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A Comparison of Attitudes Toward the Lesbian, Gay, Bisexual, and Transgender Population

Among Students of the Health Professions

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Abstract

Lesbian, gay, bisexual, and transgender (LGBT) individuals experience a multitude of health disparities and barriers to access care, including lack of knowledgeable health care providers and experiences of discrimination and victimization in health care settings. As future health care professionals, health professions students need preparation to deliver culturally competent, equitable care to members of the LGBT community. Because the attitudes of health care professionals are important determinants in achieving patient-centered care, the purpose of the study was to explore attitudes toward the LGBT population and influencing factors of attitudes among nursing, mental health counseling, physical therapy (PT), occupational therapy (OT), and pharmacy students. A cross-sectional, online survey measured a purposive sample ($N=687$) of pre-licensure students' attitudes using the modified Attitudes Toward Lesbian and Gay Men (ATLG) scale. Findings suggested students' attitudes were predominantly favorable toward the LGBT population as a whole. Department ($p=.162$) and year of study ($p=.103$) were not statistically significant; however, political view ($p<.001$), religiosity ($p<.001$), and attitudes between heterosexual/straight and non-heterosexual/non-straight students ($p<.001$) were significant. Democrat and independent/other students held more positive attitudes in comparison to Republican students. The more important religion was to students, the more negative their attitudes and vice versa. Non-heterosexual/non-straight students' attitudes were significantly more positive than heterosexual/straight students' attitudes. Overall, findings suggest an opportunity exists to include more LGBT-specific content in departments' curricula as well as learning experiences to foster greater awareness of students' attitudes. Future research assessing faculty attitudes and readiness to address LGBT health is recommended.

Keywords: health professions, students, attitudes, attitudes toward LGBT, bisexuality, transgender

Introduction and Background

It is well documented the lesbian, gay, bisexual, and transgender (LGBT) community is at a disproportionately higher risk for experiencing health disparities, including higher rates of HIV and sexually transmitted diseases (STDs), mental health disorders, substance use disorders, obesity, and tobacco use (Ard & Makadon, 2012; Mayer et al., 2008; Office of Disease Prevention and Health Promotion [ODPHP], 2019). Barriers to health care including lack of knowledgeable health care providers, poor access to care, and experiences of minority stressors such as victimization and discrimination contribute to worsening health conditions among the LGBT population (Institute of Medicine [IOM], 2011; Meyer, 2003). While a multifactorial problem, a lack of awareness and prejudice against gender and sexual minorities in the health care system continue to exist, compounding their overall risk of health disparities.

In 2011, the IOM addressed the need to advance knowledge and understanding of LGBT health. The report highlighted limited access to quality care among the LGBT population, including lack of knowledgeable health care professionals and fear of discrimination in health care settings (IOM, 2011). In 2010, Lambda Legal (2010) conducted a national survey examining barriers to health care among LGBT communities and discovered 30% of all LGBT respondents reported fear of discriminatory treatment by medical professionals based gender expression alone. Due to fear of discrimination, individuals are less likely to choose to disclose their sexual orientation to health care professionals resulting in lack of patient-centered care and failure to diagnose and treat accordingly (Ard & Makadon, 2012; Mayer et al., 2008).

As future members of the health care team, students of the health professions will have the opportunity to provide high quality, culturally competent care to sexual and gender minorities. In order to equip students with an evidence-based knowledge of LGBT health, it is

important to assess their current attitudes toward members of the LGBT community. In assessing students' attitudes, findings may highlight the need for future research or change in curriculum as a means to facilitate recognition of perceptions or bias that may influence patient outcomes.

Problem Statement

Despite enhanced research efforts and increased awareness of LGBT health, recent studies report negative attitudes toward sexual and gender minorities across various fields and levels of study, including medical, dental, counseling, nursing, social work, and psychology departments (Cornelius & Whitaker-Brown, 2015; Greene et al., 2018; Papadaki, Plotnikof, Gioumidou, Zisimou, & Papadaki, 2015). In recognizing discrimination and prejudice against LGBT individuals in the health care system, delivery of quality care to LGBT persons requires health care professionals who are knowledgeable about the prevalence of population-specific health conditions, health risks, and cultural aspects of care (Mayer et al., 2008). Because health care professionals' attitudes play a key role in achieving improved patient-centered care, assessing attitudes is important among those entering the health professions (Papadaki et al., 2015).

Purpose

The aim of the current study was to explore attitudes toward LGBT individuals among nursing, mental health counseling, physical therapy (PT), occupational therapy (OT), and pharmacy students. Additionally, the study examined influencing factors of students' attitudes including religiosity, year of study, and political view.

Research Questions and Hypotheses

The following research questions guided the study: What are the attitudes toward LGBT individuals among nursing, mental health counseling, PT, OT, and pharmacy students? Do

students' attitudes differ between departments of study? Are students' attitudes influenced by their religiosity, year of study, and political view? Although not developed prior to the data collection process period, the research question, "Do non-heterosexual/non-straight students express more positive attitudes toward LGBT persons than heterosexual/straight students?" surfaced during the survey implementation phase and was included in the current study.

Based on the current evidence, the project leader predicted attitudes among the five departments of study would vary. Since previous studies do not include assessments of PT, OT, or pharmacy students' attitudes, not enough information existed to propose a hypothesis in relation to which field of study would have the most positive or negative attitudes. The project leader also predicted students' attitudes would be influenced based on their religiosity, year of study, and political view. Based on findings from previous research, students who view religiosity as very important in their lives and students who are Republican will hold more negative attitudes toward LGBT persons, whereas students in their final years of study will hold more positive attitudes toward LGBT persons. Lastly, the project leader hypothesized non-heterosexual/non-straight students will express more positive attitudes toward the LGBT population than heterosexual/straight students.

Terminology

For a better understanding of the diverse community within the LGBT population, the following key concepts and terms are often used in LGBT research. Sexual orientation is comprised of three individual factors including one's desire, behavior, and identity, and is not necessarily congruent from one individual to another individual (Ard & Makadon, 2012). For instance, some individuals engage in same-sex behavior, but they do not identify as homosexual; others may experience same-sex attraction but are not necessarily sexually active with

individuals of the same sex (Ard & Makadon, 2012). Gender identity refers to an individual's sense of being a male, female, or other gender such as transgender (IOM, 2011). Within the category of gender identity, transgender is an umbrella term used to describe an individual who lives in a gender incongruent with the gender assigned to the person at birth (Lambda Legal, 2010). Subsequently and oftentimes mistaken for gender identity, gender expression refers to the ways which individuals express their gender (Ard & Makadon, 2012). Individuals most frequently express gender through their choice in apparel, grooming habits, and mannerisms. Lastly, concerning concepts associated with prejudice against sexual and gender minorities, homophobia is defined as the fear of or discrimination against lesbian, gay, or bisexual individuals based on their sexual orientation (Lambda Legal, 2010). Likewise, transphobia refers to the fear of or discrimination against transgender individuals based on their gender identity (Lambda Legal, 2010).

Review of Evidence

Since Healthy People 2020 initiative established the goal to improve the safety, health, and well-being of LGBT individuals, new research is focusing on the health of the LGBT population (ODPHP, 2019). In contrast to heterosexual counterparts, members of the LGBT community are more likely to experience challenges in accessing health care as a result of factors such as lifestyle choices, discrimination, substandard care, or absolute denial of care based on their sexual orientation or gender identity (Ard & Makadon, 2012; Hafeez, Zeshan, Tahir, Jahan, & Naveed, 2017; ODPHP, 2019). In an effort to eliminate health disparities and barriers to access care, research is focusing on the education and training of future health care professionals, often beginning with an assessment of students' perceptions or attitudes toward gender and sexual minorities (Cornelius & Whitaker-Brown, 2015; Papadaki et al., 2015).

Recent Historical Background

Current history unveils prejudice against members of the LGBT community dating back to the 1950s. During the 1950s and 1960s, gay men and lesbian women were at risk for job loss, custody trials, and admission to psychiatric wards as a result of their sexual orientation (Morris, 2019). On a national level, the United States Senate issued a report in 1950 stating homosexuals were not qualified for federal employment (IOM, 2011). In 1965, however, the first gay rights movement took place in Washington, D.C. and Philadelphia, which resulted in a turning point for sexual minorities (Morris, 2019). In the 1970s, homosexuality was removed as an “illness” from the Diagnostic and Statistical Manual of Mental Disorders (DSM) (IOM, 2011).

While it appeared advances toward equal rights among the LGBT population were underway, in the 1980s the first case of AIDS was detected in gay men. Questions regarding mandatory testing among members in high-risk groups were raised, which fostered fear of discrimination for members of the LGBT community (IOM, 2011). During this time, much of society believed AIDS was a punishment from God (IOM, 2011; Morris, 2019). Then, in 1997, Ellen DeGeneres, a television host celebrity, told millions of Americans she is homosexual (Morris, 2019). Ellen’s statement created a new era for the LGBT community, including support from the media and greater attention to equal rights for sexual minorities.

In 2010, a nationwide survey examining barriers to health care among LGBT and HIV communities discovered more than half of the respondents reported at least one of the following types of discrimination: use of harsh language by health care professionals, refusal of care needed, abusive or physically rough care, and excessive use of precautions by health care professionals (Lambda Legal, 2010). More recently in 2016, a mass shooting occurred at a gay night club, referred to as Pulse nightclub located in Orlando, Florida; a total of 49 deaths and 53

injured, the Pulse nightclub shooting is confirmed to be one of the deadliest mass shooting in U.S. history (Morris, 2019; Stults, Kupprat, Krause, Kapadia, & Halkitis, 2017). The Pulse nightclub shooting left members of the LGBT community shocked, heartbroken, and greatly discouraged.

Barriers to Access Care

Barriers to accessing care among the LGBT population are associated with negative health consequences including an increase in negative health behaviors, discontinuation or delay of care, non-disclosure of gender identity or sexual orientation, and feelings of internalized stigma (Lee & Kanji, 2017). Common barriers can be further divided into three categories: behavioral-, systems-, and provider-level barriers.

Behavioral-level barriers. Beginning in adolescence and extending into adulthood, gender and sexual minorities are at greater risk for engaging in risky behaviors as a result of peer victimization, societal rejection, stigma, and disapproval from family members (Hafeez et al., 2017; Robinson & Espelage, 2013). Findings from the 2015 Youth Risk Behavior Survey (YRBS) reveal lesbian, gay, and bisexual youth in comparison to heterosexual youth have a greater prevalence of the following behaviors: refusal to attend school, frequent cigarette use, trying marijuana before age 13 years, use of illicit drugs, engagement in sexual intercourse before age 13 years, physical and sexual dating violence, and attempting suicide (Kaan et al., 2016). In comparison to the general U.S. adult population, gay and bisexual males have the highest rates of HIV, and because one in six gay and bisexual males are unaware of their diagnosis, they are likely to spread disease through unprotected sexual intercourse (Centers for Disease Control and Prevention [CDC], 2018). As a result of lifestyle and behavioral choices, individuals often fear treatment, feel embarrassed, or fear they will receive discriminatory care,

and thus, they choose to delay medical assistance contributing to worsening health conditions and overall health (Romanelli & Hudson, 2017).

Systems-level barriers. Access to health services for gender and sexual minorities is a critical step in order to address many of the health-related and mental health disparities the LGBT community faces. Lack of available, affordable, and supportive health services for LGBT persons further prevents them from achieving optimal physical and mental well-being (McIntyre, Daley, Rutherford, & Ross, 2011; Romanelli & Hudson, 2017). In a recent study conducted by Romanelli and Hudson (2017), LGBT participants reported challenges identifying available health services, lack of LGBT-tailored services, service language barriers, and lack of dissemination of information regarding available services for LGBT persons. Limited mental health services are available to members of the LGBT community, and moreover, the services which are available, are primarily in the private sector requiring cash payments (McIntyre et al., 2011). Available and supportive mental health services are of particular importance for LGBT individuals as they experience higher rates of mental health disorders in comparison to heterosexual individuals (Ard & Makadon, 2012; McIntyre et al., 2011). In addition, gender affirming health care services, such as hormone replacement therapy or surgical procedures, are not often covered by health insurance companies, making the services more difficult or unattainable for transgender persons with limited financial resources (Romanelli & Hudson, 2017). Subsequently, lack of affordability and insurance coverage of gender affirming services become a threat to the mental well-being of transgender individuals as it interferes with their desire for their outward appearance to reflect their internal sense of oneself (Romanelli & Hudson, 2017).

Provider-level barriers. At a provider-level, health care providers' lack of knowledge and training regarding LGBT health is associated with negative health consequences for members of the LGBT community (Boehmer, 2018; Lee, & Kanji, 2017). Lack of provider empathy and respect as well as discriminatory remarks, such as the use of homophobic and transphobic terminology, further prevent gender and sexual minorities from seeking health care (Lee & Kanji, 2017; Romanelli & Hudson, 2017). Individuals are less willing to disclose their gender identity or sexual orientation and utilize health care services as a result of previous or anticipated discrimination by health care providers (Lee & Kanji, 2017). In one study examining health care providers' implicit and explicit attitudes toward lesbian women and gay men, findings suggest heterosexual providers demonstrate implicit preferences for heterosexual individuals over sexual minorities (Sabin, Riskind, & Nosek, 2015). Moreover, a recent study investigating the knowledge of and behaviors of oncology providers discovered only 26% of providers report actively asking for patients' sexual orientation during history taking, while the remaining 74% of providers report not asking for patients' sexual orientation as they believe it is not relevant to cancer care (Shetty et al., 2016). However, including sexual orientations and gender identities as part of routine history taking aids in the establishment of patient-provider rapport and creates a more welcoming environment for diverse populations (Ard & Makadon, 2012; Boehmer, 2018; Shetty et al., 2016).

Education and Training

Due to historical stigmatism and discrimination the LGBT community experiences collectively as a group, patient-centered and culturally competent care is an important consideration when sexual and gender minorities are seeking medical treatment. However, a lack of inclusivity of LGBT content among educational programs leaves students with a dearth of

knowledge and understanding of health-related issues impacting the LGBT population. Health care professionals report limited opportunities, a lack of cultural awareness and understanding, and discomfort in caring for LGBT patients (Hayes, Blondeau, & Bing-You, 2015; White et al., 2015).

Based on previous research, an average of 5 hours of LGBT-specific teaching content is included in the curricula among most educational programs in the health professions (Lim, Johnson, and Eliason, 2015; Mandap, Carrillo, & Youmans, 2014; White et al., 2015; Obedin-Maliver et al., 2011). It is important to mention; however, a paucity of research exists exploring LGBT-related content of educational programs in the health professions other than medical and nursing programs. In a national survey conducted by Lim and colleagues (2015), researchers report the estimated median time dedicated to teaching LGBT content to pre-licensure nursing students is 2.12 hours. Results from a different study indicate faculty spend less than 5 hours teaching LGBT-related content to pre-licensure nursing students (Cornelius, Enweana, Alston, & Baldwin, 2016). Similar to the average number of hours of LGBT content covered in nursing curricula, pharmacy and medical students receive an average of 5 hours or less of LGBT-related content and indicate their education primarily focuses on HIV and STD treatment in LGBT individuals (Mandap et al., 2014; White et al., 2015; Obedin-Maliver et al., 2011). Topics related to gender identity and sexual orientation are briefly discussed or in some educational programs not addressed at all (Mandap et al., 2014; White et al., 2015).

Although educational programs are addressing at least some LGBT-specific content, students of the health professions request additional training and education as they continue to have feelings of discomfort and lack of preparedness in caring for members of the LGBT community (Carabez, Pellegrini, Mankovitz, Eliason, & Dariotis, 2014; Hayes et al., 2015;

White et al., 2015). In assessing the comfort level and knowledge of sexual history taking in sexual and gender minority patients, medical students and residents demonstrate a significantly lower level of comfort in taking sexual histories with LGBT patients in comparison to other populations (Hayes et al., 2015). In addition, 21% of students and residents feel their sexual history training is overall inadequate, and 20% of students and residents report receiving no prior training in eliciting sexual histories in LGBT patients (Hayes et al., 2015). Studies assessing nursing students' knowledge of and perceptions toward LGBT health indicate learning experiences, such as LGBT-related course modules and assignments, improve students' knowledge of, attitudes, and skills related to LGBT health (Carabez et al., 2014; Cornelius & Whitaker-Brown, 2015). Similarly, Bidell (2013) highlighted educational benefits, including significant improvements in LGBT cultural competencies and self-efficacy, master-level counseling students receive in enrolling in an LGBT-affirmative counseling course.

Overall, previous research addressing the education and training of students in the health professions suggests the need for additional LGBT-related content in educational programs' curricula (Cornelius & Whitaker-Brown, 2015; Mandap et al., 2014). Subjects related to sexual health training involving LGBT patients, such as taking sexual histories from gender minorities, should be included in educational content (Hayes et al., 2015). Moreover, an emphasis on faculty readiness to teach LGBT content is recommended. Researchers suggest faculty review LGBT-related resources and competencies to further assist in the integration of sexual and gender minority health content into their curriculum (Cornelius et al., 2016; Mandap et al., 2014).

Previous Research on Students' Attitudes in the Health Professions

A growing body of literature exists investigating attitudes toward sexual and gender minorities among students in the health professions. Studies include assessment of students'

attitudes across different fields and levels of study, as well as assessment of factors related to students' attitudes such as sociodemographic variables. Researchers primarily explore students' attitudes toward lesbian women and gay men (Dastan, 2015; Kwok, Wu, & Shardlow, 2013; Newman, Dannenfelser, & Benisheck, 2002; Papadaki et al., 2015; Rainey & Trusty, 2007; Tolar et al., 2008; Unlu, Beduk, & Duyan, 2016). A rather limited number of studies, however, also investigate students' attitudes toward transgender and bisexual populations (Cornelius & Carrick, 2015; Cornelius & Whitaker-Brown, 2015; Greene et al., 2018; Strong & Folse, 2015).

Attitudes across fields of study. Evidence suggests attitudes toward LGTB individuals differ across fields of study. Based on the current literature, social work students and mental health counseling students reveal predominantly favorable attitudes toward lesbian women and gay men (Kwok et al., 2013; Newman et al., 2002; Papadaki et al., 2015; Rainey & Trusty, 2007; Tolar et al., 2008). In contrast, nursing students most commonly report the highest levels of negative attitudes toward LGBT individuals (Cornelius & Whitaker-Brown, 2015; Dastan, 2015; Papadaki et al., 2015; Strong & Folse, 2015; Unlu et al., 2016). As one of the only comparative studies in the current literature, Papadaki and colleagues (2015) examined attitudes toward lesbian women and gay men among nursing, psychology, social work, and medical students, and report nursing students express the most negative attitudes followed by medical students. In the same study, psychology and social work students report the most positive attitudes toward LGBT persons (Papadaki et al., 2015). Although only one study in the current literature includes an assessment of dental students' attitudes toward LGBT persons, findings indicate dental students display more negative, stereotypical attitudes in comparison to nursing and medical students (Greene et al., 2018).

Several explanations concerning the variation of attitudes across multiple disciplines are beginning to surface. Researchers suggest students entering the field of social work are more likely to have positive attitudes toward members of the LGBT community in comparison to students in other fields of study (Papadaki et al., 2015; Tolar et al., 2008). Within the social work curriculum, greater emphasis is placed on subjects such as compassion, open-mindedness, and anti-discrimination, which may influence students' perceptions towards sexual minorities (Papadaki et al., 2015; Tolar et al., 2008). In reference to findings of negative attitudes reported by dental students, Greene et al. (2018) suggest a lack of LGBT-specific health content and a lack of instructor knowledge in dental school programs.

In recognizing differing attitudes across various fields of study, assessment of students' attitudes in the medical, nursing, and social work professions are most commonly investigated (Cornelius & Whitaker-Brown, 2015; Cornelius & Carrick, 2015; Dastan, 2015; Greene et al., 2018; Kwok et al., 2013; Papadaki et al., 2015; Strong & Folse, 2015; Tolar et al., 2008; Unlu et al., 2016). A limited number of studies examining attitudes of psychology, counseling, and dental students are in the current literature (Greene et al., 2018; Newman et al., 2002; Papadaki et al., 2015; Rainey & Trusty, 2007). Not included in the literature, however, are assessments of attitudes among other students of the health professions, such as pharmacy, physician assistant, PT and OT students.

Influencing factors of attitudes. In addition to assessing attitudes across different disciplines, evidence suggests students' attitudes are influenced by a number of factors. The following factors associated with students' attitudes are most commonly reported: religiosity, political view, and year of study (Dastan, 2015; Kwok et al., 2013; Newman et al., 2002; Papadaki et al., 2015; Rainey & Trusty, 2007; Tolar et al., 2008; Unlu et al., 2016). Across all

studies, religiosity is most commonly researched, followed by year of study, and lastly, political view.

Religiosity is significantly associated with students' attitudes toward lesbian women and gay men (Dastan, 2015; Kwok et al., 2013; Newman et al., 2002; Papadaki et al., 2015; Rainey & Trusty, 2007; Tolar et al., 2008; Unlu et al., 2016). Among religious groups, those categorized as Protestant or Christian hold more negative attitudes toward lesbian women and gay men (Kwok et al., 2013; Newman et al., 2002). Moreover, students who report strong religious beliefs express more negative attitudes in comparison to students with weak religious beliefs (Dastan, 2015; Papadaki et al., 2015; Rainey & Trusty, 2007). Based on these findings, religiosity appears to play an important role in students' lives and furthermore, might have an increasing effect on homophobic or transphobic attitudes among students in the health professions (Dastan, 2015; Papadaki et al., 2015).

In addition to religiosity, year of study is related to students' attitudes toward the lesbian women and gay men (Kwok et al., 2013; Papadaki et al., 2015; Tolar et al., 2008; Unlu et al., 2016). Students in upper level courses and final years of study display more favorable attitudes toward lesbian women and gay men (Kwok et al., 2013; Tolar et al., 2008; Unlu et al., 2016). Researchers suggest as students age and mature, their perspectives toward sexual and gender minorities evolve and negative attitudes decline (Tolar et al., 2008; Unlu et al., 2016). It is important to note, however, findings from a recent study discovered negative attitudes among students did not decrease progressively throughout years of study (Papadaki et al., 2015). It is possible students' attitudes were influenced by external factors such as recent classroom discussions or assignments that were not controlled for in the study (Papadaki et al., 2015).

Although not as commonly assessed in comparison to religiosity and year of study, political view is thought to be associated with attitudes toward LGBT persons among students in the health professions (Rainey & Trusty, 2007; Tolar et al., 2008; Unlu et al., 2016). Overall, students, who view themselves as conservative or Republican, report more negative attitudes toward lesbian women and gay men (Rainey & Trusty, 2007; Tolar et al., 2008; Unlu et al., 2016). Conversely, those who view themselves as liberal or Democrat report more positive attitudes (Rainey & Trusty, 2007).

Summary of findings. Overall, attitudes across fields of study in the health professions vary and are relative to individual characteristics. The current literature is primarily based on nursing, medical, and social work students' attitudes. Social work students appear to have the most accepting attitudes, and nursing students appear to have the most negative attitudes toward sexual and gender minorities. Evidence suggests religiosity, year of study, and political view influence students' attitudes. Upper level students and students who are liberal or Democrat report more positive attitudes toward sexual minorities, while conservative or Republican students and those with strong religious beliefs report more negative attitudes.

Based on findings from the literature, the current study expanded previous research examining students' attitudes toward sexual minorities and addressed gaps in the literature. The study not only assessed students' attitudes toward lesbian women and gay men, but it also included an assessment of attitudes toward transgender and bisexual individuals. In acknowledging the lack of inclusivity among disciplines, the project leader documented nursing, PT, OT, pharmacy, and mental health counseling students' attitudes toward LGBT persons. Finally, building on previous research, the study examined religiosity, year of study, and political view in addition to exploring attitudes among the different departments of study.

Theoretical Frameworks

Two theoretical frameworks guided the current study: Social Judgment Theory and Theory of Reasoned Action. Figure 1 illustrates the integration of Social Judgment Theory into the construct of attitudes in Theory of Reasoned Action. Constructs considered for the study are highlighted in red in Figure 1.

Social Judgment Theory

Social Judgment Theory was developed by social psychologist, Muzafer Sherif, and his colleagues, Carl Hovland and Carolyn Sherif. The theory emerged from a series of experiments studying human responses to stimuli. Throughout the experiments, participants compared a specific aspect of an object, such as the extent of movement or size, to a different object (Sherif & Hovland, 1953). Participants categorized the objects based on a personal standard or point of reference (Sherif & Hovland, 1953). Experimental evidence suggested an individual's judgment of stimuli is considerably affected by his or her attitude toward the stimuli being judged (Sherif & Hovland, 1953).

As a result of experimental findings, Sherif and colleagues developed Social Judgment Theory as an explanation to predict an individual's evaluation of an advocated message by comparing it with the individual's anchor (or position on the issue) and attitudes (Sherif & Hovland, 1953). Social Judgment Theory also attempts to explain how likely an individual might be persuaded to change their attitude or level of commitment to their position on the issue (Mallard, 2010). Key concepts include: *level of ego-involvement*, *latitude of acceptance*, *latitude of non-commitment*, *latitude of rejection*, *assimilation effect*, and *contrast effect*.

Level of ego-involvement. *Level of ego-involvement* refers to the level of personal involvement an individual has on a particular issue or idea (Sherif & Sargent, 1947; Sherif &

Sherif, 1961). The formation of one's ego often consists of attitudes the individual acquires from his or her own behaviors, relationships, social values, institutions, and affiliated groups (Sherif & Sherif 1961). Higher levels of ego-involvement indicate the individual holds a stronger and more committed position about the issue being communicated and will hold either an extreme latitude of acceptance or an extreme latitude of rejection (Hovland, Sherif, & Harvey, 1957; Sherif & Sherif, 1961). In contrast, lower levels of ego-involvement about the communicated message indicate the individual does not hold a strong position on the issue; therefore, the individual is more likely to have a latitude of non-commitment, and a smaller likelihood of a latitude of rejection or acceptance (Hovland et al., 1957).

Latitudes. Sherif and Hovland (1953) conceptualize attitudes as a behavioral index divided into three categories: latitude of acceptance, latitude of rejection, and latitude of non-commitment. *Latitude of acceptance* includes messages an individual considers acceptable, and *latitude of rejection* includes messages an individual considers unacceptable (Mallard, 2010). Individuals who neither agree nor disagree with the communicated message categorize the message in their *latitude of non-commitment* (Mallard, 2010).

Assimilation effect and contrast effect. Assimilation effect and contrast effect describe the extent or likelihood of attitude change. When the communicated message is categorized within an individual's latitude of acceptance or slightly beyond and is close to the person's anchor, the individual is likely to *assimilate* the message (Hovland et al., 1957). However, if the message is categorized within the individual's latitude of rejection and is farther from the person's anchor, the individual is likely to *contrast* the message and attitude change is less likely to occur (Hovland et al., 1957). For individuals who categorize the message in their latitude of non-commitment, they are expected to have lower levels of ego-involvement related to the

message. Therefore, one would anticipate a greater likelihood of attitude change if and when additional messages are received (Hovland et al., 1957).

Theory of Reasoned Action

Prior to the development of the Theory of Reasoned Action in the 1960s, theorists studying attitudes focused on measuring attitudes toward an object to predict behavior (Montano & Kasprzyk, 2015). However, Martin Fishbein illustrated an attitude toward a behavior is a better predictor of the behavior than an attitude toward an object toward which the behavior is being directed (Fishbein & Ajzen, 1974). As a result, Fishbein and Icek Ajzen established the theory of reasoned action to better explain the relationships between attitudes, intentions, and human behaviors (Madden, Ellen, & Ajzen, 1992; Montano & Kasprzyk, 2015).

Theory of Reasoned Action suggests an individual's behavioral intentions are a function of salient beliefs about the likelihood that performing a behavior will lead to a specific outcome (Madden et al., 1992). Moreover, the intention to perform a behavior is influenced by an individual's attitudes and subjective norms toward the behavior (Madden et al., 1992; Montano & Kasprzyk, 2015). Key concepts include: *behavior*, *behavioral intention*, *attitude*, and *subjective norm*.

Behavior. *Behavior* is defined as an individual's action in response to a stimulus (Montano & Kasprzyk, 2015).

Behavioral intention. *Behavioral intention* refers to the perceived likelihood of performing a behavior and is thought to be the most important determinant of behavior (Madden et al., 1992; Montano & Kasprzyk, 2015). Intention to perform a behavior is determined by the individual's attitude and perceived subjective norm toward the behavior (Montano & Kasprzyk, 2015).

Attitude. *Attitude* is an individual's favorable or unfavorable response to a specific behavior (Fishbein & Ajzen, 1974). Attitude is influenced by behavioral beliefs surrounding the behavior and the evaluation of potential outcomes (Fishbein & Ajzen, 1974; Montano & Kasprzyk, 2015). For example, if an individual believes a behavior will result in favorable outcomes, the individual is more likely to have a positive attitude towards the behavior. However, if an individual believes the behavior will result in unfavorable outcomes, the individual is more likely to have a negative attitude towards the behavior.

Subjective norm. *Subjective norm* is determined by an individual's normative beliefs, which are the beliefs about whether significant others, such as family members or friends, would approve or disapprove of the behavior (Montano & Kasprzyk, 2015). Individuals who believe significant others would approve of them performing the behavior will yield a positive subjective norm, whereas individuals who believe significant others would disapprove of the behavior will yield a negative subjective norm (Montano & Kasprzyk, 2015).

Application

The aims of the study were to explore health professional students' attitudes toward LGBT individuals and assess influencing factors of students' attitudes including religiosity, year of study, and political view. To expound on the concept of attitudes and provide a more explicit and robust explanation of how students' attitudes are influenced, Social Judgment Theory was integrated into Theory of Reasoned Action.

Conforming to the theoretical underpinnings of Social Judgment Theory and Theory of Reasoned Action, health professional students' attitudes were assessed with the modified version of Attitudes Toward Lesbian and Gay Men (ATLG) scale. The modified ATLG scale consists of nine statements, or messages, students read and rated their level of agreement or disagreement on

a 5-point Likert scale (1=*strongly disagree*, 5=*strongly agree*). Three of the nine items were reverse scored. *Strongly agree* and *somewhat agree* responses were categorized in students' latitude of acceptance and indicated students held strong levels of ego involvement related to the message. *Strongly disagree* and *somewhat disagree* responses were categorized in students' latitude of rejection and also indicated students expressed strong levels of ego involvement. *Neither agree nor disagree* responses were categorized in the latitude of non-commitment and indicated students held a neutral or weak level of ego involvement related to the message. To assess the extent of ego-involvement and background factors influencing attitudes, students were asked about their political view, religiosity, and level of education. In regards to assimilation and contrast effects, responses categorized in students' latitude of acceptance were likely to be assimilated, while responses in students' latitude of rejection were likely to be contrasted and attitude change less likely to occur. Responses categorized in students' latitude of non-commitment implied students held weak levels of ego involvement related to the message, and therefore, attitude change is more likely to occur if and when additional messages are communicated.

For the purposes of the current study, assessing students' attitudes was an important first step to address factors which might influence attitudes and ultimately students' behavioral intentions and behavior, the decision to deliver equitable care to LGBT persons. By acknowledging the latitudes in which the messages from the ATLG scale were categorized, the project leader was able to hypothesize, based on Social Judgment Theory and Theory of Reasoned Action, which students are more likely to intend to deliver equitable care and engage in the behavior of delivery of equitable care. Furthermore, the project leader was able to identify

future implications concerning students' educational development, including topics discussed in classroom settings and the delivery of educational content to students from faculty.

Project Design

The study utilized a cross-sectional, online survey design to collect quantitative data from a sample of nursing, mental health counseling, PT, OT, and pharmacy students at a private university. The cross-sectional design was an appropriate choice as it captured potentially divergent attitudes among students with similar sociodemographic factors. The project leader collected data on multiple variables, including religiosity, year of study, and political view to determine if the variables were associated with students' attitudes. Verification of exemption was obtained by the university's Institutional Review Board (IRB) in May 2019.

Setting

The study took place at a private, Christian university in the Southeastern United States during students' fall semester of 2019. The university has over 8,300 enrolled students and is recognized as a Christian community bringing together liberal arts and professional education ("Belmont," n.d.). Students voluntarily completed the online survey in various classroom settings located on the university's campus during scheduled class time. Final year pharmacy students and final year OT doctoral students were enrolled in online-only courses; therefore, they voluntarily completed the online survey at their own convenience. In order to determine which classrooms to attend for survey conduction, the project leader individually explored departments' curricula for first and final semester courses somewhat or closely related to the study's purpose, such as populations and ethics courses.

Project Population

A purposive sampling technique was used to recruit first and final year pre-licensure students in nursing, mental health counseling, PT, OT, and pharmacy programs. Pre-licensure students are recognized as students in their undergraduate or graduate levels of training prior to obtaining licensure to practice independently (Zwarenstein, Reeves, & Perrier, 2005). Nursing students included in the study were traditional (4-year program) nursing students and accelerated second degree (16-month program) nursing students. Occupational therapy students included both master's level and doctoral level students.

All participants were recruited in collaboration with course professors during scheduled class time or via email from course professors. Participant recruitment included an in-person classroom visit by the project leader who described the study purpose and invited pre-licensure student participation. As a participation incentive, donuts were offered to students who completed the survey during scheduled class time. For students enrolled in online-only courses, the project leader created a video invitation that was embedded in the recruitment email sent by course faculty.

Data Collection Instruments

Modified Attitudes Toward Lesbians and Gay Men (ATLG) Scale. A modified version of the 20-item ATLG scale was used to measure students' attitudes (Herek, 1988; Logie et al., 2007). The original ATLG scale measures heterosexual persons' attitudes toward lesbian women and gay men by presenting statements which elicit heterosexual persons' affective responses to homosexuality (Herek, 1988; Papadaki et al., 2015). The original ATLG scale is reliable with consistent Cronbach alpha levels of .90 or greater (Papadaki et al., 2015; Rainey & Trusty, 2007; Strong & Folse, 2015; Unlu et al., 2016).

The modified version of the ATLG scale consists of nine items to include attitudes toward bisexual and transgender populations (Logie et al., 2007). Based on previous research, the modified version of the 20-item ATLG scale is reliable with a Cronbach alpha of .9201 (Logie et al., 2007). Respondents rated their level of agreement or disagreement on a 5-point Likert scale (1=*strongly disagree*, 5=*strongly agree*). Scores ranged from 9 (*extremely positive attitudes*) to 45 (*extremely negative attitudes*). Reverse scoring was used for three items. Refer to Appendix. To interpret scores, the midpoint of the total score range, which was 27, and the theoretical midpoint of the response scale (e.g., the value 3 for a 5-point Likert scale) were utilized as reference points to distinguish negative attitudes from positive attitudes (Kwok et al., 2013; Papadaki et al., 2015). Scores below 27 and scale items below the value 3 indicated more favorable or positive attitudes, while scores at and above 27 and the scale value 3 indicated more negative attitudes.

Demographic questionnaire. In order to assess students' religiosity, political view, and year of study, the survey included a set of demographic questions. Religiosity was measured by asking students to rank on a 5-point Likert scale how important religiosity is in their lives (1 = *not at all important*, 5 = *extremely important*) (Papadaki et al., 2015). Political view was assessed by asking students if they are Republican, Democrat, or independent/other (Tolar et al., 2008). Because pre-licensure programs varied in duration, year of study was tailored to particular pre-licensure program. Refer to Appendix.

In order to determine year of study among pharmacy, PT, and OT doctoral students, participants were asked if they were a first or final year student. Since the mental health counseling program and the OT master's program are two years in duration, students were asked if they were a student in their first or second year of study. Nursing students were first asked if

they were a traditional or accelerated student. Then, based on nursing students' responses, accelerated students reported if they were in their first or last semester of nursing school, and traditional students reported if they were a first or final year student.

Two demographic questions concerning students' sexual orientation and gender were formatted based on the CDC's recommendations. Sexual orientation was determined by asking students if they think of themselves as one of the following: heterosexual or straight, homosexual, bisexual, queer/pansexual/or questioning, don't know, decline to answer, or something else with a textbox provided to specify their answer (CDC, 2019). Next, gender was determined by asking students if they think of themselves as one of the following: male, female, transgender female, transgender male, genderqueer/gender nonconforming, or additional gender category with a textbox provided to specify their answer (CDC, 2019).

Data Collection Process/Procedures

Survey development. Prior to dissemination of the survey to the sample population, the survey was piloted to identify any logistical or technical issues, determine average time of survey completion, and ensure appropriate flow and clarity of questions included in the survey. Twenty-seven students, recruited outside of the university's fitness center, participated in the pilot survey. Based on the pilot feedback, the survey was tailored to allow survey completion on laptop or mobile devices, return to previous questions, and skip questions students did not wish to answer. Completion time of the pilot survey was approximately two and a half minutes.

Survey implementation. Anonymous data were collected electronically via Qualtrics survey software, a password protected program, in October and November 2019. No personal identifying information such as students' email addresses or names was collected from the anonymous link. A letter of invitation was included in the online survey stating participation was

completely voluntary and students could choose to discontinue the survey at any time. Due to the minimal risks associated with student participation, completion of the survey indicated students' implied consent to participate in the study.

For students who took the survey on campus during scheduled class time, the project leader attended classrooms to invite pre-licensure students to participate in the study and was available to answer students' questions. Once students were invited to participate in the study, they were sent the anonymous link from their course faculty to complete the survey in class on their personal laptops or mobile devices. Final year pharmacy and OT doctoral students were enrolled in online-only courses; therefore, faculty sent them the anonymous link and invitation video created by the project leader. After two weeks, a second email request was sent by faculty to students enrolled in online-only courses as a reminder to complete the survey. A third and final email request was sent to students enrolled in online-only courses three weeks following the second email request. The survey remained open for the entirety of the data collection process period.

Statistical Analysis

At the conclusion of the data collection process period, all data were exported from Qualtrics survey software to IBM SPSS statistical software for data cleaning, recoding, and analysis. One survey indicated 0% completion and was therefore removed from the dataset. Additionally, one participant responded to questions regarding gender and sexual orientation with homophobic and transphobic responses; therefore, the participant's survey was also removed from the dataset as a result of strong bias and the potential for the participant's responses to skew the results. After the removal of two surveys from the raw dataset, the project leader generated two separate datasets: heterosexual/straight and non-heterosexual/non-straight.

The ATLG scale is intended to measure heterosexual individuals' attitudes; therefore, data from students who did not report heterosexual or straight were not included in the primary statistical analyses. Once the data were categorized into two groups, the project leader further evaluated the datasets for missing data points. Missing responses from the heterosexual/straight dataset ranged from 0.2% to 1.1% for scale-item questions and 0.8% to 1.4% for demographic questions. To replace missing values for scale-item questions, the series means for individual scale-item questions were imputed into missing data points. The remaining 1.4% of missing demographic values remained unchanged and were included in the study. The non-heterosexual/non-straight dataset included zero missing scale-item values and only one missing demographic value, which also remained unchanged and included in the study. Once both datasets were void of missing scale-item values, 641 heterosexual/straight and 44 non-heterosexual/non-straight survey responses remained for statistical analyses.

In order to explore students' attitudes toward the LGBT population, ATLG scores were calculated for the sample as a whole as well as each department separately. Since responses to individual ATLG scale-item questions may display important patterns not revealed by the sample's overall ATLG score, individual scale items were assessed to identify which items among pre-licensure students were the most accepted in comparison to items least accepted. Descriptive statistics were computed to assess demographic characteristics, individual ATLG item scores, and the overall ATLG score. Department of study ($p < .001$), political view ($p < .001$), and religiosity ($p < .001$) did not meet the assumptions for normal distribution (Shapiro-Wilk test); therefore, Kruskal Wallis tests were undertaken for group comparisons regarding overall ATLG scores among heterosexual/straight students. To reduce the risk of making a Type I error (false positive) due to multiple testing, each significant value was adjusted using Bonferroni

correction method. To assess differences in overall ATLG scores between year of study among heterosexual/straight students and between heterosexual/straight and non-heterosexual/non-straight students, independent t-tests were conducted. Alpha levels were set at the conventional level of $p < 0.05$, and analyses were conducted using IBM SPSS statistical software version 25.0.

Results

Demographic Characteristics

A total of 687 pre-licensure students completed the survey. Table 1 describes the characteristics of the sample. The overall survey response rate was 79.1%, with a response rate of 88.2% ($n=380$, $N=431$) nursing, 40.6% ($n=71$, $N=175$) pharmacy, 90.9% ($n=20$, $N=22$) mental health counseling, 96.7% ($n=88$, $N=91$) physical therapy, and 80.6% ($n=121$, $N=150$) occupational therapy students. Across all departments of study ($N=687$), 86.2% ($n=592$) of pre-licensure students identified as female, 60.0% ($n=412$) indicated they were in their first year of study, and 92.6% ($n=636$) identified as heterosexual/straight. The majority of participants indicated their political view as Republican ($n=248$, 36.1%) or independent/other ($n=241$, 35.1%) and religion as very important ($n=144$, 21.0%) or extremely important ($n=218$, 31.7%).

Overall Attitudes

Heterosexual/straight students' ATLG scores ranged from 9 to 45 with a mean overall ATLG score of 17.65 ($SD=8.38$) indicating predominantly favorable attitudes. Similarly, non-heterosexual/non-straight students reported predominantly positive attitudes with ATLG scores ranging from 9 to 29 and a mean overall ATLG score of 12.57 ($SD=5.5$). Of the 641 heterosexual/straight respondents, 111 (17.3%) pre-licensure students scored in the negative range, 149 (23.2%) students scored nine (completely positive attitudes), and three students

(0.5%) scored 45 (completely negative attitudes). Results for each of the nine ATLG items among heterosexual/straight students are presented in Table 2.

Examining each of the nine ATLG items presented in Table 2, general patterns may be discerned among pre-licensure students' attitudes. Across all nine items, more than 70% of students reported more favorable attitudes toward the LGBT population based on their responses to the following six items: *if a person has homosexual feelings, they should do everything to overcome these feelings; homosexuality is merely a different kind of lifestyle that should not be condemned; bisexuality is a threat to many of our basic social institutions; transgender people threaten many of our basic social institutions; if a person has bisexual feelings, they should do everything to overcome these feelings; and homosexuality is a threat to many of our basic social institutions*. Relative to the study's theoretical framework, the most rejected (greater than 80%) items, indicating more favorable attitudes toward LGBT persons, were two items concerning bisexuality and homosexuality as a threat to social institutions (*bisexuality is a threat to many of our basic social institutions; homosexuality is a threat to many of our basic social institutions*). Alternatively, the most accepted (greater than 20%) items, indicating more negative attitudes toward LGBT individuals, were two items regarding bisexual and transgender individuals (*bisexuality is merely a different kind of lifestyle that should not be condemned; transgender people merely have a different sexual identity that should not be condemned*).

Attitudes Among Departments of Study

A Kruskal Wallis test found little variation and no significant differences in attitudes among the five departments of study, $H(4)=6.55, p=.162, \eta^2=.004$ (see Table 3). See Figure 2 for a graphical representation of heterosexual/straight students' attitudes among nursing, pharmacy, PT, OT, and mental health counseling departments.

Attitudes and Religiosity

A Kruskal Wallis test indicated a significant difference in students' overall attitudes on the basis of religiosity, $H(4)=135, p<.001, \eta^2=.21$ (see Table 4). Bonferroni correction indicated those who categorized religion as extremely important expressed more negative attitudes in comparison to students who viewed religion as very important, important, a little important, and not at all important. Additionally, students who indicated religion as not at all important, a little important, and important expressed more favorable attitudes toward the LGBT population than students who viewed religion as very important. Refer to Figure 3 for a graphical representation of students' attitudes and religiosity.

Attitudes and Political View

The effect of political view was significant in relation to students' overall attitudes toward the LGBT population, $H(2)=138, p<.001, \eta^2=.21$ (see Table 5). Bonferroni correction revealed statistically significant between-group differences among all three political views: Republican, Democrat, and independent/other. Students, who reported their political view as independent/other, expressed more positive attitudes than students who viewed themselves as Democrat or Republican. Conversely, students who indicated their political view as Republican held more negative attitudes than students who reported their political view as Democrat or independent/other. Figure 4 displays students' attitudes and political view.

Attitudes and Year of Study

An independent t-test revealed no statistically significant differences in the mean attitude scores between first ($M= 17.4, SD=8.03$) and final year students ($M=17.9, SD=8.9$), $t(634)=0.797, p=.103, d=0.059$ (see Table 6).

Attitudes Among Heterosexual/Straight and Non-Heterosexual/Non-Straight Students

Non-heterosexual/non-straight students' attitudes ($M=12.6$, $SD=5.5$) toward LGBT individuals were significantly more positive than heterosexual/straight students' attitudes ($M=17.6$, $SD=8.39$), $t(58)=3.96$, $p<.001$, $d=0.7$ (see Table 7). Levene's test indicated unequal variances ($F=15.5$, $p=.039$), thus degrees of freedom were adjusted from 683 to 58.

Discussion

To the project leader's knowledge, this was the first study to explore and compare nursing, pharmacy, PT, OT, and mental health counseling students' attitudes toward the LGBT population. The overall findings from the study expand current research examining students' attitudes to include a more diverse sample of health professional students and an assessment of students' attitudes toward not only lesbian women and gay men, but also bisexual and transgender individuals. Social Judgment Theory and Theory of Reasoned Action served as the theoretical underpinnings for assessment of students' attitudes and identification of factors influencing students' attitudes.

Overall Attitudes

Heterosexual/straight students' ATLG score of 17.65 and non-heterosexual/non-straight students' ATLG score of 12.57 indicate predominantly positive attitudes toward LGBT individuals among pre-licensure students as a whole. Further evaluation of heterosexual/straight students' attitudes revealed 111 (17.3%) students scored in the negative range and three students scored 45 (completely negative attitudes). This finding suggests consideration of areas for improvement related to students' attitudes toward sexual and gender minorities.

While examining each of the nine ATLG items among heterosexual/straight students, differences in students' attitudes between subsets of the LGBT population surfaced. Two items

concerning bisexual and transgender individuals were associated with the most negative attitudes among students. Although a paucity of research examining health professional students' attitudes toward bisexual and transgender persons exist, the finding is consistent with previous research from Tolar and colleagues (2008) who found more negative attitudes and higher rates of phobias toward transgender and bisexual individuals compared to lesbian women and gay men among social work students. It is also important to mention the most rejected items (indicating more positive attitudes) among heterosexual/straight students were two items regarding bisexuality and homosexuality as a threat to basic social institutions. It is unclear whether or not the phrase, *basic social institutions*, was the primary influence of how students responded or whether *bisexuality and homosexuality* were the primary influence of students' responses, or possibly both.

Attitudes Among Departments of Study

Although not found statistically significant, heterosexual/straight students' attitudes varied across departments of study. Collectively, mental health counseling students reported the most positive attitudes toward LGBT individuals (mean rank=298), followed by nursing (mean rank=306) and OT students (mean rank=316). PT students reported the least favorable attitudes (mean rank=356) followed by pharmacy students (mean rank=341). In comparison to previous research, the study's findings are variable. Reports of mental health counseling students expressing more favorable attitudes toward LGBT individuals are consistent with prior studies (Newman et al., 2002; Rainey & Trusty, 2007). However, the current study found nursing students held more favorable attitudes than most departments of study, which is inconsistent with findings from one of the only comparative studies in the current literature investigating students' attitudes among the helping professions. Findings from Papadaki et al. (2015) reported nursing

students held the most negative attitudes followed by medical and psychology students (Papadaki et al., 2015). Although several potential explanations for the variations in attitudes across the five departments of study exist, the current study did not answer this question. However, the project leader hypothesizes the amount of LGBT-related content covered among departments of study had an effect on students' overall attitudes. With limited awareness or knowledge of health-related topics and cultural aspects of care among the LGBT community, students may have felt feelings of fear or uncertainty, affecting their attitudes and perceptions toward sexual and gender minorities. Moreover, researchers explain differences between departments of study may be related to emphasis placed on discriminatory practice among health care professionals, thus providing students with greater awareness of challenges the LGBT community faces (Papadaki et al., 2015).

Attitudes and Religiosity

Findings revealed the importance of religion in heterosexual/straight students' lives was an important determinant of their attitudes. Specifically, the more important religion was to students, the more negative students' attitudes toward the LGBT population. Prior studies have also reported an association between religiosity and health professional students' attitudes toward sexual and gender minorities. Studies assessing students of the health professions' attitudes toward lesbian women and gay men found those who reported strong religious beliefs expressed more negative attitudes compared to students with weak religious beliefs (Dastan, 2015; Papadaki et al., 2015; Rainey & Trusty, 2007).

Because the study took place at a private, Christian university, it is possible the importance of religion in students' lives was influenced by the university's environment, which was not controlled for in the study. Recent evidence found Christian universities associated with

conservative, religious traditions are more likely to discriminate against sexual minorities (Coley, 2019). While it is uncertain whether or not the university's religious traditions (e.g., convocation hour requirements) or attitudes of the university's faculty had an impact on students' attitudes, it is important for students of the health professions to abide by their professional Codes of Ethics and feel comfortable working with individuals who do not share their same values or beliefs (Newman et al., 2002; Papadaki et al., 2015).

Attitudes and Political View

In regards to political view, heterosexual/straight students who indicated their political view as Democrat reported the most positive attitudes toward LGBT persons (mean rank=213) followed by independent/other (mean rank=286). Conversely, students, who recognized their political view as Republican, reported the least favorable attitudes (mean rank=417). The results are consistent with previous research exploring health professional students' attitudes toward lesbian women and gay men, which found students who reported more conservative political views (e.g., Republican) held more negative attitudes toward lesbian women and gay men in comparison to students who viewed themselves as more liberal (e.g., Democrat and independent/other) (Rainey & Trusty, 2007; Tolar et al., 2008; Unlu et al., 2016).

Students' political views were perhaps influenced by factors not controlled for in the study, such as personal relationships or the media. For instance, parents or guardians often serve as role models throughout one's childhood development and young adult life; therefore, some students may have chosen their political view on the basis of their parents' political stand rather than personal opinions. In addition, the power of the media may have had some persuasion over students' current political views such as the upcoming 2020 presidential election or recent media coverage of political parties' opinions about topics related to same sex marriage or LGBT rights.

Political View and Religiosity in Relation to Students' Attitudes

Based on the study results, political view and religiosity were significantly associated with students' attitudes toward LGBT persons. However, findings raise the question concerning whether or not religiosity or political view, independent of one another, had an impact on students' attitudes, but rather LGBT awareness among political parties and religious groups was the underlying influence of students' attitudes. For example, a recent study investigating presidential communication about the LGBT community reported two presidents, both from the Democratic party, engaged the LGBT community to a meaningful degree and took steps toward greater humanization of the LGBT population (Coe, Bruce, & Ratcliff, 2017). Thus, it is possible the culture of the Democratic party facilitated greater awareness of the LGBT community, which contributed to Democratic students' positive attitudes toward LGBT persons. Similarly, LGBT awareness among religious groups may have impacted students' attitudes as some religious affiliations are not LGBT-affirming, and are therefore, more prejudiced toward the idea of same-sex marriage or LGBT rights.

Attitudes and Year of Study

In contrast to prior research, year of study was not a significant influence of heterosexual/straight students' attitudes toward the LGBT population. Moreover, students' attitudes did not improve from first to final year of study as the project leader hypothesized. In fact, results showed students' attitudes were slightly less favorable towards LGBT individuals in their final year of study versus their first year of study. The results do not align with current evidence indicating students enrolled in their final year of study show more favorable attitudes toward lesbian women and gay men (Kwok et al., 2013; Tolar et al., 2008; Unlu et al., 2016). However, the results do support findings from a recent study that also found health professional

students' attitudes toward lesbian women and gay men did not improve from first to fourth year of study (Papadaki et al., 2015).

Attitudes Among Heterosexual/Straight and Non-Heterosexual/Non-Straight Students

As the project leader anticipated, non-heterosexual/non-straight students' attitudes were significantly more positive towards LGBT individuals than heterosexual/straight students' attitudes. Previous studies exploring university students' attitudes toward the LGBT community have also found more positive attitudes among non-heterosexual/non-straight students in comparison to heterosexual/straight students (Copp & Koehler, 2017; Holland, Matthews, & Schott, 2013). Although not measured in the current study, it is likely non-heterosexual/non-straight students had more personal, close contact or acquaintances with LGBT individuals, which could have greatly influenced their attitudes. This explanation is supported by the current literature, which shows personal contact with lesbian women and gay men is associated with lower levels of prejudice and more positive attitudes among students of the health professions (Papadaki et al., 2015; Unlu et al., 2016).

Recommendations for Educational Development

The results of the current study suggest the need for a change in departments' curriculums to include more LGBT-specific content and opportunities for learning experiences related to working with gender and sexual minorities. Similar to findings from the current study, Papadaki et al. (2015) argued limited educational content concerning lesbian women and gay men possibly impacted their findings associated with lack of improved attitudes from first to final year of study among students of the health professions. It is important pre-licensure students are provided with evidence-based, up-to-date educational content regarding LGBT individuals as it facilitates greater awareness of attitudes or bias, and moreover, improves

knowledge of LGBT health. Educational content should include topics such as health disparities, use of appropriate language and pronouns, experiences of victimization and discrimination, and other specific challenges faced by the LGBT population (Greene et al., 2018). Additionally, the content should avoid further stigmatization of gender and sexual minorities while also addressing sensitive topics through appropriate contextualization (Greene et al., 2018). In addition to educational content, the project leader also recommends incorporation of brief educational learning experiences tailored to individual departments. For example, previous studies evaluating the effects of simulation and presentations among pre-licensure nursing students found enhanced knowledge of and improved attitudes toward the LGBT population (Carabez et al., 2014; Cornelius & Whitaker-Brown, 2015; Maruca, Diaz, Stockmann, & Gonzalez, 2018). Specific to mental health counseling students, the use of role-play may better prepare students to work effectively with individuals exploring their sexual orientation as well as other social systems that might have an impact on those individuals' lives (Greene et al., 2018; Newman et al., 2002). Across all departments of study, interprofessional education (IPE) enables students to work with one another to improve cultural competencies necessary for caring for vulnerable populations such as the LGBT community. IPE allows students the opportunity to become more aware of their own personal feelings, bias, or attitudes which may influence patient care in professional practice (Papadaki et al., 2015). Several recommended IPE activities include the use of role-play, interviews, case studies, and discussions related to caring for members of the LGBT population.

Future research assessing faculty attitudes toward the LGBT population is recommended. While assessing students' attitudes was an important first step in determining their behavioral intentions and delivery of equitable care to LGBT persons, faculty play an important role in molding students' attitudes, values, and professional identities (Woodford, Brennan, Gutiérrez,

& Luke, 2013). Assessing faculty attitudes is particularly important as their attitudes may affect the amount and quality of educational content students receive, and moreover, influence how students conceptualize the information received. Faculty with more positive attitudes toward LGBT individuals may highlight the importance of LGBT content with greater emphasis, whereas faculty with less positive attitudes may address LGBT content with strong bias or perhaps choose not to integrate LGBT-related content into their curriculum at all (Woodford et al., 2013). In addition, faculty readiness to address LGBT-specific content is likely to influence students' attitudes. While there is little evidence exploring faculty readiness to address LGBT health, current literature reveals educators of the nursing profession feel unprepared to teach LGBT health and lack awareness of the health disparities among the LGBT population (Lim et al., 2015; Sirota, 2013).

Strengths

The current study had several strengths. First, the study included an assessment of attitudes among a more diverse sample of health professional students. Inclusivity of the five departments of study and the assessment of attitudes toward bisexual and transgender individuals are distinct from the current literature as the majority of previous studies explored only medical, nursing, and social work students' attitudes and lesbian women and gay men were the primary focus. Second, the study had a high response rate of 79.1% among the sample as whole. The high response rate is likely contributed to evidence-based strategies utilized by the project leader to mitigate the risk of a poor response rate. The invitation video created by the project leader to online-only students sent by course faculty was a particular strength as students were able to see the individual (project leader) implementing the study and receive the invitation video from an individual (course faculty) who students have established rapport. In addition, the project leader

attended classrooms to invite pre-licensure students to participate and complete the survey during scheduled class time, which also minimized the risk of a poor response rate. Third, the sample size of non-heterosexual/non-straight students ($n=44$) was large enough to include in the current study, which allowed the project leader the opportunity to explore non-heterosexual/non-straight students' attitudes and compare their attitudes to heterosexual/straight students' attitudes. Finally, the integration of Social Judgment Theory into Theory of Reasoned Action yielded a strong theoretical framework for assessment of pre-licensure students' attitudes.

Limitations

Although there were many strengths of the current study, the study was also limited by a number of factors. Due to the relatively low sample size of mental health counseling students ($n=20$), results among departments of study and overall ATLG scores may have been skewed and found not statistically significant as a result of the discrepancy between department sizes. Another possible limitation was the concern for response bias among participants. Because the majority participants took the survey in classroom settings with the presence of their course faculty, project leader, and peers, participants may have responded to survey questions with answers they believed were more socially acceptable or desirable. In addition, the study took place at a private, Christian university in the Southeastern U.S., which may not be generalizable to health professional students at public universities or universities located outside of the Southeastern U.S. Lastly, while considered a strength and limitation, the ATLG scale was validated for assessment of heterosexual/straight individuals' attitudes and has not yet been validated for the assessment of non-heterosexual/non-straight individuals' attitudes. Although the project leader considered the opportunity to use the ATLG scale to examine non-heterosexual/non-straight students' attitudes as a strength, one must cautiously consider the

results of non-heterosexual/non-straight students' attitudes as the ATLG scale was not developed for use among non-heterosexual/non-straight individuals.

Conclusion

According to the study's two theoretical frameworks, Social Judgment Theory and Theory of Reasoned Action, health professional students' attitudes toward LGBT persons may ultimately affect their decision to deliver equitable care to the LGBT community. Recognizing the role pre-licensure students' attitudes play in determining their behavior is important as failure to deliver equitable care upon graduation may contribute to worsening health and overall well-being among members of marginalized populations. Future research should include an assessment of faculty attitudes and readiness to address LGBT health as faculty play an important role in students' educational development. Furthermore, inclusion of evidence-based, LGBT-specific content in departments' curriculums as well as opportunities for learning experiences designed to heighten students' awareness of LGBT health are important considerations for producing culturally competent health care professionals.

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Demographic Variable	Number of Respondents (N)	Percent (%)
Total Respondents	687	100%
Gender		
Male	86	12.5
Female	592	86.2
Genderqueer/gender nonconforming	1	0.1
Additional gender category	1	0.1
Sexual Orientation		
Heterosexual/straight	636	92.6
Homosexual	8	1.2
Bisexual	20	2.9
Queer, pansexual, and/or questioning	8	1.2
Don't know	4	0.6
Decline to answer	2	0.3
Something else	3	0.4
Department of Study		
Nursing	380	55.3
Pharmacy	71	10.3
Occupational therapy	121	17.6
Physical therapy	88	12.8
Mental health counseling	20	2.9
Year of Study		
First year	412	60
Final year	269	39.2
Political View		
Republican	248	36.1
Democrat	188	27.4
Independent/other	241	35.1
Religiosity		
Not at all important	70	10.2
A little important	123	17.9
Important	125	18.2
Very important	144	21.0
Extremely important	218	31.7

Table 2. Frequencies, Percentages, and Theoretical Latitudes for Responses to ATLG Scale (N=641). Starred (*) items indicate reverse scoring.

<i>Theoretical Latitude</i>	<i>Rejection</i>		<i>Non-Commitment</i>	<i>Acceptance</i>		<i>M(SD)</i>
<i>Message</i>	<i>Strongly Disagree n(%)</i>	<i>Somewhat Disagree n(%)</i>	<i>Neither Agree nor Disagree n(%)</i>	<i>Somewhat Agree n(%)</i>	<i>Strongly Agree n(%)</i>	
<i>If a person has homosexual feelings, they should do everything to overcome these feelings.</i>	374(58.3)	90(14.1)	93(14.5)	69(10.8)	15(2.3)	1.85(1.16)
<i>Bisexuality is merely a different kind of lifestyle that should not be condemned.*</i>	297(46.3)	130(20.3)	79(12.3)	69(10.8)	66(10.3)	2.18(1.38)
<i>Homosexuality is merely a different kind of lifestyle that should not be condemned.*</i>	329(51.3)	125(19.5)	59(9.2)	66(10.3)	62(9.7)	2.08(1.37)
<i>Bisexuality is a threat to many of our basic social institutions.</i>	406(63.3)	127(19.9)	61(9.5)	36(5.6)	11(1.7)	1.62(0.984)
<i>If a person feels that they belong to a different gender than the one they were born into, they should do everything to overcome these feelings.</i>	280(43.7)	136(21.2)	101(15.8)	84(13.1)	40(6.2)	2.17(1.29)
<i>Transgender people threaten many of our basic social institutions.</i>	336(52.4)	125(19.5)	87(13.6)	72(11.2)	21(3.3)	1.93(1.18)
<i>If a person has bisexual feelings, they should do everything to overcome these feelings.</i>	361(56.3)	116(18.1)	73(11.4)	69(10.8)	22(3.4)	1.87(1.18)
<i>Homosexuality is a threat to many of our basic social institutions.</i>	408(63.7)	114(17.8)	63(9.8)	45(7.0)	11(1.7)	1.65(1.03)
<i>Transgender people merely have a different sexual identity that should not be condemned.*</i>	275(42.9)	123(19.1)	92(14.4)	84(13.1)	67(10.5)	2.29(1.4)

Table 3. Overall ATLG Score and Departments of Study (N=641)

Departments of Study	N	Mdn (Min-Max)	Mean Ranks	Statistics
Nursing	361	15(9-42)	306	$p=.162$ $H(4)=6.55$ $\eta^2=.004$
Physical Therapy (PT)	86	18(9-40)	356	
Pharmacy	65	19(9-45)	341	
Occupational Therapy (OT)	106	14(9-45)	316	
Mental Health Counseling	17	15(9-32)	298	

Significant at $p<.05$.

Table 4. Overall ATLG Score and Religiosity with Bonferroni Correction (N=641)

Religiosity	N	Mdn (Min-Max)	Mean Ranks	Statistics
Not at all important (NI)	60	11(9-31)	217	$p<.001$ $H(4)=135$ $\eta^2=.21$
A little important (LI)	105	11(9-40)	226	
Important (I)	120	12(9-31)	248	
Very important (VI)	140	16(9-33)	331	
Extremely important (EI)	210	23(9-45)	424	

Bonferroni

Sample x Sample	Test Statistic	Std. Error	p
NI x LI	-8.61	29.5	.77
NI x I	-30.9	28.8	.28
NI x VI	-114*	28.1	.000
NI x EI	-207*	26.7	.000
LI x I	-22.3	24.3	.360
LI x VI	-105*	23.5	.000
LI x EI	-198*	21.8	.000
I x VI	-82.6*	22.7	.000
I x EI	-176*	20.8	.000
VI x EI	-93.1*	19.9	.000

*Significant at $p<.05$.

Table 5. Overall ATLG Score and Political View with Bonferroni Correction ($N=641$)

Religiosity	<i>N</i>	<i>Mdn</i> (Min-Max)	Mean Ranks	Statistics
Republican (R)	244	22(9-45)	417	$p<.001$ $H(2)=138$ $\eta^2=.21$
Democrat (D)	172	10(9-45)	213	
Independent/Other (IO)	216	13(9-41)	286	
Bonferroni				
Sample x Sample	Test Statistic	Std. Error	<i>p</i>	
D x IO	-73.3*	18.5	.000	
D x R	204*	18.1	.000	
IO x R	131*	16.9	.000	

*Significant at $p<.05$.

Table 6. Overall ATLG Score and Year of Study ($N=641$)

Year of Study	<i>N</i>	Mean	<i>SD</i>	95% CI (upper, lower)	<i>t</i>	<i>p</i>
First year	385	17.4	8.03	(-1.88, 0.79)	-0.8	0.103
Final year	251	17.9	8.9	(-1.91, 0.82)	-7.8	

Significant at $p<.05$.

Table 7. Overall ATLG Score and Sexual Orientation ($N=685$)

Sexual Orientation	<i>N</i>	Mean	<i>SD</i>	95% CI (upper, lower)	<i>t</i>	<i>p</i>
Heterosexual/Straight	641	17.6	8.39	(7.6, 2.56)	3.96	$p<.001$
Non-Heterosexual/Non-Straight	44	12.5	5.5	(6.87, 3.29)	5.69	

Significant at $p<.05$.

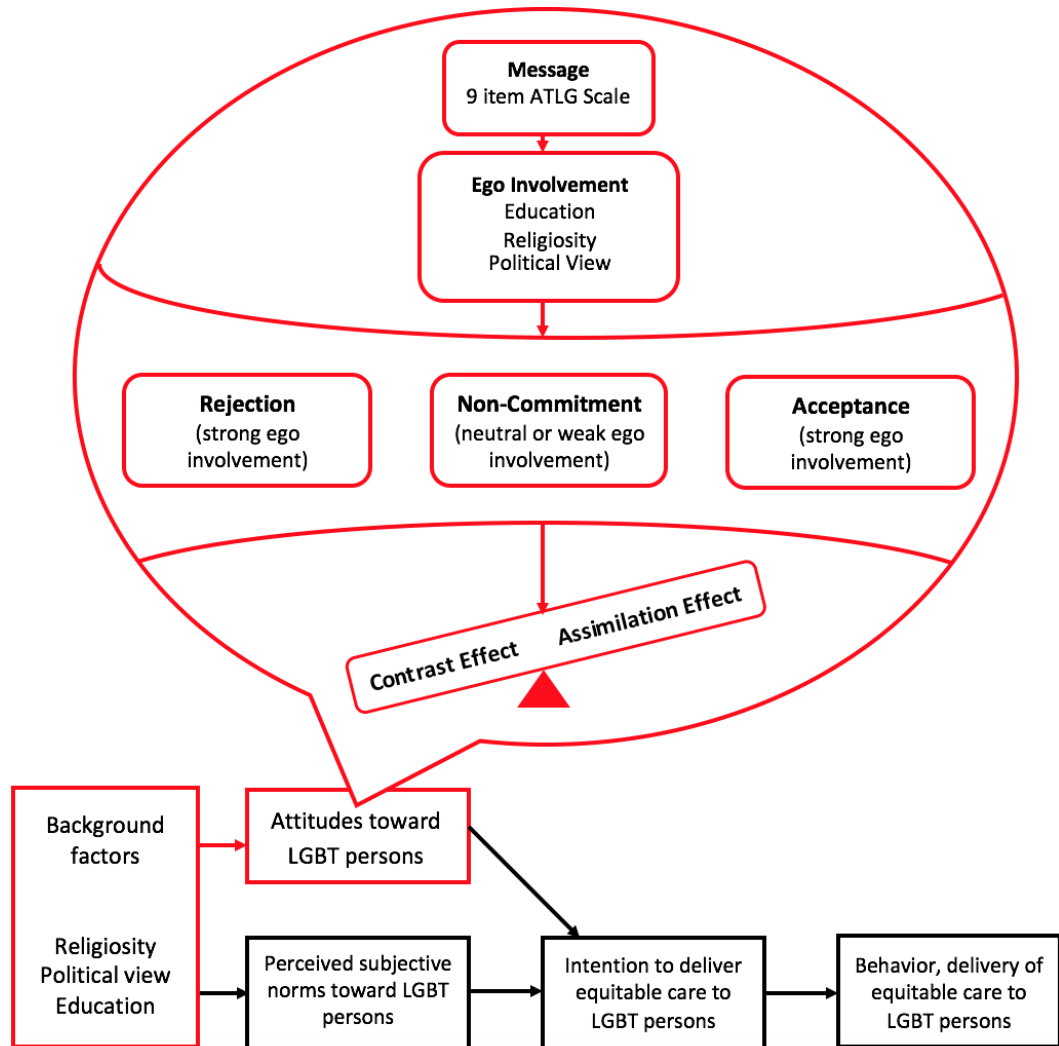


Figure 1. Theoretical framework of Social Judgment Theory integrated into the construct, attitudes, of Theory of Reasoned Action model. Theory of reasoned action model adapted from Madden, T. J., Ellen, P. S., & Ajzen, I. (1992). A comparison of the theory of planned behavior and the theory of reasoned action. *Personality and Social Psychology Bulletin*, 18(1), 3-9. doi: 10.1177/01461672921810

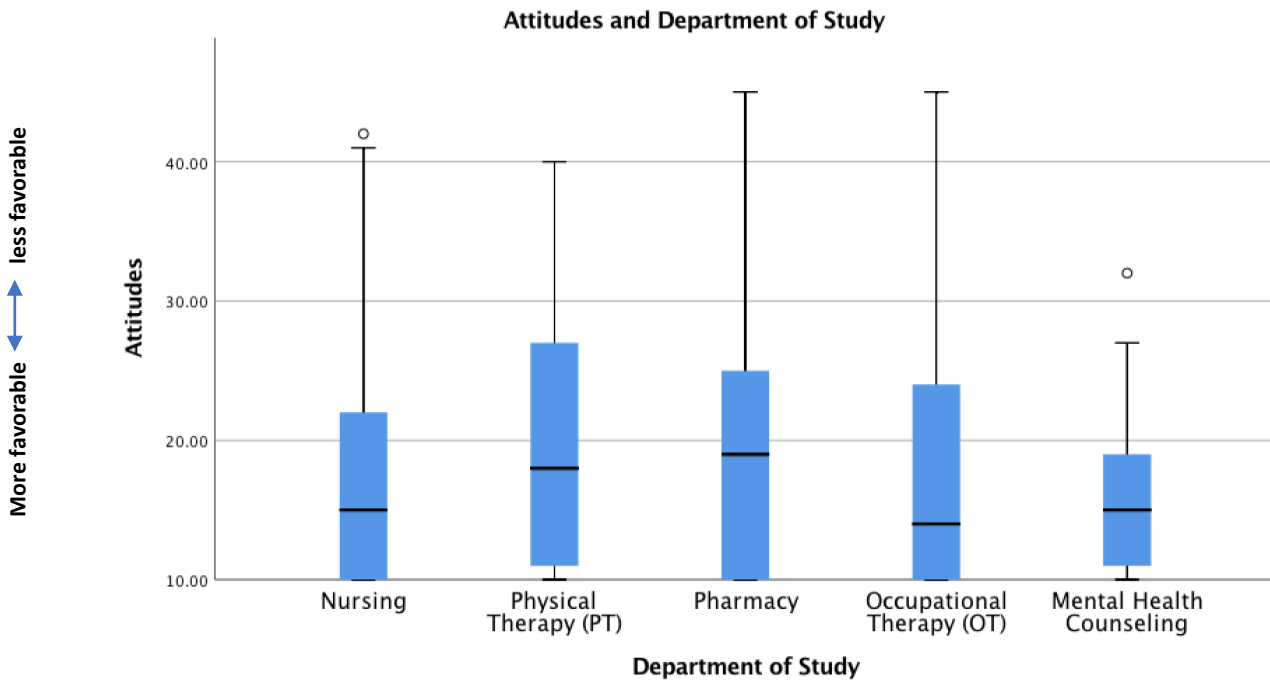


Figure 2. Heterosexual/straight students' attitudes and department of study.

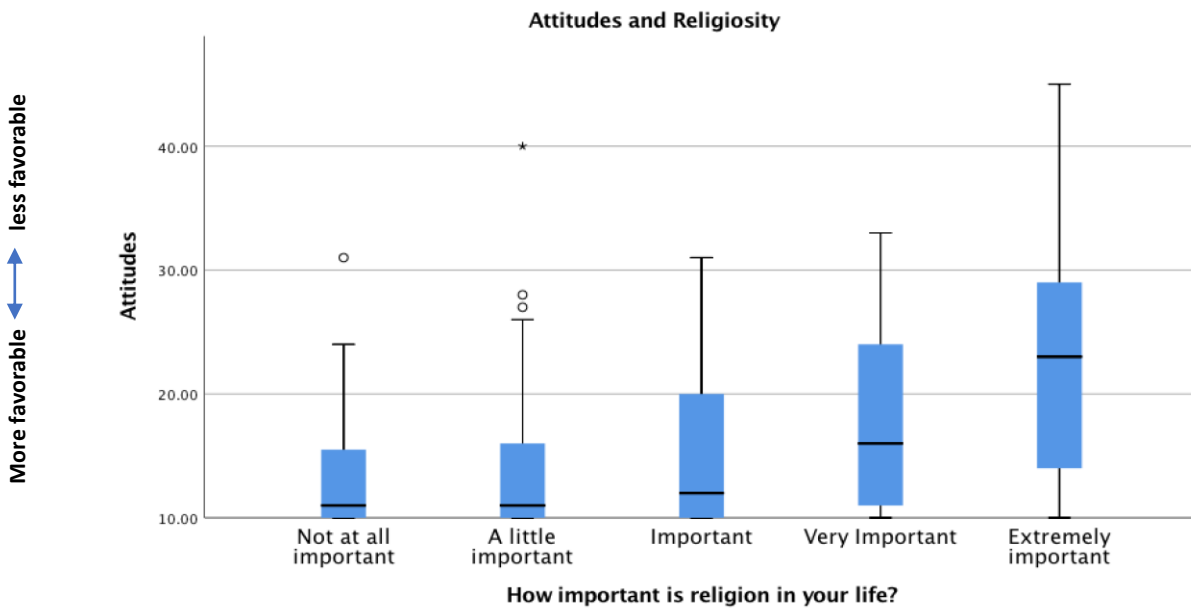


Figure 3. Heterosexual/straight students' attitudes and religiosity.

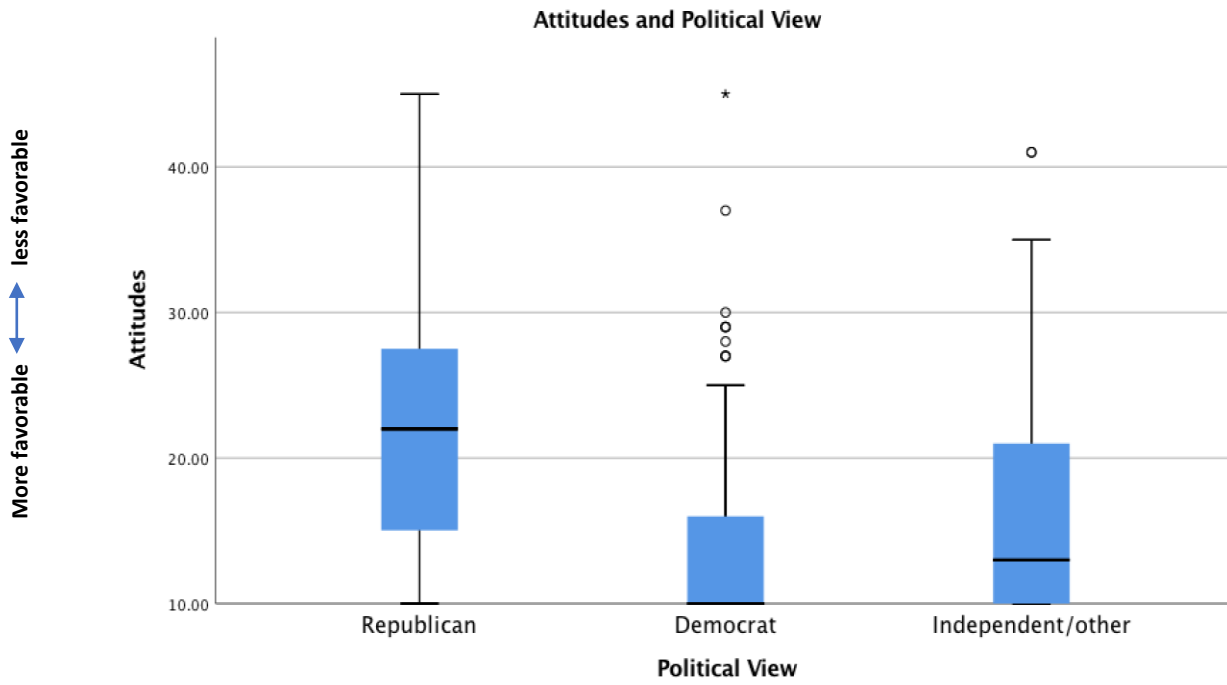


Figure 4. Heterosexual/straight students' attitudes and political view.

Appendix

Survey items completed by participants. Starred (*) items indicate reverse scoring. Double starred (**) items indicate questions tailored to individual departments of study.

Survey Items

ATLG Scale

-
1. If a person has homosexual feelings, they should do everything to overcome these feelings.
 2. Bisexuality is merely a different kind of lifestyle that should not be condemned.*
 3. Homosexuality is merely a different kind of lifestyle that should not be condemned.*
 4. Bisexuality is a threat to many of our basic social institutions.
 5. If a person feels that they belong to a different gender than the one they were born into, they should do everything to overcome these feelings.
 6. Transgender people threaten many of our basic social institutions.
 7. If a person has bisexual feelings, they should do everything to overcome these feelings.
 8. Homosexuality is a threat to many of our basic social institutions.
 9. Transgender people merely have a different sexual identity that should not be condemned.*
-

Department of Study

-
1. What is your department of study?
 - a. Nursing
 - b. Physical Therapy (PT)
 - c. Pharmacy
 - d. Occupational Therapy (OT)
 - e. Mental Health Counseling
-

Year of Study

-
1. Please indicate if you are a student in the traditional track program (traditional track student) or a student in the accelerated program (accelerated student).**
 - a. Traditional track student
 - b. Accelerated student
 2. Please indicate if you are a student in the master's program (master's student) or a student in the doctorate program (doctoral student).**
 - a. Master's student
 - b. Doctoral student
 3. Please indicate if you are a student in your first year of study (first year student) or a student in your last year of study (final year student).**
 - a. First year student
 - b. Final year student
 4. Please indicate if you are a student in your first year of study (first year student) or a student in your second year of study (second year student).**
 - a. First year student
 - b. Second year student
-

-
5. Please indicate if you are in your first semester of nursing school or last semester of nursing school.**
- First semester
 - Last semester
-

Gender

-
1. Do you consider yourself to be:
- Male
 - Female
 - Transgender female
 - Transgender male
 - Genderqueer/gender nonconforming
 - Additional gender category (textbox provided)
-

Sexual Orientation

-
1. Do you consider yourself to be:
- Heterosexual or straight
 - Homosexual
 - Bisexual
 - Queer, pansexual, and/or questioning
 - Don't know
 - Decline to answer
 - Something else (textbox provided)
-

Political View

-
1. What is your political view?
- Republican
 - Democrat
 - Independent/other
-

Religiosity

-
1. How important is religion in your life?
- Not at all important
 - A little important
 - Important
 - Very important
 - Extremely important
-

