB-KASH) pre and post-intervention. The within-subject variables were defined by two levels of time (pre and post) and five levels (indicators) of negative attitudes (five LGB-KASH subscales). The between-subjects factor was religious fundamentalism, which represented the participants divided into two groups: low and high religious fundamentalism. Low and high religious fundamentalism were defined by computing the mean on participants' religious fundamentalism scores ($M = 49.340$, $SD = 20.466$) and assigning those that were below the mean to the low group ($n = 58$) and those above the mean to the high group ($n = 74$). The mean of participants' religious fundamentalism scores was utilized as a cut-off score to distribute

Table 3.4 Paired Samples t-tests Within-Group Effects

Dependent Variables	Video group <i>n</i> = 38					Workshop group <i>n</i> = 47					Control Group <i>n</i> = 50				
	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
<u>LGB-KASH</u>															
Pre-post Hate	-.002	.109	-.128	37	.899	-.029	.104	-1.893	46	.065	-.021	.132	-1.107	48	.274
Pre-Post Knowledge	-.023	.102	-1.361	37	.182	-.263	.167	-10.814	46	.000	-.007	.111	-.444	48	.659
Pre-Post Civil Rights	.040	.086	2.877	37	.007	.055	.106	3.581	46	.001	.022	.100	1.519	48	.135
Pre-Post Religious Conflict	.115	.798	.888	37	.380	.009	.738	.085	46	.933	-.047	.709	-.461	48	.647
Pre-Post Affirmativeness	-.040	.533	-.467	37	.643	-.191	.477	-2.751	46	.008	-.041	.416	-.686	48	.496
<hr/>															
KAH	-.579	2.151	-1.659	37	.106	-3.468	2.457	-9.677	46	.000	.327	1.767	1.316	48	.194
<u>SEE</u>															
Pre-post EFE	-.312	.384	-5.012	37	.000	-.434	.550	-5.413	46	.000	-.054	.441	-.864	48	.392
Pre-Post EPT	-.075	.521	-.888	37	.380	-.499	.704	-4.857	46	.000	-.020	.565	-.253	48	.802
Pre-Post ACD	-.193	.613	-1.940	37	.060	-.092	.839	-.753	46	.455	-.041	.824	-.347	48	.730
Pre-Post EA	-.355	.620	-3.535	37	.001	-.479	.806	-4.074	46	.000	-.194	.869	-1.561	48	.125
Pre-Post Total	-.233	.281	-5.097	37	.000	-.393	.437	-6.167	46	.000	-.060	.294	-1.424	48	.161

Note p < .05. *M*=mean difference of scores. Range of Scores: LGB-KASH (Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals) subscales 1-6, SEE (Scale of Sexual Minority Empathy; EFE=Empathic Feeling and Expression, EPT=Empathic Perspective Taking, ACD=Acceptance of Cultural Differences, EA=Empathic Awareness, Total=Overall Empathy) subscales 1-6, KAH (Knowledge about Sexual Minorities) 0-18, MTCPR (Motivation to Control Prejudiced Reactions) 1-7, Revised Religious Fundamentalism 1-7.

participants into high and low groups due to the Revised Religious Fundamentalism Scale literature not specifically reporting a cut-off score to indicate what is considered high and low. The mean of the scale ($M = 36$) was not utilized as a cut-off score as participants may have not have been accurately distributed into the high or low groups, thereby potentially impacting results. The covariates were year in school and social desirability. Analyses were performed using the general linear model (GLM) repeated measures function of SPSS version 21 (IBM SPSS Statistics, 2013). Focus was placed on the analysis of between-subject effects. The between groups variable of religious fundamentalism for each of the attitude subscales did not yield significant differences [$F(1,128) = .450, p = .503$]. Accordingly, this hypothesis was not supported, as those who were high in religious fundamentalism did not display a smaller reduction in negative attitudes, than those who were low in religious fundamentalism.

Knowledge. To examine whether participants who were high in religious fundamentalism would exhibit a smaller increase in knowledge, a Two Factor Mixed Design Repeated Measures ANOVA was performed on the dependent variable of knowledge (KAH) pre and post-intervention. The within-subjects variables were defined by two levels of time (pre and post) and the single construct of knowledge. The between-subjects factor was religious fundamentalism, which represented the participants divided into two groups: low and high religious fundamentalism. The covariates were year in school and social desirability. Analyses were performed using the general linear model (GLM) function of SPSS version 21 (IBM SPSS Statistics, 2013). An emphasis was placed on the analysis of between-subject effects. The between-groups variable of religious fundamentalism was statistically significant [$F(1,128) = 21.608, p = .000$].

According to the cell means in the Estimated Marginal Means table of religious fundamentalism, results indicated that participants high in religious fundamentalism had a significantly greater increase in knowledge over time (pre = 8.328, post = 9.830) compared to those low in religious fundamentalism (pre = 10.840, post = 11.872). Overall, there were significant differences in knowledge between those high and low in religious fundamentalism. However, the hypothesis was not supported, as participants who were high in religious fundamentalism actually had a greater increase in knowledge from pre to post compared to those low in religious fundamentalism, which was contrary to prediction.

Empathy. In order to assess whether participants who were high in religious fundamentalism would exhibit a smaller increase in empathy, a Two Factor Mixed Design Repeated Measures ANOVA was performed on the dependent variable of empathy (SEE) pre and post-intervention. The within-subjects variables were defined by two levels of time (pre and post) and the five levels (indicators) of empathy (five SEE subscales). The between-subjects factor was religious fundamentalism, which represented the participants divided into two groups: low and high religious fundamentalism. The covariates were year in school and social desirability. Analyses were performed using the general linear model (GLM) function of SPSS version 21 (IBM SPSS Statistics, 2013). Focus was placed on the analysis of between-subject effects. The results revealed that the between-groups variable of religious fundamentalism was statistically significant [$F(1,128) = 73.888, p = .000$]. According to the cell means in the Estimated Marginal Means table of religious fundamentalism, participants high in religious fundamentalism had a significantly smaller increase in empathy on the SEE

Empathic Feeling and Expression (pre = 3.155, post = 3.405), SEE Empathic Perspective Taking (pre = 2.328, post = 2.476), SEE Empathic Awareness (pre = 4.587, post = 4.866) and the SEE Total score (pre = 3.017, post = 3.219) over time compared to those low in religious fundamentalism on the SEE Empathic Feeling and Expression (pre = 4.398, post = 4.676), SEE Empathic Perspective Taking (pre = 3.308, post = 3.575), SEE Empathic Awareness (pre = 4.954, post = 5.356) and the SEE Total score (pre = 4.037, post = 4.291). Interestingly, participants high in religious fundamentalism had a greater increase in empathy on the SEE Acceptance of Cultural Differences (pre = 3.858, post = 3.976) compared to those low in religious fundamentalism on SEE Acceptance of Cultural Differences (pre = 5.405, post = 5.473) over time.

Overall, there were significant differences in empathy between those high and low in religious fundamentalism. Aspects of this hypothesis were supported, as participants who were high in religious fundamentalism had a smaller increase in scores from pre to post on four out of five empathy subscales compared to those low in religious fundamentalism. However, those high in religious fundamentalism on the SEE Acceptance of Cultural Differences had a greater increase in scores compared to those low in religious fundamentalism. This finding will be further explored in the discussion section.

Chapter Four: Discussion

Discrimination and harassment of sexual minority youth is becoming increasingly prevalent within school settings. Per the existing literature, the discrimination and harassment stem partly from teachers who hold negative attitudes toward sexual minority students, and who are uninformed about the complex issues that these students encounter. Teachers are obligated to maintain student safety and can have a great impact on students' attitudes, feelings, and beliefs, specifically regarding social issues, including sexual minority relationships. Accordingly, changing teachers' attitudes toward sexual minorities seems vital so that they can contribute to improving youths' well-being and create a more positive school environment. To effect change, it is essential to determine which approaches would be most effective in reducing negative attitudes and increasing knowledge and empathy. Although there is attitude reduction research regarding common intervention strategies that can reduce negative attitudes and increase knowledge and empathy, it is not clear which strategy may be most effective due to the lack of a comprehensive examination and comparison of intervention strategies. Thus, more research is needed to identify the most effective attitude reduction strategy.

The present study utilized an experimental design to investigate pre-service teachers' attitudes, knowledge and empathy toward sexual minorities. The effectiveness of three different intervention strategies designed to reduce negative attitudes and increase knowledge and empathy was also examined. The interventions included interpersonal contact via a video documentary related to sexual minorities' experiences, a diversity workshop specifically focused on information related to the sexual minority community, and regular classroom instruction that incorporated diversity related topics,

including those focused on sexual minority populations. Participants, who were recruited from educational psychology and teacher preparation courses at a large southeastern University, were randomly assigned to one of these three treatment conditions. Pre- and post-data were gathered and assessed to compare both between-subject and within-subject effects.

Initial Attitudes, Knowledge, and Empathy

Prior to discussing the results of the hypotheses, it should be noted that participants initially possessed positive aspects of attitudes, including lower levels of hate, higher levels of civil rights attitudes, and lower levels of religious conflict (as measured by the LGB-KASH). This finding was not predicted by the PI and is not consistent with the majority of the previous literature that found pre-service teachers possessed negative attitudes toward sexual minority individuals (Bliss & Harris, 1999; Buston & Hart, 2001; Butler, 1994; Mudrey & Medina-Adams, 2006; Sears, 1992; White et al., 2010). However, these findings are consistent with those few studies that found moderate to positive attitudes (Ben-Ari, 2001; Hirsch, 2007; Perez-Testor et al., 2010; Wyatt et al., 2008). Participants possibly possessed more initial positive attitudes due to a societal shift in views that are relatively more tolerant and accepting of those who identify as sexual minorities. The literature regarding teachers' attitudes is very dated, which culturally reflects a time when society was much less open and accepting. The studies that found more positive views are more contemporary, which reflect the societal "shift" in attitudes, which the present study potentially demonstrated. Furthermore, the majority of participants ($n = 116$) indicated that they knew and interacted with friends, family, and/or acquaintances who identified as sexual minorities, which may have more

positive influence on attitudes, as suggested by Allport's (1954) Intergroup Contact Hypothesis and Herek's Functional Approach to Attitudes (1984). Participants also initially possessed lower levels of Internalized Affirmativeness, which is personalized affirmativeness and dedication to engage in social justice activism. This perhaps demonstrates that participants possess more positive attitudes toward sexual minorities; however, they are uncomfortable and/or are not sufficiently prepared to express those attitudes in an activist manner. This may also be consistent with Sears' (1992) study that found that pre-service teachers were not as willing in the future to be proactive in ending discrimination against sexual minority students (Sears, 1992).

In addition, participants possessed lower knowledge related to the sexual minority community (as measured by the LGB-KASH and KAH) prior to receiving the intervention. This finding was predicted by the PI and is consistent with previous literature that also found pre-service teachers possessed inadequate knowledge related to issues that are salient for sexual minorities (Bliss & Harris, 1999; Buston & Hart, 2001; Butler, 1994; Hirsch, 2007; Mudrey & Medina-Adams, 2006). Lack of courses that impart diversity related information regarding sexual orientation and issues unique to sexual minorities in teacher education programs may contribute to inadequate knowledge among pre-service teachers (Jennings, 2007; Mathison, 1998). Moreover, as suggested by Social Dominance Theory (Sidanius & Pratto, 1999, 2003; Sidanius, Pratto, van Laar, & Levin, 2004), society perpetuates myths related to sexual minorities to maintain power and privilege, thus participants may be unaware of accurate information related to sexual minorities.

Participants also demonstrated moderate to higher levels of initial empathy, specifically empathic feelings and expression, acceptance of cultural differences, empathic awareness, and overall empathy (as measured by the SEE), which was contrary to the PI's prediction. These findings may be the result of the majority of participants personally knowing, friends, family, and/or acquaintances who identified as sexual minorities, which may have more positive impact on empathy.

Hypotheses

The PI hypothesized that pre-service teachers in the video documentary intervention group (interpersonal contact) would demonstrate the greatest reduction in negative attitudes, and the greatest increases in knowledge and empathy, at post-test compared to participants who attended the workshop, or received the regular classroom instruction, which would evidence between group differences. Additionally, hypothesis two stated that pre-service teachers in the workshop intervention group would demonstrate a greater reduction in negative attitudes, and a greater increase in knowledge and empathy, at post-test compared to participants that received regular classroom instruction. These hypotheses were not supported, as results demonstrated that there were no statistically significant differences between the video documentary, workshop, and control groups on the constructs of attitudes, knowledge, and empathy. Small sample sizes, particularly within the video and workshop groups, and low statistical power may have been contributory factors to the lack of significance in between-subjects effects on attitudes, knowledge and empathy. In addition, it appears that participants across all of the treatment groups initially possessed more positive aspects of attitudes, specifically lower hate, higher civil rights, lower religious conflict, and increased aspects of empathy,

including feeling and expression, acceptance of cultural differences, awareness, and overall empathy that may have created a “ceiling effect for change,” meaning that they did not have much room for improvement (Dessel, 2010).

The between-subject results, specifically related to attitudes and knowledge, are not consistent with previous literature that also examined the impact of at least one intervention (i.e., workshop, intergroup dialogues, education courses) on attitude and knowledge/awareness in relation to a comparison group that did not receive the intervention (Ben-Ari, 1998; Case & Stewart, 2010; Cerny & Polyson, 1984; Dessel, 2010; Rudolph, 1989; Rye & Meaney, 2009; Serdahley & Ziemba, 1984). The results in these studies demonstrated that participants in the intervention group either displayed more positive attitudes and/or increased knowledge/awareness compared to the control group.

Hypothesis three stated that pre-service teachers in the intervention groups (i.e., interpersonal contact and workshop) would demonstrate a significant reduction in negative attitudes and significant increases in knowledge and empathy from pre to post intervention (i.e., within-group differences). This hypothesis was partially supported, as paired samples t-tests revealed within group change in the video documentary intervention group (interpersonal contact) and the workshop intervention group, however only on certain aspects of attitudes, empathy, and knowledge. In the video documentary intervention group, participants actually possessed a statistically significant decrease in civil rights attitudes pre to post-test, indicating more negative attitudes toward desiring civil rights for sexual minorities. Data transformation of the negatively skewed civil rights mean scores to achieve a normal distribution and/or the covariates adjusting the

means possibly explains the decrease, particularly because the initial mean scores displayed an increase in civil rights attitudes from pre to post-test (see Table 3.4). In addition, the decrease in civil rights attitudes is inconsistent with prior research that indicated that interpersonal contact, particularly hearing sexual minorities' experiences and having some interaction, is effective in reducing negative attitudes (Burkholder & Dineen, 1996; Croteau & Kusek, 1992; Dessel, 2010; Geasler, Croteau, Heineman, & Edlund, 1995; Green, Dixon, & Gold-Neil, 1993; Nelson & Krieger, 1997).

Those that attended the video documentary had a significant increase in aspects of empathy, specifically empathic feeling and expression, empathic awareness, and overall empathy. The increase in empathy in the video documentary group may be the result of participants having interpersonal contact with sexual minority youth through hearing anecdotes about issues encountered and possessing increased awareness and understanding of their experiences, in addition to being able to examine their own thinking. These results are consistent with previous research that also found that interpersonal contact through speaker panels, intergroup dialogues, and videos, were effective in increasing empathy, openness, and awareness of sexual minority experiences (Burkholder & Dineen, 1996; Cooley & Burkholder, 2011; Dessel, 2010; Geasler et al, 1995; Nelson & Krieger, 1997).

For the workshop intervention group, results revealed that participants had a statistically significant change in aspects of attitudes, particularly increase in internalized affirmativeness and a decrease in civil rights attitudes. This specifically indicated that participants had more positive attitudes toward personalized affirmativeness and dedication to engage in social justice activism, yet more negative attitudes toward

desiring civil rights for sexual minorities, which seems contradictory. As previously mentioned, data transformation of the negatively skewed civil rights mean scores and/or the adjustment of the means by the covariates potentially explains the more negative attitudes toward civil rights. In regards to internalized affirmativeness, the workshop may have influenced the increase in positive attitudes toward activism due to part of the workshop being focused on strategies to provide support that will assist in improving sexual minority youths' well-being and creating a more positive, safe school environment for minority youth. This finding is consistent with previous literature that found pre-service teachers who participated in a workshop related to sexual minorities possessed increased willingness to engage in more supportive behaviors toward sexual minority individuals and issues in school, and they also perceived sexual minority concerns as social justice and possessed increased responsibility for advocating on behalf of sexual minority students (Larrabee & Morehead, 2010; Riggs et al., 2011).

Those who attended the workshop had a significant increase in aspects of empathy, specifically empathic feeling and expression, empathic perspective taking, empathic awareness, and overall empathy. The increase in empathy in the workshop group may be the result of participants gaining more information regarding the sexual minority community, which may have enhanced understanding and perspectives regarding experiences and issues encountered by sexual minorities. These findings are similar to prior results that also demonstrated that workshops that relayed information concerning terms related to sexual minority community, identity development, prejudice,

issues, relationships, and recommendations for working with and creating a more inclusive environment, increased awareness and understanding (Finkel, Storaasli, Bandele, & Schaefer, 2003; Larrabee & Morehead, 2010; Riggs et al., 2011).

Last, for the workshop intervention group, findings exhibited a statistically significant increase in knowledge, as measured by the LGB-KASH (knowledge of basic history, symbols, and organizations related to the sexual minority community) and the KAH (factual knowledge regarding sexual minorities). Increases in knowledge may be due to more obvious reasons, including the workshop provided more accurate information regarding the history, organizations, and issues encountered, etc. These results are similar to previous literature that also displayed that workshops related to sexual minorities had a significant impact knowledge and awareness (Anderson, 1982; Finkel, Storaasli, Bandele, & Schaefer, 2003; Larrabee & Morehead, 2010; Riggs et al., 2011; Rudolph, 1989).

This hypothesis was supported, as those participants in the regular classroom instruction group did not demonstrate significant change in negative attitudes, knowledge, and empathy from pre to post-test. The control group did receive some education regarding issues related to sexual minorities during their regular classroom instruction; however, the information imparted was not as extensive compared to those in the video documentary and workshop groups, thereby resulting in lack of significant change in the control group. These results are consistent with prior literature that also found no statistically significant changes within the comparison/control groups, particularly on the construct of attitudes (Ben-Ari, 1998; Case & Stewart, 2010; Cerny & Polyson, 1984; Dessel, 2010; Rudolph, 1989; Rye & Meaney, 2009). It should be noted

that the present study used regular classroom instruction as a control group. Previous literature has shown that educational courses have been effective in negative attitude reduction; however, these courses either were solely focused on sexual minority related matters or had a major unit during the course that focused on sexual minority populations. The present study's control group discussed various diversity topics that included some discussion related to sexual minorities; however, not to the extent as in prior studies.

Last, the PI hypothesized that across all groups pre-service teachers that were high in religious fundamentalism would demonstrate a smaller reduction in negative attitudes, and a smaller increase in knowledge and empathy compared to those low in religious fundamentalism. Low and high religious fundamentalism were defined by computing the mean on participants' religious fundamentalism scores and those that were below the mean were considered low and those above the mean were considered high in religious fundamentalism. In regards to attitudes, this portion of the hypothesis was not supported as the between-subjects effects of religious fundamentalism did not yield statistically significant differences; those high in religious fundamentalism did not display a smaller reduction in negative attitudes compared to those low in religious fundamentalism. This result is not consistent with previous literature; specifically the study conducted by Green et al. (1993) found a significant difference between religious fundamentalists and non-fundamentalists on the homonegativity subscale (attitudes toward sexual minorities) pre and post-tests. Lack of significance between-subjects may have been due to participants initially possessing more positive aspects of attitudes, specifically lower hate, higher civil rights, and lower religious conflict, thereby causing

little significant change after the intervention. Additionally, lack of statistical power, and the process for determining those high and low in religious fundamentalism, which resulted in unequal groups (low: $n = 58$; high: $n = 74$) may have impacted the between subjects results.

In regards to knowledge, between-group results revealed that religious fundamentalism was statistically significant. However, this aspect of the hypothesis was not supported as participants who were high in religious fundamentalism actually had a greater increase in knowledge from pre to post-test compared to those low in religious fundamentalism. Results may be due to the fact that participants high in religious fundamentalism initially possessed lower levels of knowledge compared to those low in religious fundamentalism, and thereby displayed more of a significant increase. Most of the research regarding the impact of religiosity is more related to negative attitudes than to knowledge. However, research has shown that those with more conservative religious beliefs may also be less educated in regards to sexual minorities (Herek, 2002), and the results of this present study may be consistent with that research, given that those high in religious fundamentalism initially possessed lower levels of knowledge, thereby demonstrating a significant increase after the intervention.

Regarding empathy, this portion of the hypothesis was partially supported as the results revealed that the between groups variable of religious fundamentalism was statistically significant. Participants who were high in religious fundamentalism possessed a significantly smaller increase in empathy on the SEE subscales of Empathic Feeling and Expression, Empathic Perspective Taking, Empathic Awareness, and overall empathy compared to those low in religious fundamentalism. However, those high in

religious fundamentalism on the SEE subscale of Acceptance of Cultural Differences had a greater increase in scores compared to those low in religious fundamentalism. One could speculate that those high in religious fundamentalism continue to hold onto some of their conservative beliefs, which could have influenced responses regarding empathy compared to those low in religious fundamentalism. Furthermore, modification of the SEE scale through change in language of some questions and removal of some questions, particularly on the Acceptance of Cultural Differences subscale, could have impacted the results.

Contributions to the Literature

To my knowledge, the present study is one of a few studies that has conducted a comprehensive review and examination of the effectiveness of interpersonal contact via a video documentary, a workshop, and regular classroom instruction designed to reduce negative attitudes, increase knowledge and empathy toward sexual minorities. Although the study was not successful in finding between-subjects effects on these various constructs, a framework was provided for researchers to replicate that will hopefully produce more successful results in regard to the most effective intervention in reducing attitudes, increasing knowledge and empathy in the future. Also, this study strengthened the existing research by facilitating evidenced-based intervention strategies that were significantly beneficial in reducing negative aspects of attitudes, increasing knowledge and empathy within each treatment group, which promoted increased support for sexual minorities. Additionally, the present study provided information on the training needs of pre-service teachers and those preparing to enter other helping professions. Particularly, pre-service teachers would benefit from training that provided more general information

regarding diversity of sexual identities and accurate, factual information regarding the sexual minority community. Results illustrated that participants initially possessed inadequate knowledge regarding sexual minorities; however, after the workshop, participants gained a significant increase in factual knowledge regarding history, organizations, identity development, and experiences and issues encountered by sexual minorities. Pre-service teachers would also benefit from training that incorporates a social justice advocacy component that will facilitate strategies for activism and support of sexual minorities in schools to create inclusive environments. Findings from the present study displayed that participants initially possessed lower attitudes toward internalized affirmativeness, yet after the workshop that emphasized ways to offer support and advocacy, participants demonstrated a noteworthy increase on this attitude construct. Furthermore, although pre-service teachers may possess more positive levels of empathy toward sexual minorities, they could still benefit from training that further increases empathy and openness as that may continuously positively impact their attitudes and work with sexual minority youth. The findings in the present study exhibited that the video documentary (interpersonal contact) and the workshop notably increased aspects of empathy toward sexual minorities. Accordingly, more teacher preparation programs and those of helping professions should incorporate some extensive training beyond the classroom, whether through interpersonal contact or a workshop, throughout the academic year that is specifically focused on issues unique to sexual minorities. The present study also highlights the idea that while religious beliefs can and tend to have a negative impact on attitudes, empathy and knowledge regarding sexual

minorities, providing experiences that will help to increase these areas, rather than try to challenge or alter their religious beliefs, can still effect change, as demonstrated by this study.

Implications of Findings

Pre-Service Teachers

As illustrated, pre-service teachers possess inadequate knowledge regarding sexual minorities and issues encountered. This lack of knowledge is potentially due to limited courses and/or diversity training related to sexual minorities offered by teacher education programs. In addition, the perpetuation of myths related to the sexual minority community by religious affiliations and society as a whole may contribute to this lack of knowledge. Inadequate knowledge may inhibit a future teacher's ability to competently work with youth who identify as sexual minorities. Accordingly, it is vital that pre-service teachers specifically receive extensive workshop training that is effective in providing facts related to sexual minorities that will increase knowledge, in order to be prepared to work with and provide support to sexual minority youth. Moreover, despite pre-service teachers possessing more positive attitudes and increased levels of empathy, it continues to be essential that attending some form of training that provides interpersonal contact and/or a workshop will further enhance their attitudes and empathy. Additionally, this continued training could create more positive attitudes toward engaging in advocacy and acting as an ally for sexual minority youth.

Teacher Education Programs

The present study demonstrates a need for teacher preparation programs to provide some form of training on issues salient to sexual minorities. Findings revealed, as well as the existing literature, that pre-service teachers possess inadequate knowledge related to sexual minority youth. Research suggests that preparation programs often provide diversity education, but the primary focus tends to be on race and ethnicity (Jennings, 2007). Given other important social issues, such as the experiences of sexual minority youth, a population with whom teachers will likely interact, teacher preparation programs are encouraged to implement training beyond race/ethnicity (Mudrey & Medina-Adams, 2006). Utilizing a strategy such as interpersonal contact or a workshop related to sexual minorities, as outlined and confirmed effective by the current study, will provide the opportunity for pre-service teachers to examine their own attitudes, feelings, and knowledge regarding the sexual minority community. Additionally, they will learn more effective ways to respond in a supportive manner, foster respect, improve personal well-being, and create a positive learning environment for all youth (Morgan, 2003; Mudrey & Medina-Adams, 2006).

Counseling Psychology

Although the present study focused solely on pre-service teachers, the results have implications for other helping professions such as counseling psychology. Some research has demonstrated that while counseling psychology students tend to have more accepting, positive attitudes toward sexual minorities compared to other helping professions, they lack adequate information and training to effectively work with sexual minorities (Israel & Hackett, 2004; Satcher & Schumacker, 2009). Most counseling psychology training

programs tend to provide the required diversity education, such as multicultural courses; however, multicultural courses typically review a number of social issues within a semester and cannot extensively focus on specific issues such as sexual minorities. Accordingly, there seems to be a need for more comprehensive training in counseling psychology programs specifically related to sexual minorities. Findings from the current study illustrate the importance of providing training to helping profession students regarding sexual minorities that will be effective in reducing negative attitudes and increasing knowledge and empathy. Accordingly, applying training as outlined in the present study or a similar training may be beneficial in specifically increasing knowledge and continuing to enhance attitudes and empathy among counseling psychology students. In addition, this training may prepare counselors to effectively work with and provide support through advocacy of sexual minorities.

Limitations and Directions for Future Research

Several limitations of the present study exist and should be addressed in future research. First, the sample size of the overall sample ($n = 135$), and specifically the video ($n = 38$) and workshop ($n = 41$) intervention groups were small, which possibly resulted in low statistical power to where significant differences between groups were more difficult to detect (Dessel, 2010). A post hoc statistical power analysis (danielsoper.com/statcalc3) was conducted and demonstrated that on the basis of the means and between-groups comparison effect size observed in the study, a total sample size of approximately 150 would be needed to obtain statistical power at the recommended .80 level. The current numbers gave a power level of .42 (pre-test) and .78 (post-test), which are both below the .80 level and may have impacted the observance of statistical

significance between groups. Thus, it will be important for future research to replicate this study with a greater sample size of at least 150 participants (as suggested by Soper's (2012) statistical sample size calculator) with equal sample sizes in each group.

Second, selection bias may have existed as implied by more positive pre-test means of attitudes and empathy, thereby creating a "ceiling effect" (Dessel, 2010). For instance, in assessing the initial attitudes to ensure that groups entered the study at comparable levels, it was found that the video group reported higher levels of attitudes toward civil rights for sexual minorities as compared to the control group. Additionally, across all groups, participants specifically entered with lower hate and religious conflict attitudes, and increased empathic feeling and expression, acceptance of cultural differences, awareness, and overall empathy. A possible explanation of this is that while randomization into specific groups occurred, participants voluntarily signed up to participate in the study. Thus, those who were willing to participate in the study may have already been more open and interested in the topic and possessed more positive attitudes, which may have impacted between-subject results.

Third, later in the data collection process, intact classes were randomized into the intervention groups rather than individual randomization into groups (as occurred in the beginning of the process) in order to increase sample size. Additionally, to further increase sample size, participants were later recruited from other education courses outside of the department, but still within the College of Education. Although demographic variables were assessed and controlled for during primary analysis, there may have been other immeasurable variables that were not controlled for that could have

impacted the results (Riggs et al., 2011; Rudolph, 1989). Future studies should include individual randomization throughout the data collection process in order to maintain a true experimental design and strengthen results.

Fourth, study personnel also assisted the investigator in facilitating the video intervention. A script for introducing the video, establishing ground rules, and specific questions for the discussion was present, however differences in facilitation of the intervention could have occurred. Particularly, there could have been variation in the manner in which questions were asked to guide the discussion, how reactions of participants were handled, as well as the addition of potential follow-up questions, thereby impacting participants' responses and influencing the results. Future research should consider, if possible, having the same individual facilitate the interventions to provide some consistency. Additionally, having a more standardized intervention that can be easily replicated will aid with consistency and strengthen results.

Fifth, neither the PI nor study personnel disclosed their sexual identities to participants. Therefore, participants could have made assumptions about their sexual identities. For instance, given that the focus of the study is related to sexual minorities, participants could have assumed that the PI and/or study personnel were sexual minorities, which likely could have impacted their responses in that they responded more positively on the attitudes and empathy variables. Future research should consider having the facilitators of the control and intervention groups disclose their sexual identities to assess how this could potentially impact responses and influence results.

Another limitation is that the post-test was given to participants immediately after the intervention; therefore the effects of the intervention may have only been temporary. Future research should possibly delay the post-test and/or add another post-test about 3-6 months after the intervention to examine how the effect of the intervention may have changed over time (e.g., sustained, improved, diminished) (Riggs et al., 2011; Rudolph, 1989; Rye & Meaney, 2009). A few similar studies, however, have demonstrated lasting attitude change over time (Anderson, 1981; Nelson & Kreiger, 1997; Rudolph, 1989).

Furthermore, the length of time between the pre- and post-test for the control group was significantly longer than that of the intervention groups, namely a few weeks for the control group compared to a few hours for the intervention groups. This could have influenced results in that participants who had a shorter length of time between pre- and post-tests may have demonstrated greater change within groups compared to those who had a greater length of time between pre- and post-tests and potentially did not retain as much information to impact responses. Therefore, it will be vital for future studies to have the same amount of time between pre- and post-tests for the control and intervention groups to provide more accurate results, specifically in assessing the greatest change within and between groups.

Last, another limitation is related to particular features of the recruited sample. Specifically, most participants were from the Southeastern part of the United States and there was overall low number of participants who were male, identified as non-heterosexual, and were from various racial/ethnic backgrounds. Therefore, this limits the

generalizability of results because the sample may not be representative of other pre-service teachers from other parts of the United States and diverse backgrounds (Riggs et al., 2011).

It should be noted that some of the measures utilized in this study were modified. Specifically, some of the questions from the KAH, SEE, and MTCPR were revised to focus on sexual minorities and create more inclusive language. Satisfactory reliability for the modified measures was found; however modifying them could have impacted the validity of the measure and participants responses, thereby influencing results. Few measures exist that particularly assess empathy and social desirability as it relates to sexual minorities (Riggs et al., 2011). Future research could possibly use measures that more specifically relate to sexual minorities or thoroughly examine the reliability and validity of modified measures to ensure they continue to measure what was intended.

Additional recommendations for future research include possibly incorporating an empirical evaluation that will be given to assess ways in which the interventions were specifically effective (i.e., inquiring into what parts of the workshop were most intriguing, insightful, and beneficial) and help to increase efficiency in the future (Rye & Meaney, 2009). Also, future research should possibly include an assessment of anticipated behaviors or actions of the participants in regard to sexual minorities, which will be helpful in seeing if there will be a change in attitudes, knowledge, empathy, and also behaviors. Past studies have included an assessment of anticipated behaviors, however in reviewing the literature, only a few studies have incorporated this into their research and the measures to acquire a clear assessment have been limited. Furthermore,

future research should continue to develop a deeper understanding of the relationship between attitudes, knowledge, empathy and possibly anticipated behaviors in regard to sexual minorities to successfully effect change (Riggs et al., 2011).

Appendix A

Timeline of Video Documentary Intervention

25 minutes: Complete pre-intervention assessments

5 minutes: Introduction

5 minutes: Establishing goals/rules

67 minutes: Video Viewing

20 minutes: Discussion

25 minutes: Complete post-intervention assessments

Appendix B

Timeline of Workshop Intervention

25 minutes: Complete pre-intervention assessments

5 minutes: Establishing rules

15-20 minutes: Icebreaker/Introductions of group

15 minutes: Discussion of diversity/Purpose of workshop

15-30 minutes: Review of terminology

15 minutes: Discussion of stereotypes

20 minutes: Activity illustrating stereotypes

15-20 minutes: Fassinger's Model of Gay and Lesbian Identity Development

25 minutes: Coming out stars/Discussion

15-20 minutes: Reflection of issues and ways to create inclusive environment

25 minutes: Complete post-intervention assessments

Appendix C

Standardized Solicitation Script

Hello, my name is _____ (PI's or third party's name). I am (We are) conducting a research study on diversity awareness and training regarding sexual minorities, in which your attitudes, level of empathy, and knowledge will be explored, and I am here to talk about your possible participation in the study. If interested, participation in the study will require you to fill out some surveys and receive some form of diversity instruction, which will either be through your EDP class, a video related to sexual minorities, or through a diversity workshop related to sexual minorities.

Depending on how you participate, you may have to dedicate a few hours outside of your regular school schedule. Your participation is completely voluntary, and your course grade will not be impacted regardless of your choice to participate. If you choose to participate, you will receive extra credit for your EDP class. The amount of extra credit given will vary based on the group in which you are randomly assigned. If you are assigned to fill out surveys and receive instruction through your EDP class, you will receive three points; if you are assigned to the video viewing, you will receive six points; and if you are assigned to the workshop, you will receive nine points. You will also provide your name and instructor's name on a separate sheet of paper and at the end of your participation; I will provide your name to your instructor in order for you to receive the extra credit. Please note that those students enrolled in the PI's (person in charge of the study) classes, will automatically be assigned to the survey group, which will be conducted by other study personnel to try to ensure anonymity and confidentiality of responses. If there are any questions regarding the study and/or your participation, please

ask them at this time. I am now going to pass around a sign-up sheet and for those interested in participating, please list your e-mail address, and make sure that it is legible. Later, I will send you an e-mail that will contain more specifics about the study and it will also detail how you will be participating in the study. Again, if you have any questions during this later time, my contact information will be provided in the email so that you may get in touch with me. Thank you for your time.

Appendix D

Demographic Questionnaire ID# (last four digits of cell or home phone) _____

Assigned sex at birth: ___ Male ___ Female ___ Transgender

Age: _____

Please specify your race:

___ American Indian or Alaska Native

___ Asian

___ Black or African American

___ Native Hawaiian or Other Pacific Islander

___ White

___ Other: _____

Sexual Orientation:

___ Heterosexual ___ Lesbian ___ Gay ___ Bisexual ___ Queer

Year in school: _____

Degree of Study: _____

Religious Affiliation (e.g. Christian, Jewish): _____

Do you have a LGBTQ friend, acquaintance, or relative (knowing an LGBTQ individual means you have had social interaction with them)?

___ Yes ___ No

What region of the country is your hometown located:

___ West ___ Midwest ___ East ___ Southeast ___ Southwest

Is your hometown:

___ Urban (inner city) ___ Rural (country) ___ Suburban ___ Metropolitan
(large city)

Appendix E

The Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals

Instructions: Please use the scale below to respond to the following items. Circle the number that indicates the extent to which each statement is uncharacteristic or characteristic of you or your views. Please try to respond to every item.

1	2	3	4	5	6
Very uncharacteristic of me or my views					Very characteristic of me or my views

NOTE: LGB = Lesbian, Gay, or Bisexual.

Please consider the ENTIRE statement when making your rating, as some statements contain two parts.

1. I feel qualified to educate others about how to be affirmative regarding LGB issues.

1	2	3	4	5	6
---	---	---	---	---	---

2. I have conflicting attitudes or beliefs about LGB people.

1	2	3	4	5	6
---	---	---	---	---	---

3. I can accept LGB people even though I condemn their behavior.

1	2	3	4	5	6
---	---	---	---	---	---

4. It is important to me to avoid LGB individuals.

1	2	3	4	5	6
---	---	---	---	---	---

5. I could educate others about the history and symbolism behind the "pink triangle."

1	2	3	4	5	6
---	---	---	---	---	---

6. I have close friends who are LGB.

1	2	3	4	5	6
---	---	---	---	---	---

7. I have difficulty reconciling my religious views with my interest in being accepting of LGB people.

1	2	3	4	5	6
---	---	---	---	---	---

REMINDER: Use the following scale in your responses.

1	2	3	4	5	6
Very uncharacteristic of me or my views					Very characteristic of me or my views

8. I would be unsure what to do or say if I met someone who is openly lesbian, gay, or bisexual.

1	2	3	4	5	6
---	---	---	---	---	---

9. Hearing about a hate crime against a LGB person would not bother me.

1	2	3	4	5	6
---	---	---	---	---	---

10. I am knowledgeable about the significance of the Stonewall Riot to the Gay Liberation Movement.

1	2	3	4	5	6
---	---	---	---	---	---

11. I think marriage should be legal for same sex couples.

1	2	3	4	5	6
---	---	---	---	---	---

12. I keep my religious views to myself in order to accept LGB people.

1	2	3	4	5	6
---	---	---	---	---	---

13. I conceal my negative views toward LGB people when I am with someone who doesn't share my views.

1	2	3	4	5	6
---	---	---	---	---	---

14. I sometimes think about being violent toward LGB people.

1	2	3	4	5	6
---	---	---	---	---	---

15. Feeling attracted to another person of the same-sex would not make me uncomfortable.

1	2	3	4	5	6
---	---	---	---	---	---

16. I am familiar with the work of the National Gay and Lesbian Task Force.

1	2	3	4	5	6
---	---	---	---	---	---

REMINDER: Use the following scale in your responses.

1	2	3	4	5	6
Very uncharacteristic of me or my views					Very characteristic of me or my views

17. I would display a symbol of Gay pride (pink triangle, rainbow, etc.) to show my support of the LGB community.

1	2	3	4	5	6
---	---	---	---	---	---

18. I would feel self-conscious greeting a known LGB person in a public place.

1	2	3	4	5	6
---	---	---	---	---	---

19. I have had sexual fantasies about members of my same-sex.

1	2	3	4	5	6
---	---	---	---	---	---

20. I am knowledgeable about the history and mission of the PFLAG organization.

1	2	3	4	5	6
---	---	---	---	---	---

21. I would attend a demonstration to promote LGB civil rights.

1	2	3	4	5	6
---	---	---	---	---	---

22. I try not to let my negative beliefs about LGB people harm my relationships with the lesbian, gay, and/or bisexual individuals I know.

1	2	3	4	5	6
---	---	---	---	---	---

23. Hospitals should acknowledge same-sex partners equally to any other next of kin.

1	2	3	4	5	6
---	---	---	---	---	---

24. LGB people deserve the hatred they receive.

1	2	3	4	5	6
---	---	---	---	---	---

25. It is important to teach children positive attitudes toward LGB people.

1	2	3	4	5	6
---	---	---	---	---	---

REMINDER: Use the following scale in your responses.

1	2	3	4	5	6
Very uncharacteristic of me or my views					Very characteristic of me or my views

26. I conceal my positive attitudes toward LGB people when I am with someone who is homophobic.

1	2	3	4	5	6
---	---	---	---	---	---

27. Health benefits should be available equally to same sex partners as to any other couple.

1	2	3	4	5	6
---	---	---	---	---	---

28. It is wrong for courts to make child custody decisions based on a parent's sexual orientation.

1	2	3	4	5	6
---	---	---	---	---	---

Appendix F

Knowledge about Sexual Minorities Questionnaire

Answer each item by circling A if the item is true, B if the item is false, or C if you Don't Know

- 1.) A child who engages in lesbian, gay, or bisexual behaviors will develop a lesbian, gay, or bisexual identity as an adult.
A. True B. False C. Don't Know
- 2.) There is a good chance of changing lesbian, gay, or bisexual individuals into heterosexuals.
A. True B. False C. Don't Know
- 3.) Most lesbian, gay, or bisexual individuals want to be members of the opposite sex.
A. True B. False C. Don't Know
- 4.) Some church denominations oppose legal and social discrimination against lesbian, gay, or bisexual individuals.
A. True B. False C. Don't Know
- 5.) Sexual orientation is established at an early age.
A. True B. False C. Don't Know
- 6.) According to the American Psychological Association, same-sex attraction is an illness.
A. True B. False C. Don't Know
- 7.) Gay males are more likely to seduce young men than heterosexual males are likely to seduce young girls.
A. True B. False C. Don't Know
- 8.) Gay men are more likely to be victims of violent crime than the general public.
A. True B. False C. Don't Know
- 9.) A majority of lesbian, gay, or bisexual individuals were seduced in adolescence by a person of the same sex, usually several years older.
A. True B. False C. Don't Know
- 10.) A person becomes lesbian, gay, or bisexual (develops a lesbian, gay, or bisexual identity) because he/she chooses to do so.
A. True B. False C. Don't Know

- 11.) Same-sex attraction does not occur among animals (other than human beings).
A. True B. False C. Don't Know
- 12.) Kinsey and many other researchers consider sexual behavior as a continuum from exclusively lesbian, gay, or bisexual to exclusively heterosexual.
A. True B. False C. Don't Know
- 13.) A lesbian, gay, or bisexual person's gender identity does not agree with his/her biological sex.
A. True B. False C. Don't Know
- 14.) Historically, almost every culture has evidenced widespread intolerance toward lesbian, gay, or bisexual individuals, viewing them as "sick" or as "sinners".
A. True B. False C. Don't Know
- 15.) Heterosexual men tend to express more hostile attitudes toward lesbian, gay, or bisexual individuals than do heterosexual women.
A. True B. False C. Don't Know
- 16.) "Coming out" is a term that lesbian, gay, or bisexual individuals use for publicly acknowledging their sexual orientation.
A. True B. False C. Don't Know
- 17.) Bisexuality may be characterized by sexual behaviors and/or responses to both sexes.
A. True B. False C. Don't Know
- 18.) Recent research has shown that same-sex attraction may be linked to chromosomal differences.
A. True B. False C. Don't Know

Appendix G

Scale of Sexual Minority Empathy

Instructions: Please circle the number of the one answer that best describes how much you agree or disagree with each statement. There are no right or wrong answers. Please just give the responses that best describe you.

Sexual minorities = lesbian, gay, or bisexual individuals

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

1. When I hear people make homophobic jokes, I tell them I am offended even though they are not referring to me or my sexual identity.

1 2 3 4 5 6

2. I don't care if people make homophobic statements against sexual minorities.

1 2 3 4 5 6

3. I rarely think about the impact of a homophobic joke on the feelings of people who are targeted.

1 2 3 4 5 6

4. When other people struggle with sexual minority oppression, I share their frustration.

1 2 3 4 5 6

5. I feel supportive of sexual minorities, if I think they are being taken advantage of.

1 2 3 4 5 6

6. I share the anger of those who face injustice because of their sexual orientation.

1 2 3 4 5 6

7. I share the anger of people who are victims of hate crimes (e.g., intentional violence because of sexual orientation).

1 2 3 4 5 6

8. When I know my friends are treated unfairly because of their sexual orientation, I speak up for them.

1 2 3 4 5 6

9. I get disturbed when other people experience misfortunes due to their sexual orientation.

1 2 3 4 5 6

10. I am touched by movies or books about discrimination issues faced by sexual minorities.

1 2 3 4 5 6

11. When I see sexual minorities succeed in the public arena, I share their pride.

1 2 3 4 5 6

12. I am not likely to participate in events that promote equal rights for sexual minorities.

1 2 3 4 5 6

13. I seek opportunities to speak with sexual minorities about their experiences.

1 2 3 4 5 6

14. When I interact with sexual minorities, I show my acceptance of their identities.

1 2 3 4 5 6

15. I express my concern about discrimination to sexual minorities.

1 2 3 4 5 6

16. It is easy for me to understand what it would feel like to be a person with a different sexual orientation other than my own.

1 2 3 4 5 6

17. It is difficult for me to relate to stories in which people talk about sexual minority discrimination they experience in their day-to-day lives.

1 2 3 4 5 6

18. It is difficult for me to put myself in the shoes of someone whose sexual identity is different from mine.

1 2 3 4 5 6

19. I know what it feels like to be the only person of a certain sexual orientation in a group of people.

1 2 3 4 5 6

20. I can relate to the frustration that some people feel about having fewer opportunities due to their sexual orientation.

1 2 3 4 5 6

21. I feel uncomfortable when I am around a significant number of people whose sexual orientations are different from me.

1 2 3 4 5 6

22. I don't know a lot of information about important social and political events relevant to sexual minorities.

1 2 3 4 5 6

23. I feel irritated when sexual minorities embrace each other around me.

1 2 3 4 5 6

24. I do not understand why people want to have unique sexual identities instead of trying to fit into the mainstream.

1 2 3 4 5 6

25. I don't understand why sexual minorities enjoy wearing/displaying lesbian, gay, or bisexual pride paraphernalia.

1 2 3 4 5 6

26. I am aware of how society differentially treats sexual minorities.

1 2 3 4 5 6

27. I recognize that the media often portrays people based on sexual minority stereotypes.

1 2 3 4 5 6

28. I can see how sexual minorities are systematically oppressed in our society.

1 2 3 4 5 6

29. I am aware of institutional barriers (e.g., restricted opportunities for job promotion) that discriminate against individuals who have sexual orientations other than my own.

1 2 3 4 5 6

Appendix H

Revised Religious Fundamentalism Scale

Instructions: This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you *agree* with some of the statements and *disagree* with others, to varying extents. Please circle the number of the one answer that best describes how much you agree or disagree with each statement.

-3	-2	-1	+1	+2	+3
Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree

You may find that you sometimes have different reactions to different parts of a statement. For example, you might strongly disagree (-3) with one idea in a statement, but slightly agree (+1) with another idea in the same item. When this happens, please combine your reactions, and write down how you feel on balance (a -2 in this case).

1. God has given humanity, a complete unflinching guide to happiness and salvation, which must be totally followed.

-3	-2	-1	+1	+2	+3
----	----	----	----	----	----

2. No single book of religious teachings contains all the intrinsic, fundamental truths about life.

-3	-2	-1	+1	+2	+3
----	----	----	----	----	----

3. The basic cause of evil in this world is Satan, who is still constantly and ferociously fighting against God.

-3	-2	-1	+1	+2	+3
----	----	----	----	----	----

4. It is more important to be a good person than to believe in God and the right religion.

-3	-2	-1	+1	+2	+3
----	----	----	----	----	----

5. There is a particular set of religious teachings in this world that are so true, you can't go any "deeper" because they are the basic, bedrock message God has given humanity.

-3	-2	-1	+1	+2	+3
----	----	----	----	----	----

6. When you get right down to it, there are basically two kinds of people in the world: the righteous who will be rewarded by God; and the rest who will not.

-3 -2 -1 +1 +2 +3

7. Scriptures may contain general truths, but they should NOT be considered completely, literally true from beginning to end.

-3 -2 -1 +1 +2 +3

8. To lead the best, most meaningful life, one must belong to the one, fundamentally true religion.

-3 -2 -1 +1 +2 +3

9. "Satan" is just the name people give to their own bad impulses. There is really *no such thing* as a diabolical "Prince of Darkness" who tempts us.

-3 -2 -1 +1 +2 +3

10. Whenever science and sacred scripture conflict, *science* is probably right.

-3 -2 -1 +1 +2 +3

11. The fundamentals of God's religion should never be tampered with, or compromised with others' beliefs.

-3 -2 -1 +1 +2 +3

12. *All* of the religions in the world have flaws and wrong teachings. There is *no* perfectly true and right religion.

-3 -2 -1 +1 +2 +3

Appendix I

Motivation to Control Prejudiced Reactions Scale

Instructions: Please read each of the following statements carefully. Indicate the extent to which you agree or disagree with each statement by circling the number according to the following scale.

-3	-2	-1	0	+1	+2	+3
Strongly Disagree	Moderately Disagree	Slightly Disagree	No Opinion	Slightly Agree	Moderately Agree	Strongly Agree

1. In today's society it is important that one not be perceived as prejudice in any manner.

-3	-2	-1	0	+1	+2	+3
----	----	----	---	----	----	----

2. I always express my thoughts and feelings, regardless of how controversial they might be.

-3	-2	-1	0	+1	+2	+3
----	----	----	---	----	----	----

3. I get angry with myself when I have a thought or feeling that might be considered prejudiced.

-3	-2	-1	0	+1	+2	+3
----	----	----	---	----	----	----

4. If I were participating in a discussion and a sexual minority person expressed an opinion with which I disagreed. I would be hesitant to express my own viewpoint.

-3	-2	-1	0	+1	+2	+3
----	----	----	---	----	----	----

5. Going through life worrying about whether you might offend someone is just more trouble than it's worth.

-3	-2	-1	0	+1	+2	+3
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6. It's important to me that other people not think I'm prejudiced.

-3	-2	-1	0	+1	+2	+3
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7. I feel it's important to behave according to society's standards.

-3	-2	-1	0	+1	+2	+3
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8. I'm careful not to offend my friends, but I don't worry about offending people I don't know or don't like.

-3 -2 -1 0 +1 +2 +3

9. I think that it is important to speak one's mind rather than to worry about offending someone.

-3 -2 -1 0 +1 +2 +3

10. It's never acceptable to express one's prejudices.

-3 -2 -1 0 +1 +2 +3

11. I feel guilty when I have a negative thought or feeling about a sexual minority person.

-3 -2 -1 0 +1 +2 +3

12. When speaking to a sexual minority person, it's important to me that he/she not think I'm prejudiced.

-3 -2 -1 0 +1 +2 +3

13. It bothers me a great deal when I think I've offended someone, so I'm always careful to consider other people's feelings.

-3 -2 -1 0 +1 +2 +3

14. If I have a prejudiced thought or feeling, I keep it to myself.

-3 -2 -1 0 +1 +2 +3

15. I would never tell jokes that might offend others.

-3 -2 -1 0 +1 +2 +3

16. I'm not afraid to tell others what I think, even when I know they disagree with me.

-3 -2 -1 0 +1 +2 +3

17. If someone who made me uncomfortable sat next to me on a bus, I would not hesitate to move to another seat.

-3 -2 -1 0 +1 +2 +3

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